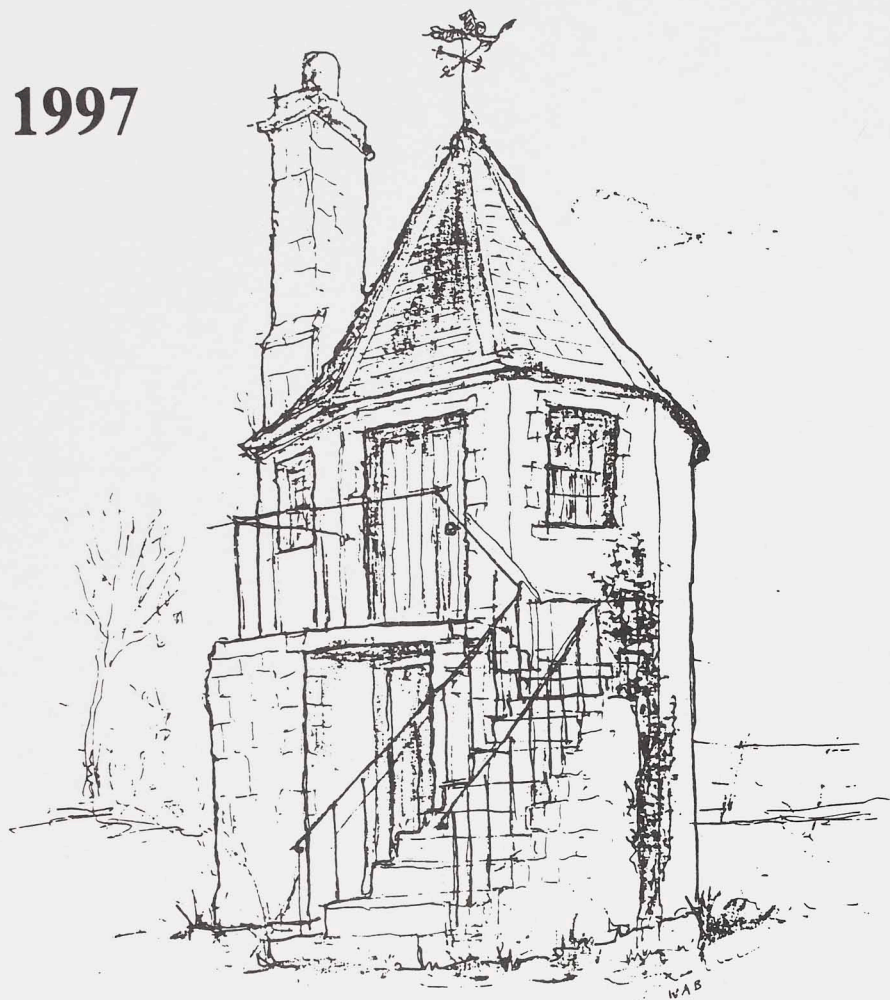


VERNACULAR BUILDING 21

Scottish Vernacular Buildings Working Group

1997



**Scottish Vernacular Buildings
Working Group**

1997

Cover: Gazebo at Milton Brodie by W. Ashley Bartlam

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Preface

1997 has been another busy year for SVBWG with a most enjoyable and interesting 25th anniversary conference in Shetland, and two day meetings at Newtonmore and in Angus, as well as the study day for the Over the Threshold exhibition. Nick Brown's publication on *The Ruins of Craibstone Limekilns, Deskford*, published this year, and reviewed in this volume, highlights the activities of the Group. Unfortunately, 1997 also saw the deaths of two valued members of SVBWG - Jane Durham, Chairman from 1978-90, and David Roberts, and appreciations are included in this volume.

The variety of articles in *Vernacular Building* 21 also, I hope, reflects the interests and concerns of SVBWG. The vernacular buildings of Scotland are placed in a wider context in the article by Bruce Walker and Christopher McGregor on Mediterranean sources for some Scottish building techniques. The article also demonstrates the ways in which information on buildings and techniques can be gathered and disseminated - conference attending; analysis of actual buildings; projects such as the Earth Walls Experiment; and the personal reminiscences of those who worked in traditional methods. Archaeological examination of a building is also part of Stephen Whymant's analysis of Johan Cottage, Fort Augustus, worked upon by the Highland Vernacular Buildings Trust. The evidence from the remaining fabric of the building is analysed to create as full as possible a picture of its construction and possible uses. This article will be of particular interest to those who attended the August day meeting at the Highland Folk Park and saw the HVBT in action. This was a visit which was of great interest to myself as I had visited the equivalent Frilandsmuseet in Denmark the week before; I hope to make a contribution to *Vernacular Building* on that site in a future issue.

The value of *Vernacular Building* as a record of information on endangered structures is emphasised by W. Ashley Bartlam's details and drawings of the Milton Brodie Gazebo which is sadly in need of repair. The achievements of the Westray Buildings Preservation Trust present a happy contrast, and the Trust's work will be featured in the next issue of *Vernacular Building*. Graham Douglas's report on Howlin House, Eigg, is another highly informative record.

The article by Pamela and Laurence Draper on the settlement at Keil, Muck, which first appeared in *Vernacular Building* 20 is reprinted due to some editorial errors in the earlier issue; new information on the settlement's alternative name has been included in the reprinting.

Editing *Vernacular Building* has been most enjoyable, and my knowledge of the subject has increased significantly. Unfortunately, due to other commitments, I am unable to carry on as editor, though I hope to continue to play an active role in SVBWG. The index to the first twenty volumes of *Vernacular Building*, into which Pat Newton has put so much work, will appear in 1998. If anyone is interested in taking over the editorship, either on their own or as part of a team, they should contact Elizabeth Beaton, or myself. In the meantime,

contributions for *Vernacular Building* - articles, reports on events and collections, items for review, or any observations on vernacular buildings - should be sent to myself at the address below.

I would like to thank Elizabeth Beaton for her advice and support, and my colleagues at RCAHMS for their assistance over the last year.

Veronica Steele
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OBITUARIES

Jane M S Durham MBE 1924-1997

It is sad to record the death, as the result of a road accident on 1 April 1997, of Jane Durham, who served as Chairman of SVBWG from 1987 to 1990 and had been a stalwart member of SVBWG almost from its inception. She also brought her infectious enthusiasm, considerable energy and unconquerable willpower to bear on the work of many other related bodies, both nationally and locally, among which she served with great distinction as a Commissioner of RCAHMS from 1984 to 1994.

The study and the restoration of Scottish vernacular buildings were subjects that always lay very close to Jane's heart, but all who knew her can testify to the fact that one of her most striking characteristics was the sheer breadth of her range of interests. She was as equally interested and excited by discoveries over almost the entire range of human activity in Scotland: prehistoric and medieval settlement archaeology; Pictish and Early Christian stones; medieval and later churches; lairds' houses; formal, and particularly neo-classical, architecture; and farm buildings down to the humblest croft-building and what she picturesquely termed 'cruckery'. She delighted also in tracking down related papers, drawings, maps, paintings and photographs, and persuading owners to release such material for copying. Neither an archaeologist nor architectural historian, her enthusiasms and interests embraced all aspects of Scottish building and farming history in a truly remarkable and enriching way.

However, in all the national heritage agencies on which Jane served, she, being of an Easter Ross farming background, made no secret of the fact that northern Scotland was the geographical and cultural constituency that she represented and promoted. She was immensely successful in heightening everyone's consciousness of the immense value - and fragility - of the archaeology and architecture of the northern Highlands. She was particularly tireless in her efforts to ensure that the tide of afforestation sweeping across 'her' territory was matched by sufficient recording and conservation safeguards. In this, as in so many aspects of the built environment, hers was always a crucial co-ordinating rôle, the dynamic hub of so many interconnected networks, whose loss is already keenly felt by numberless individuals and institutions throughout Scotland, not just in the North.

A strong and positive-minded person, Jane exuded warmth and humanity in abundance. Above all else, it will be for these outstanding - and rare - human qualities, coupled with her enthusiasm and encouragement to fellow-workers in the field, that she will be best and most affectionately remembered by members of SVBWG. None of us will ever forget the happiness she so obviously derived from - and brought to - gatherings such as the SVBWG Annual Conferences at Bettyhill

and Fortrose which I personally happen to know were among her own fondest memories.

Such a remarkable personality deserves to be commemorated in tangible ways. RCAHMS is actively exploring the idea of establishing an annual lectureship in her memory, to be held in Edinburgh and in the North on a Highland topic that would have been of interest to Jane herself. All who knew her will realise that the scope for such topics is immense.

Geoffrey Stell

At the time of going to press, notice was given of the publication of *A Brief History of Ord House and Farm Life in Easter Ross* by Jane Durham; further details will be given in *Vernacular Building* 22.



Photograph: Anne Riches

David Roberts, ATD, MA, PhD, FSA (Scot) 1934-97

Artist, picture restorer and architectural historian, until two years ago David Roberts was a regular attendee of SVBWG conferences, a familiar figure in deer-stalker hat seldom without his pipe. With his remarkable memory, broad interests and extensive scholarship he observed all buildings critically. David came from the English Midlands where he was educated, and where he had worked as Head of Art at Newark Technical College until he moved to Skye in 1975. In

Lincolnshire he recorded the vernacular architecture of that county and his book *Lincolnshire Houses* was almost complete at the time of his death. When they moved to Skye, he and his wife Marion restored eighteenth century Orbst House as their home and art gallery, where his landscapes and her watercolours and calligraphy have attracted many. David also wrote widely on Skye houses - Gesto, Talisker and Unish to name a few, and he was to have advised on the restoration of the eighteenth century tacksman house, Monkstadt. With Roger Miket (Museums Officer, Skye and Lochalsh) he wrote and partly illustrated *The Medieval Castles of Skye and Lochalsh* (1990); he also contributed to *Vernacular Building*. His kindly presence and wide ranging comments will be greatly missed at SVBWG meetings. Our sympathy to Marion and daughter Kate.

Elizabeth Beaton

POSSIBLE ANTECEDENTS TO SCOTTISH EARTH-BUILDING PRACTICES IN THE MEDITERRANEAN COUNTRIES

Bruce Walker and Christopher McGregor

The authors attended an international conference on 'L'architecture de terre en Méditerranée: Histoire et Perspectives' with the specific intention of establishing possible antecedents to two specific Scottish earth-building techniques: clay-and-bool and clay thatch.

The conference was held in the Faculté des Lettres et des Sciences Humaines, Université Mohammed V, Rabat, Morocco from the 27 to 29 November 1996. This was followed by an excursion to Meknes and Fez. During the conference and the excursion it became apparent that Morocco is presently going through the same destructive phase regarding its earth buildings as Scotland in the inter-war period. That is, the Moroccans are currently repairing earth structures using cement and concrete, a sure recipe for disaster. The advantages enjoyed by the Moroccans in the quality of earth available was also evident with cuttings for new roads left with near vertical sides owing to the natural compaction of the sub-soil which requires little or no tempering prior to use in earth building.

There was no language restriction on the papers and no simultaneous translation. All but five of the papers were presented in either French or Arabic, one in Spanish and four in English. The published proceedings will follow the same format under a French title page.

To reach a wider English speaking audience and to convey the outcome of informal discussions relevant to the Scottish techniques it was decided to publish both papers in full and to add relevant comments and observations at the end of each paper.

CLAY-AND-BOOL

Stone is generally perceived as the principal building material in Scotland, but during the greater part of Scottish history, earth construction was predominant. The use of earth as a building material, as a lubricant to move heavy weights, as a waterproofing agent and as a decorative finish and colouring agent is continuous from the earliest settlement to the present day. Stone has also been in use throughout this period but only at the upper end of the social scale and primarily in those regions where it was particularly easy to quarry, using the simplest of tools, owing to the distinctive bedding planes. These stone structures were constructed using earth mortars, plasters and renders.

As in most parts of the world where there was an abundance of timber or brushwood, many of the earth-building techniques involved the application of the

tempered earth to an armature, resulting in a slender external wall. Purely earthen walls were also constructed either by cutting blocks of earth containing a natural fibre - turf or peat - and building these as a bonded structure, or by heaping a tempered earth mix onto a low plinth before stamping and beating the material roughly to the required shape, the final form being achieved by trimming after the mix had partly set.

During the Agricultural and Industrial Revolutions of the second half of the eighteenth century, improved earth-building techniques were introduced into Scotland from France, the Netherlands, and to a lesser extent from Germany. These techniques involved the use of shuttering to form the walls, the omission of straw from the mix, and in some cases the incorporation of a masonry wearing coat. In most regions of the country the masonry wearing coat was formed of small-scale rubble placed in the face of the shuttering as the mudwall or *pisé* was being formed, in an attempt to copy the aesthetics of a masonry structure. This was known as 'claywall' (figure 1) as distinct from the completely earthen walls, known as 'mudwall' or 'pisé'.

In one small part of Scotland, on the flattish north-facing coastal plain known as the Laigh o' Moray (the lowland of Moray), a variation of claywall was practised. This was known locally by various names including 'Auchinhalrig Work' (after the village where it was first used); 'Ham-and-Egg Work' (owing to its appearance); or 'Clay-and-Bool' (the most accurate description, associating claywall with bools - regular sized, rounded, sea-washed boulders) (figure 2).

To form clay-and-bool walls, shuttering is erected. The bools are placed in evenly sized rows with their outer faces touching the inside face of the shuttering on both sides of the wall; the tempered earth mix is then tamped round and between them to form a continuous earthen core. The regularity, sizing and angling of the bools vary from wall to wall, but, where evenly sized bools are used and they are carefully placed in the shuttering, a decorative effect can be achieved. The final effect depends on the external tempered earth mix weathering back from the rounded surfaces to expose the bools in a form of low relief. At this point, usually about five years after the walls are first constructed, they are finished by pointing the spaces between the bools with lime, and lime-washing the face of the wall to an even colour. The limewash seals any cracks between the bools and the mortar, preventing further erosion.

In some walls the bools almost touch whilst in others there is a considerable mortar joint on all sides. One wall stands out as unique. This is located at Longhill Mill, Urquhart, Moray (NJ270625) and the bools are laid in a herring-bone pattern, that is, each consecutive layer angles in the opposite direction to the one below. The bools are placed dry on a mortar layer approximately 3cm thick. They are angled at about sixty degrees to the horizontal and simply rest on the adjoining stone. The core is built up to the level of the upper ends of the bools and the whole process is repeated, but with the bools angled in the opposite direction. The parts of this building exposed as external walls have had the interstices filled and the

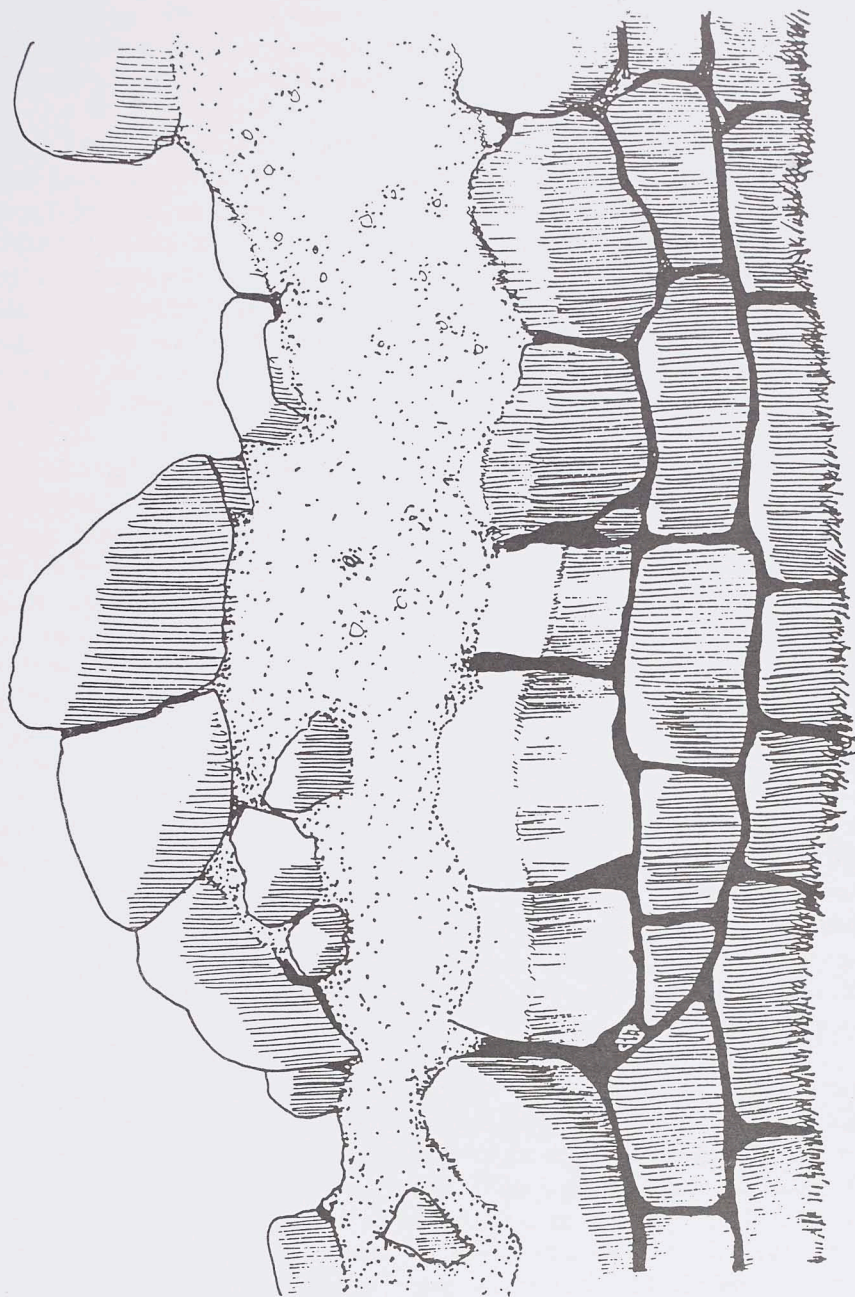


figure 1 Claywall, Bellie parish, Moray

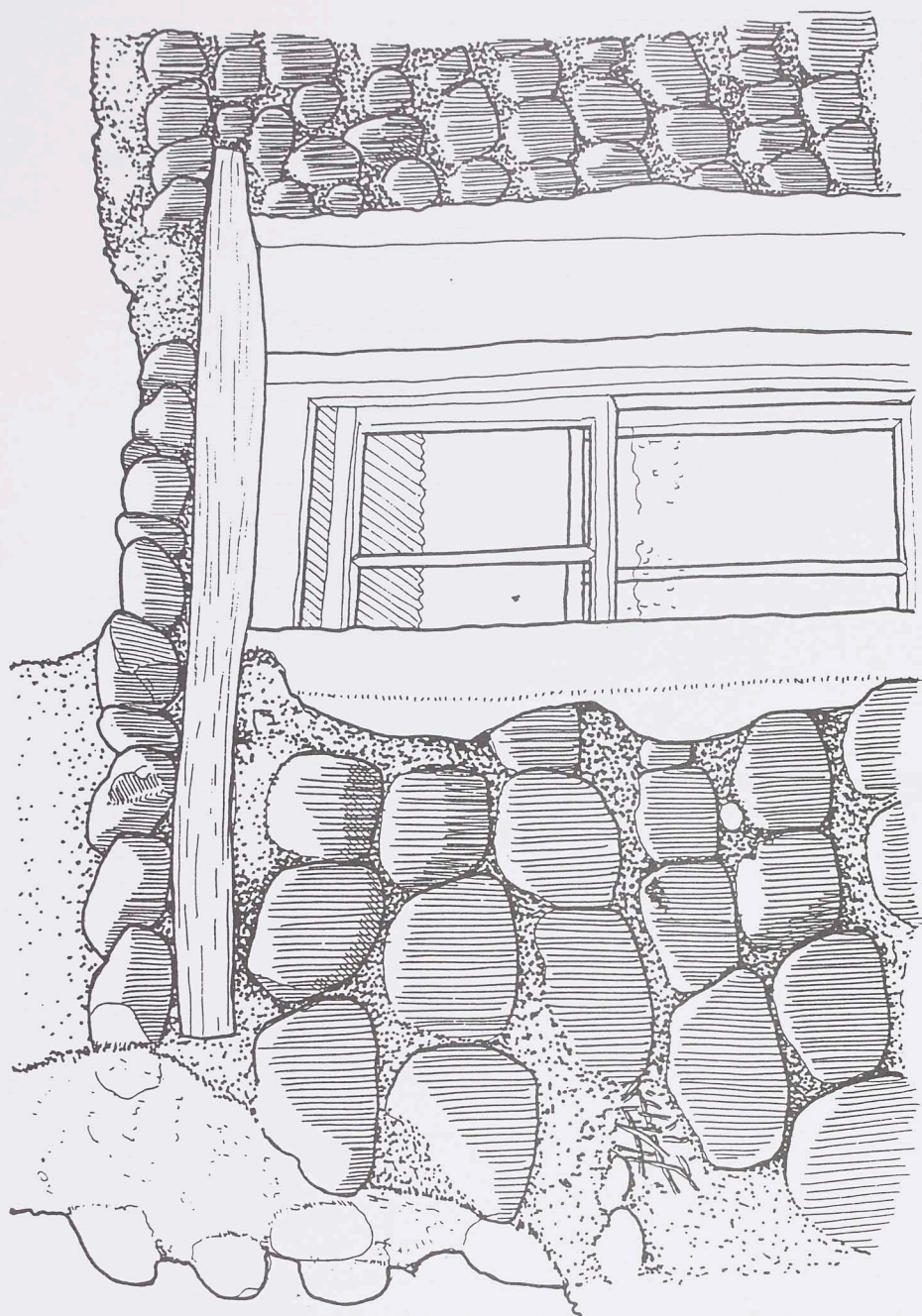
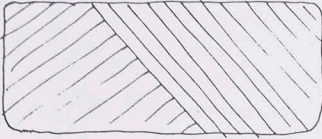
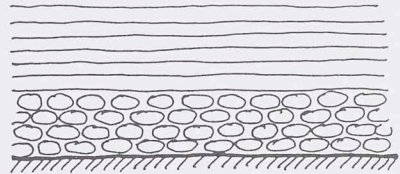
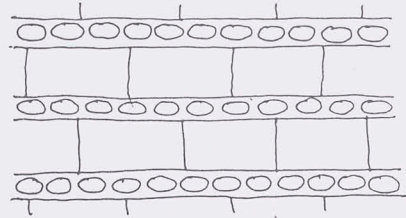
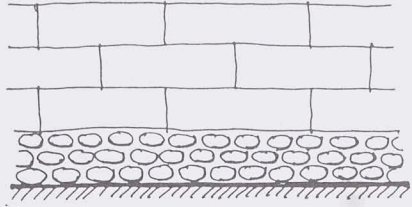


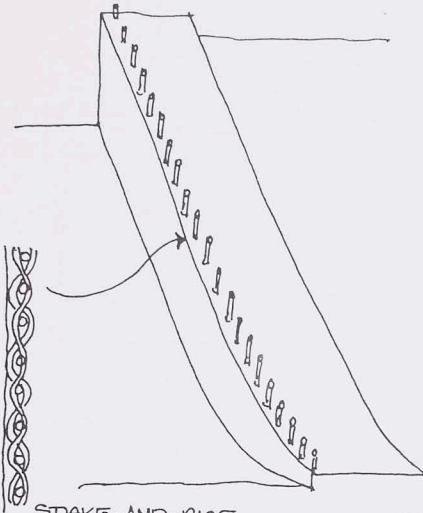
figure 2 Clay-and-bool, Bellie parish, Moray



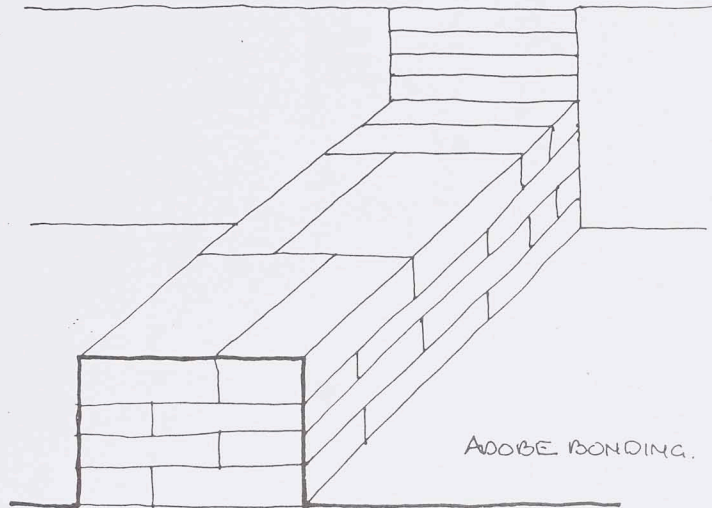
SURFACE of ADOBE.



WALL TYPES.



STAKE-AND-RICE
PERMANENT SHUTTER.



ADOBE BONDING.

figure 3 Images from Claire-Anne de Chazelles paper

wall finished in the standard way as described above, but those parts of the structure protected from the elements by lean-to roofs have been left as originally constructed. Where little care was taken in the placing of the bools the external wall was often rendered before the weather had the opportunity to expose the bools, making the technique almost impossible to detect unless the plaster or render is removed or falls off. The exact reasons why this technique was adopted in this area are not known but there are a number of contributing factors.

The beaches in this part of Scotland are largely boulder beaches with large quantities of evenly sized sea-washed boulders forming a ridge above the normal high-water mark. This explains the source of the material but there are other beaches of this type in other parts of Scotland without clay-and-bool work in their vicinities.

The Laigh o'Moray stretches to either side of the mouth of the River Spey, one of the largest and most important salmon rivers in Scotland. Traditionally the early salmon were kitted (lightly cured in barrels) and exported to the Netherlands but towards the end of the season, when the salmon were caught in greater numbers, a much stronger salt cure was necessary to preserve the fish. This salmon was exported to the Mediterranean countries where there was a tradition of consuming strongly cured fish. The authors have recently become aware of walls having the same appearance as clay-and-bool in Languedoc and Provence in France, and in Piemonte in Italy. Some of these walls, such as those in the fifteenth century castle in the centre of Romagnano Seisa, in the province of Novara, Piemonte, are remarkably similar to, yet considerably older than, those in the Laigh o'Moray. The examples from Languedoc and Provence appear to date from the same period as the clay-and-bool constructions in the Laigh o'Moray, and are much closer to ports that might have been frequented by merchants and sailors from that region.

The other means by which the ideas may have been transferred from the Mediterranean to the Laigh o'Moray is by some of the Scottish nobility or would-be architects involved in the Grand Tour (an educational journey to Italy and Greece by way of the Netherlands and France) recording the technique and relaying it back to landowners in the Laigh o'Moray for use by the tenants. Documentation has been located indicating how German earth-building techniques were introduced (by Lord Gardenstone) into the Howe of the Mearns, Kincardineshire, in the mid-eighteenth century and how Scottish architects took earth-building techniques to Russia in the late eighteenth century. There is no reason to suppose that this did not happen elsewhere.

It has not been possible to investigate any of the walls of this construction in Piemonte to establish whether the basic mortar is earth-based or lime-based but the examples in Provence are associated with shuttered pisé walls, as are those from Languedoc. Pisé construction is also known in Piemonte but at a later date than the castles.

The authors are eager to establish the distribution of this type of construction in the Mediterranean countries and to obtain further evidence that would help prove or disprove the possible connection.

There is a further complication in that there is a second group of walls in Scotland of similar appearance but using much smaller stones set in concrete. These are much later, being from the late nineteenth or early twentieth centuries but were obviously constructed using the same basic technique, differing in having the face stones set up in a sand/clay mix that can be washed away after the shuttering is struck, or by some system of controlled washing to achieve the same effect as the natural weathering of clay-and-bool. Attempts have been made to find out more about this mass concrete technique but so far without success.

During the conference, various massive earthen walls were illustrated, some using a bool finish to specific areas of wall. This was particularly evident in an illustration of the walls of the Nouvelle Castille á Lac in Spain. Claire-Anne de Chazelles showed clay-and-bool and alternating layers of blocks and bools from the Languedoc and Provence regions of France (figure 3). These were obvious applications but with the examples in most papers it was impossible to determine whether the clay-and-bool sections of wall were original or the result of consolidation resulting from erosion of specific areas of the wall. Most applications tended to be low on the wall, usually close to a 'bab' or gate.

Personal examination of the Rabat city wall (figures 4 and 5), a massive earthen structure, revealed a similar pattern of bool facings, low in the wall and close to the babs.



figure 4 Moroccan city walls

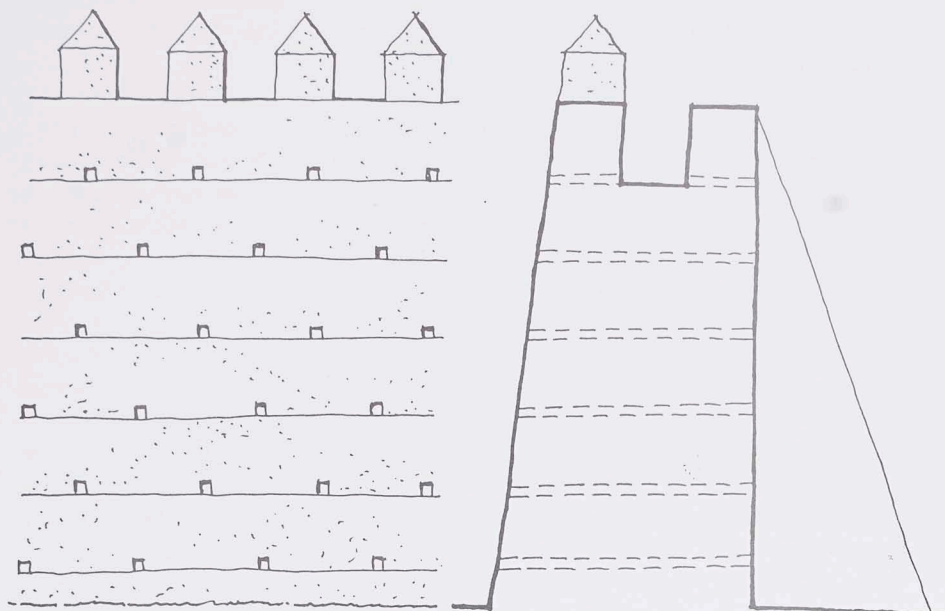


figure 5 City wall of Rabat, buttressed in parts

The construction of the walls of the fifteenth century castle at Romagnano Seisa in Northern Italy was discussed with Nelly Bonati and Sergio Sabbadini of Gruppo Terra from Di Tec Politecnico Di Milano during the conference and later with Professor Gianni Scudo, leader of the Gruppo Terra, in Milan. The group have been working almost exclusively with a form of pisé construction found in an area to the south-west of Milan and had not considered the castle a possible earthen structure. As a result of the discussions an opportunity is being sought to carry out investigation into the core of the castle wall.

During the visit to Milan to discuss earthen structures with Professor Scudo a further possible clay-and-bool wall was located in Omegna, Novara, Piemonte between thirty and forty miles to the east of Romagnano Seisa. This is a fragment of an old town wall, containing a gate, and now preserved as an ancient monument. Again the consolidation of the exposed ends of the wall had been carried out using lime pointing to match the original surface but the core may be of a similar mix to that found in Scotland.

It is known that earth construction does exist in this region as earthen mortars, plasters and renders have been recorded by the authors. Earthen renders to masonry walls were particularly obvious to the south of Omegna in the small mountain village of Sovazza off the road linking Orta and Stresa.

It is hoped to set up some form of exchange programme between Gruppo Terra and Historic Scotland/Duncan of Jordanstone College, and a further visit is planned this session to discuss this project.

It has been stated that the possible clay-and-bool work observed at Romagnano Seisa on the walls and tower of the castle is remarkably similar in scale and character to that found in the Laigh o' Moray. The same pattern is to be seen on the former town gate in Omegna and in a row of houses adjoining the church in Grimgasco, all in the same region. It is also apparent in the eighteenth and nineteenth century work in Languedoc and Provence in France. Earlier work in the French regions, as illustrated in the talk by Claire-Anne de Chazelles shows single lines of bools alternating with blocks or clay-and-bool used as a basecourse to blockwork or thin mudwall beds. Closer examination of a number of Italian castles shows similar relationships. The walls of Castello di Cavagliano alternate between four courses of herringbone pattern bool and a single course of brick (figure 6). Those at Castello di Vicolungo are predominantly brickwork but have panels of bools, three courses deep, occurring after every fifth course of brickwork (figure 6). Although the horizontal bands are regular, the brickwork at the ends of the bool panels is bonded with the bools in a somewhat haphazard fashion. This also requires further investigation and comparison.

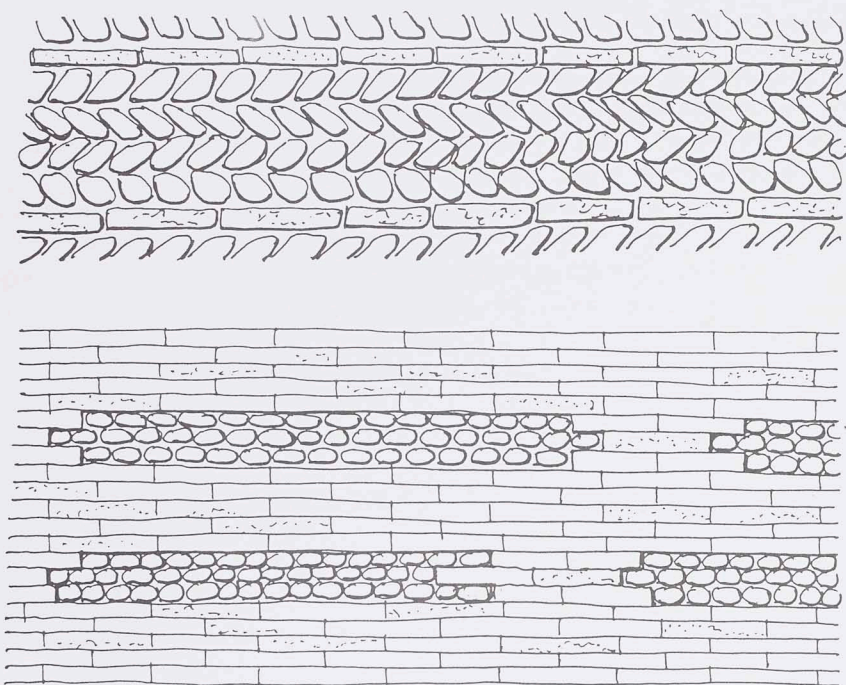


figure 6 Walls at Castello di Cavagliano (top) and Castello di Vicolungo (bottom)

CLAY THATCH

Earthen materials, usually in the form of turf, have been used as thatch, or as part of the thatch, on the roofs of a wide range of Scottish buildings since prehistoric times.

Clay thatch is quite distinct from the above mentioned traditions as the first recorded descriptions of the techniques do not appear until the eighteenth century. When the clay thatch techniques are recorded they appear in two distinct forms. The first is where the clay, or more correctly, tempered earth, is used as a fixing or anchorage to hold down the inner ends of the vegetation which comprises the principal thatching material. It therefore remains invisible to the external observer and performs a similar function to some types of turf underlay. In the United Kingdom it is first recognised as a specific thatching technique in Yorkshire in the second half of the seventeenth century. The first recorded use in Scotland is in the Border counties in the mid-eighteenth century but this does not necessarily mean that it did not exist at an earlier date as the external appearance was identical to many other techniques; it requires a reporter intent on providing every detail to report concealed fixing techniques. The origins in this case are immaterial as there is barely a hundred and fifty miles between the two areas being discussed. Later descriptions and fieldwork show the technique to have been widespread in Borders and Lowland Scotland as well as the coastal strip round Aberdeenshire and into the Laigh o'Moray. This technique was taken by Scottish architects and builders to Russia in the 1790s and detailed instructions as to how the work was carried out still survive in Russian archives.

The second type of clay thatch is instantly recognisable as it involves top dressing the vegetable material with a clay slurry. The purpose appears to have been to create a smooth fireproof surface to the exterior thereby reducing the danger of fire in congested towns or in terraces of houses. Obviously the clay slurry also had to be resistant to the effects of the weather.

The type of clay used was important and in the inland areas of Aberdeenshire where the underlying rock was granite a blue-clay was used. This was obtained from the bottom of peat bogs. Blue-clay is a form of decomposed granite comprising kaolin, quartz crystals, flakes of feldspar and mica; the whole is impregnated with natural vegetable oil from the peat accumulating in the overlying bog. The weathering properties of blue-clay are well known in Scotland but those building owners wishing to be extra cautious could coat the weather surface with cow sharn (excrement), which dries into a thin leathery waterproof layer.

Along the coastal strip, particularly the Laigh o'Moray, the clay is devoid of natural oils, yet clay thatch, of the top dressing type, was the common roofing material from the late eighteenth century until the end of the First World War. From then it declined in popularity until it finally died out at the end of the Second World War. Unfortunately it was the mid-1970s before an attempt was made to record this thatching technique and by that time most of the surviving practitioners were between seventy and eighty years old. Lack of knowledge and thatching expertise

on the part of the researchers and the advanced age of the informants resulted in an incomplete record and the whole credit for weather resistance tended to be given to the cow sharn top dressing.

Possibly the best of these descriptions came from Roy Lyall of Dunecht, Aberdeenshire in 1965. He reports:

When I was a loon left school, I laboured to Charly Milne the thatcher and he fairly learned me to work clay. When I took up the brod with clay and it didn't please he said 'Tack that awa doon laddie an geit mair wark' and gein't mair wark wis easier than carryn twice up the ladder.

He told me all he knew about thatching and what he had learned from older thatchers. Charly said that roofs were close coupled with whole trees and split trees, depending on size. The branches were pruned about an inch from the bole and this gave anchor to the divots and where the bole was plain they used smiddy-made nails. Charly told me how the divots were put on. He said the flaughter spade was made originally to cut divots from the roof (I think he's right).

You picked a tough sward for the job and the divots were cut in a continuous length and variable breadth from ten to fourteen inches; the shape was flat on top of the grassed surface and dished on the root side, and they were about two inches thick in the middle. They were rolled up and tied with a rope to make for easier handling, carted to the job and unrolled on the roof, sward down. Each course half-lapped the previous course which gave a slated effect right to the rigging. Charly never used a thatching stob. I'll try to explain his method. He and I would go and draw the thatch from newly threshed oats and make it into sheaves. He used the ladder as a guide and the breaks were about two feet wide. A clay course was put on the easin and the straw pushed well into it with an eight to ten inch overhang (which was trimmed later) then the top half of the sheaf was clayed also well up the roof to get a good hold of the divots. In the second gyang [course] the bottom half of the sheaf was pushed into the clay and the top half clayed again and so on.

One presumes that the second course also had an overhang projecting over the clayed material below. Mr Lyall continues:

but the secret in a watertight roof was in keeping each clay course matched up - unbroken from gable to gable. The courses lapped about three inches.

So now we have a watertight roof and no wonder with divots, clay and thatch each with a slated effect and also makes a house warm in winter and cool in summer.

I have constructed a good many thatched cottages and in dismantling have noted how they were built. I found that they more or less conformed to Charly's system of thatching.

The clay brod, when empty, was placed on the previous break and made to slide down. There was always some clay on it so that it smoothed the straw flat and left a tidy roof. Sometimes we put on an easin wire if exposed.

The above description fits the first type of clay thatch known also in the Borders of Scotland and in Yorkshire. A second description dealing with the top dressing of thatch was provided by James Hunter, farmer, Brownhill, Auchterless, Aberdeenshire in 1962 and was recorded by his son-in-law Professor Alexander Fenton.

Carried clay to a thatcher at Carlinraig. He was Geordie Sampson, a handyman who did mason work, joiner work, and anything of that kind. Clay and straw roofs were getting fewer at that time. The last one disappeared in 1913.

(Mr Hunter had not done thatch right from the rafters, he had helped only in repair work on previously thatched roofs.) After a time the thatch gets wasted and you have to take it off and put on fresh. Ladder is set up, and a 'course' is done up the side of the ladder starting at the bottom and working to the top. Then when that course is finished you shift the ladder over a bit. Start at the easin. A course was two to three feet thick, better nae tae be ower wide. You used a stob for putting on straw. It had twa tae on it and a couple of feet of a handle. You took what was called a tippet, a handful of straw and double't ower the heid o't. Ye pit yer stob in that wye, d'ye see, and pushed it into the stuff that was left on the roof. The top wasted layer was scraped off - you just gave it a scrape down with the trowel. Only enough of the tippet was doubled over to let the stob get a hold. Nearly the whole length of the straw hung down then. It took a fyilies time to go over the whole course, quite a slow job putting in the tippets.

After the course was finished there wis fit ye ca'd washin doon clay. It was thin wattery kin' o' stuff, it ran doon through the thack, som o't, d'ye see. Thicker clay was put on after this was dried, a good thick coating spread on with a trowel. The ridge along the top was topped up with extra clay. The clay was not mixed with anything for the ridge. Tools were the stob and the trowel. The easin was cuttit, a tow [line] was put on to gie them a straucht, then it was cut with shears to make it even ... The thick

clay was as thick as putty, thick enough not to run. The washin clay was pouring consistency.

As can be seen, neither informant was in charge of the thatching and neither commented on additives, only the need for the material to be thoroughly worked prior to use.

Recent work on other thatching techniques in Orkney has established that seaweed was at one time a common thatching material. Its demise appears to be due to its sudden increase in value when kelp burning to produce potash became popular in the late eighteenth century. This resulted in all harvested seaweeds being either burnt or used in the fields as fertiliser.

Seaweed was thus replaced with less valuable vegetable materials and in Orkney the first replacement was usually with eel-grass, a flowering plant growing in shallow sea water and of no value to the kelp burners. Later this appears to have been superseded by cereal straw or turf but more work is required before this can be proved conclusively.

An archaeological investigation of the remains of a thatched roof was instigated by the authors and carried out by Dr Tim Holden and Dr Stephen Carter, Headland Archaeology, Leith. The roof at Gimps, South Ronaldsay, Orkney was sectioned and parts were injected with resin and prepared as thin sections. Examination of the sections revealed a layer of material approximately 5cm thick near the base of the thatch. This material was described by the archaeologists as having the appearance of a natural plastic, but the source of the material has not been established. This is discussed in detail in *Thatch and Archaeology: The Archaeological Investigation of Scottish Thatched Roofs: Historic Scotland Technical Advice Note 13* (forthcoming).

The discovery of this plastic coincided with the author (Christopher McGregor) visiting Crete on vacation. Casual investigation of vernacular flat roofed buildings led to further research and it was found that seaweed was used as an additive to the clay used in forming these roofs. The nature of the seaweed additive has not been established but the idea that seaweed could enhance the performance of tempered earth in this demanding situation occasioned further research in Scotland.

Lily Newton established that:

The heavy metal salts of alginic acid are insoluble in water: they form a plastic material which can be moulded when wet but which becomes very hard on drying, and, in addition, very difficult to bring again into solution.

Alginic acid and its salts are insoluble in alcohol. The inter-soluble salts can be made into insoluble salts by treatment with alkali earth or heavy metals... Sodium alginate has been described by Pigache as a suitable colloid for use in waterproofing cement and concrete.

Later in the text the author refers to:

the Romans, who empirically found a means of producing cement of great hardness which was very resistant to the decaying effects of time. Their result was usually obtained by adding to the cement suitable colloids of vegetable origin and pectin nature, thus causing the walls of each minute cavity to be lined with a waterproofing layer.... Pigache found sodium alginate to be the best colloid for the purpose, and it needs only $3\frac{1}{4}$ pounds of air-dried alginate for one hundredweight of cement. Such alginate cement can be used for the construction of tanks for soft-water, sea-water, dilute acids, vinegar, wine, beer, cider, syrup and alcohol, none of which is affected by the concrete in which the sodium has been used².

Can the same effects be achieved in a clay mix? That is the next question to be addressed in this research programme.

To date there is no direct evidence to link the use of seaweed alginates with the clay thatch found in the north-east of Scotland, but, the information above can be linked to the use of seaweed in clay in Crete and Greece, and the facts that the area where clay thatch is used coincides with the use of clay-and-bool, that both techniques appear in Scotland about the same time and that the natural plastic in the Orkney thatch may prove to be a seaweed-based colloid. The facts have encouraged the authors to bring this material to the attention of their Mediterranean-based colleagues in the hope that they may be able to assist in providing some further clues that will prove or disprove the Mediterranean connection theory.

The use of seaweed as an additive to earth construction was acknowledged by a number of archaeologists at the conference although none had investigated the possible reasons for its being incorporated. Seaweed had been recognised in adobe blocks incorporated in a structure from the fourth century BC, excavated in Malaga, Spain. It was also reported in a range of medieval and post-medieval structures in Languedoc and Provence and in vernacular structures in twentieth century Corsica. Nelly Bonati reported that Gruppo Terra were using soap, amongst other things, as an additive to earth renders, and that alginates dissolved in an alkali solution produces a soap. This shows that the value of the technique was appreciated away from the maritime fringe of the Mediterranean.

Delegates studying standing structures were generally less aware of the technique, all the information from this group coming from three sources:- Jeanne-Marie Gentileau, Valence, France; Gruppo Terra, Milan; and a private architect, Alceo Vado, also from Milan.

One of the most interesting contacts was made in Edinburgh, after the conference. Rebecca Little was following up some of the findings at Edinburgh University, trying to locate a geologist who could explain exactly what was happening as the mudwall mix cured, when she was put in touch with Dr Gordon

Thomas, an archaeologist who had been excavating a site on Cyprus dating from 3500 BC. The adobe blocks on this site had a seaweed content and on starting a full scale reconstruction he had incorporated a similar type of seaweed in the mix.

Claire-Anne de Chazelles, Calvisson, France, was particularly interested in the clay thatch. She had found straw with clay mixed through it in digs and had always assumed this was evidence for a flat roof. The fact that this could also be found on pitched roofs expanded the range of possibilities in the interpretation of the building from the archaeological evidence.

Work is continuing on the project through the Earth Walls Experiment being undertaken by Historic Scotland at Fort George, Battleby, Culzean and Stanley Mills. Rebecca Little is the contractor for this work, and the authors are the co-ordinators. Scottish building researchers are encouraged to enter the debate and communicate with the authors either through Historic Scotland or Duncan of Jordanstone College, University of Dundee, 13 Perth Road, Dundee, DD1 4HT. The first report on the experiment should be published by Spring 1998.

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JOHAN COTTAGE

Stephen Whyment

In May 1996 the Highland Vernacular Buildings Trust was given the opportunity to inspect Johan Cottage in Fort Augustus, Inverness-shire (NH381094). The cottage was being redeveloped and the existing heather thatch roof was to be replaced by a modern truss roof.

The house is one of a group built on the north bank of the River Oich and is separated from it by a small access road serving the cottages. The cottages lie to the east of the original bridge, which is now derelict. The fort was located south of the bridge where the Abbey now stands and was separated from the bridge by the construction of the Caledonian Canal. The house reputedly used by the camp commandant faces the bridge with Johan Cottage immediately to the east. Situated in this location it was felt that Johan Cottage itself could have had some relationship with the military structures of the town. Built into the banks of the river, immediately in front of Johan Cottage, are the remains of an ice house which possibly served the fort.

The cottage was stone-built, gable ended and its roof was sheathed in corrugated iron overlying a heather thatch. Each gable contained a chimney. An additional central stone-built chimney had been removed prior to HVBT's visit.

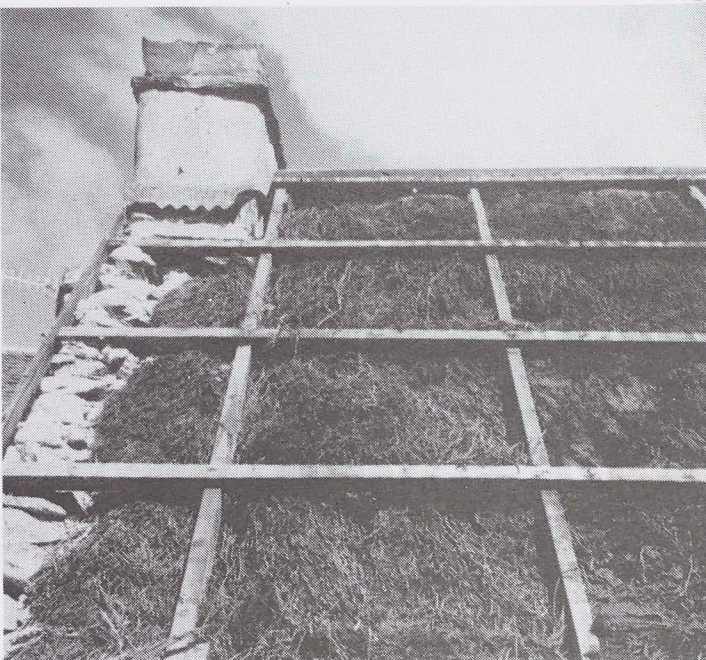


Figure 1 New stonework on gable

Access was through a central door in the south face although there was an additional narrow opening to the east end of this facade. Two small windows were present in the front wall, and three in the rear (north) wall. All internal partitions had been removed.

It is assumed that the corrugated iron sheeting was installed as a cheaper method of waterproofing the roof than re-thatching operations, and that the old thatch was left for insulation purposes. To accommodate the corrugated iron roof a thin band of thatching had been removed from the gable and replaced with 150mm high stonework restraining the external purlins (figure 1). This plate also shows the new rafters, which supported the corrugated iron, lying on top of the existing thatch and embedded in it.

Thatch was present underneath the new rafters and tight against their sides. The rafters spanned the gap between the new ridge and the walls. The 100mm by 50mm section is insufficient for this span, and they must have gained some support from the thatch. It is thought that the new roof has simply pressed into the old thatch under its own weight. The cut ends of the original bunches of thatch still cover half the thickness of the gable.

The thatch consisted almost completely of coarse heather stems 75mm long as was traditional. At one location on the north roof towards the west gable a small amount of bracken and cereals was found but their uniqueness suggests that they were used only as remedial and infilling material.

The thatch in its original form appears to have been held to the turves by hazel spars, remnants of which were found. They were approximately 150mm long, 8-10mm in diameter, and one end had been sharpened to allow its passage through the thatch and the turf. The spars are normally bent into a U-shape, placed over a thatch bundle and both legs pushed into the turf. The internal stress of the twist trying to undo itself provides sufficient friction between the legs and the turf to prevent the spar from pulling out. Only one leg of each spar was found. The spars were severely degraded so that none of the hoops or U-shapes remained, and it was not possible to find the matching legs of any of the spars. No indication of spars was found on the south roof although it should be appreciated that this suffered greater deterioration with a partial collapse occurring above the entrance door.

The new ridge board relating to the corrugated iron roof was supported on individual stones and bricks at approximately 1.2m centres which were resting on the original thatch ridge. The surface exhibited considerable quantities of light fawn lime type material and although this could be lime mortar used to stabilise these bricks, it is thought that this is part of the original 'mud ridge' construction. There is no ridge pole as such and the turves come up and across the top cabers. Long heather is laid completely over the ridge which is held down and capped by a thick layer of light to orange brown clay. This is topped by a thin layer of thatch, tapering towards the outside and bedded down into the underlying clay.

The roof was traditional in that the thatching was supported on a layer of turves. The turves are not rectangular but have a base shaped in an arc that gives

a very pleasant scalloped effect to the complete roof. The turves are laid face down, that is with the growing surface towards the inside of the roof. On early houses with no ceilings this prevented loose pieces of dirt from falling onto the occupants below. In addition, if the turves were cut from peaty or clay subsoil, the natural oils in the surface aided the waterproofing of the structure. Each individual turf is oval in plan and had been cut with a base curved in two directions, longitudinally and transversely. These curves enable each turf to 'settle down' on both its neighbour and the underlying supporting turf, thus producing a very tight, water-resistant structure. These characteristics are produced by cutting the turf with a curved flochter spade. On part of the north-facing roof, the lower edges of the turves had a very acute angle with some of them being almost pointed.

Each individual turf was almost 400mm long by 250mm wide with a maximum thickness at the centre of approximately 65mm. Only the lower 150-250mm was exposed, the remainder being overlapped by the higher turf. The underside of the turf, that is the growing side, was laid towards the inside of the roof. The turves were cut from moorland heather and the growing stems, up to 125mm, protruded. Darker areas of the stems are where the underside of the turf spanned between two cabers and had been discoloured by smoke from the interior of the house.

The cabers were basically a round branch split in half, and were in poor condition. Two cabers broke during the sawing operations at the next rafter due to



Figure 2 Irregular cabers

damage from woodworm and wet rot. The turves thickened up towards the wallhead to produce a gentle curve to the underside of the thatch at wallhead level. The turves were supported on horizontal cabers nailed to A-frame rafters. Adze marks on the cabers indicate where the thickness had been reduced.

Figure 2 shows the north roof stripped of heather and turf, and details the lack of conformity in the cabers. The materials ranged from small saplings approximately 30mm in diameter to larger pieces split down the centre and even some flat boarding. Some of the saplings had been split, and others sawn. One of the boards, approximately 150mm wide, showed saw marks on one face whilst the opposite face had been adzed. It appears that the cabers were constructed of any material which was readily to hand. The plate also shows that the cabers do not necessarily meet over the rafters. One substantial timber can be seen to finish approximately 25mm from the nearest rafter, which was not uncommon.

The original rafters formed an A-frame with the horizontal tie spanning the distance between the wallplates of the cottage. The complete frame was spiked to the wallplate with cut nails and the cabers were similarly fixed to the rafters. The main rafters consist of half-round timbers. These are simply whole trees, de-barked and then sawn down the centre. One edge of the half-round was slightly dressed using an adze.

A number of the rafters at the west end of the south roof had suffered from wet rot affecting the wallplate end and had been flitched in this location. All the

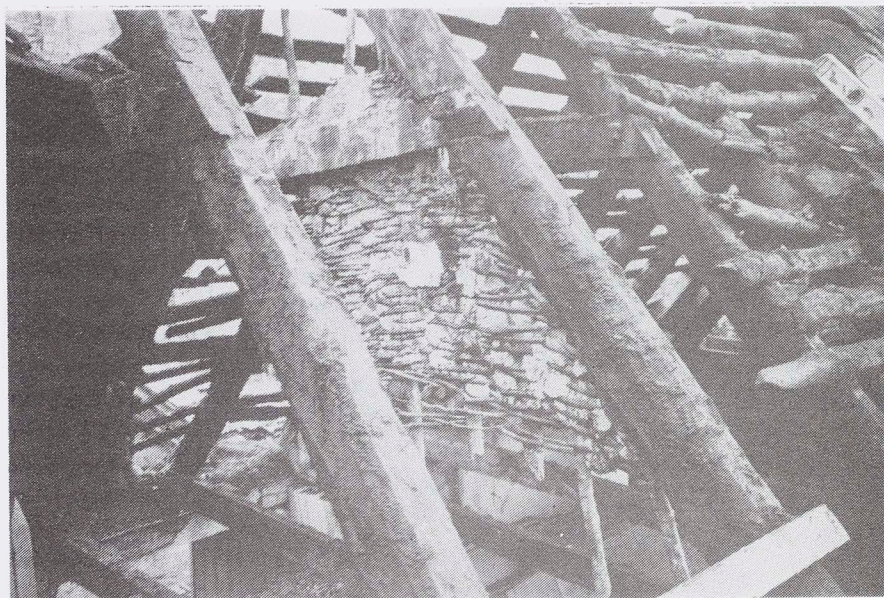


Figure 3 Remains of hanging lum visible

rafter joints were either halved or slightly lapped joints with a single peg at each joint. The pegs were rectangular in cross-section with a slight chamfer taking off the sharp edges. The holes were augered with the corners eased out with a chisel.

Joints are simple pegged cross-halving joints at the apex of the frame. The basal turf is covered with a layer of thatch sealed by a mud wash and topped by more thatch pressed down and mixed into the mud. On the top of this, small stones supported the new ridge for the corrugated iron roof.

In its original form the house had been constructed with a hanging lum and parts of one remaining panel were still attached to the rafter frame immediately to the west of the chimney opening (figure 3). This truss was removed and stored at the Highland Folk Park, Newtonmore. The quality of the plasterwork still adhering was far superior to that of a typical mud and straw canopy. The plate shows that the upper tie immediately to the east of the chimney had been cut a considerable time previously. It is assumed that this was done to make room for the stone chimney that had replaced the hanging lum. A wattle panel similar to the one shown would almost certainly have been constructed on this set of rafters as well.

The vertical staves of the panel were trapped between the upper tie and another similar sized timber simply nailed to it. Where the vertical staves met the underside of the rafter they were cut off and nailed to it. The horizontals were also simply cut off to length after being woven. The staves did not return on themselves and neither was there any grooving on the rafters to act as housing. The structure of the panel indicates that it was built 'in situ'.

Figure 4 shows the soffit of the thatch on the south roof. It may be seen that a barge board had been fixed to the corrugated iron roof with supports to take the roan. It is thought that the original eaves detail between thatch and stonewalling has been altered to accommodate this.

The lower chords of the A-frames were used as ceiling joists to the ground floor rooms. At the time of the investigation, the lining boards had been removed but the evidence of their being fixed to the soffit of the joists was clear. A thorough survey of the top face of the joists was made but there were no signs (for example broken nails or nail holes) that the joists had been floored.

The inside faces of both gables showed a narrow first floor window on the left of the chimney breast that had been blocked in with the stonework. The render on the outside faces obscured all evidence of this.

The inside face of the roof structure - the rafters, cabers and turves - all exhibited a large amount of soot contamination. This fact, coupled with the negative evidence of the flooring, suggests that the roof space was not a habitable area. When the presence of the ice house is added the indications are that this was a smoke loft.

Marks on the plaster of the external walls suggest that the cottage had three rooms and that the hanging lum was a feasible structural solution to venting the central fire. The non-loadbearing interior divisions were assumed to be wattle and daub, or stake and rice. Plate 3 shows the vertical stays of the wattle panel



Figure 4 Detail of thatch at eaves

protruding above the collar piece which suggests that the panel filled the complete A-frame. Indentations on the plaster on the ground floor indicate that this panel was full height from the floor and was constructed prior to the ceiling being lined. This would explain the quality of the plaster.

The central fire would have been used for cooking and smoking while the gable fires provided heating from the other rooms. The combination of hanging lum and contemporary stone gables is of some interest as this arrangement is generally considered to be a late development in the Highlands. The presence of the three fires could indicate that the tenant was of some social standing although that seems at variance with the usage as a smoke house. If, as suggested, the roof space was used as a smoke loft, there would have to be some partial outlet through the hanging lum into the loft.

Summary

During renovations of Johan Cottage, Fort Augustus, a heather thatch roof was discovered underlying the obvious corrugated iron surfacing. During the works, HVBT was given the opportunity to inspect, record and sample parts of the roof structure.

The analysis indicated that the building was of mid to late eighteenth century construction but not necessarily vernacular to the Highlands. Its location and

possible function as part of the military occupation may have affected its architecture. A Board of Ordnance plan of 1734 shows no development on the north side of the River Oich with the Governor's house being contained within the fort. The first edition Ordnance Survey map produced in 1874 shows substantial development occurring and the separation of the bridge from the fort by the canal. Further research into military maps may help to pinpoint the construction date of the cottage.

The roof, untraditional in having stone gables and chimneys, was constructed with traditional materials, long stemmed heather, heath turves, irregular cabers and simple rafters.

The indications are that the cottage was constructed with three rooms divided by wattle and daub panels. The central room contained a hanging lum. The loft space was probably used as a smoking area associated with the adjacent ice house and would have been connected to the hanging lum to control the smoke emissions.

Even prior to the development of the canal, it seems unlikely that the camp commandant would reside on the 'wrong' side of the river. This argument applies equally to the ice house and its associated food supply. Therefore it is felt that the latter probably served the developing residential area on the north bank. It seems unlikely that any credence can be given to the local story that the house was used as a military look-out post for the bridge.

GAZEBO AT MILTON BRODIE

W. Ashley Bartlam

In the garden of the cottage at Milton Brodie, near Kinloss, (NJ092627) is a small mid-eighteenth century octagonal two storey gazebo, which was listed Category B in 1989. When inspected and surveyed in 1996 it was in a dilapidated condition, but still restorable. Unfortunately there is no local authority funding available for restoration projects without foreseeable commercial use at this time, and accordingly the future for this charming and picturesque little building appears uncertain and bleak. The following particulars are therefore submitted for the record.

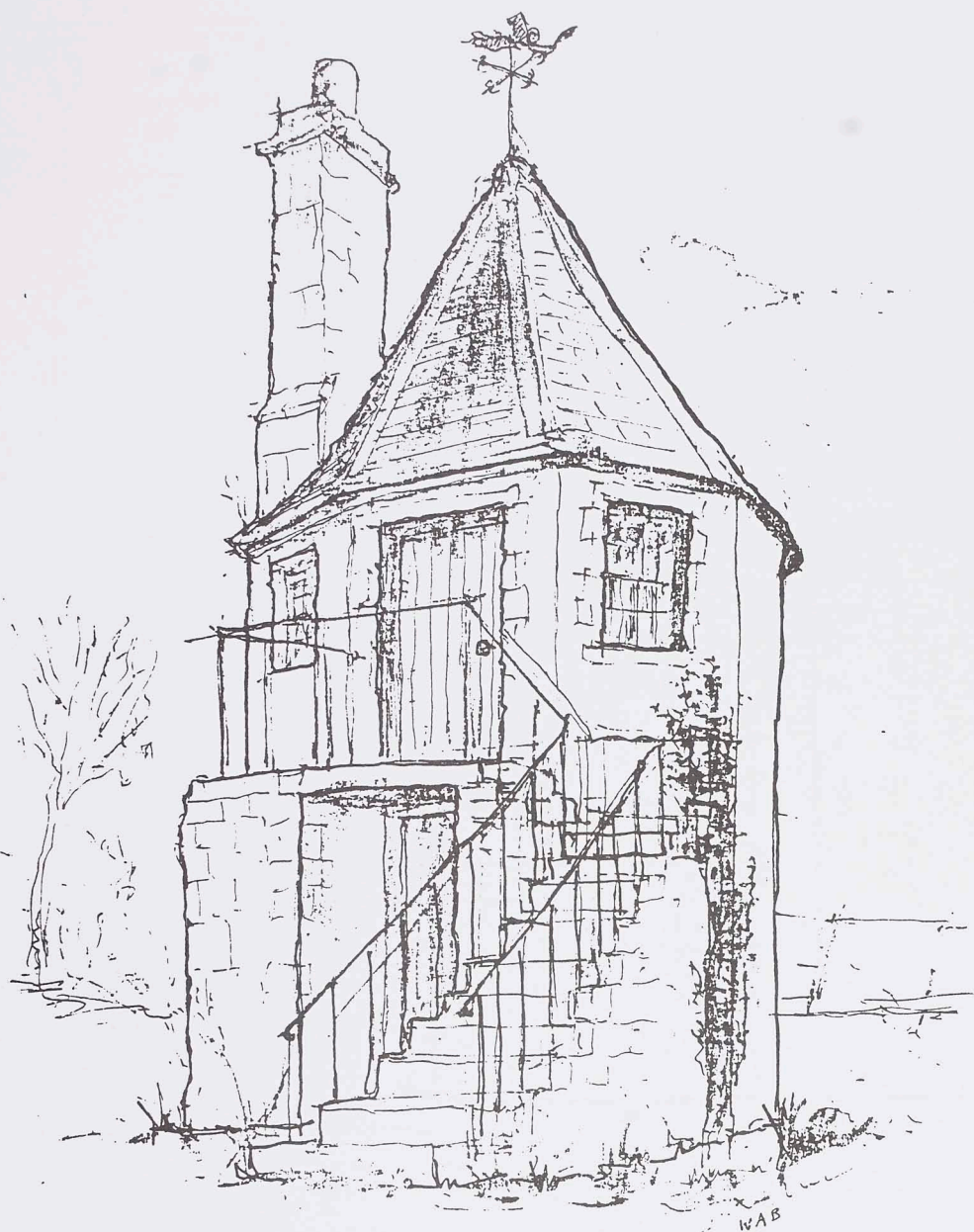
The building is of harled pointed rubble with flushed ashlar margins. The ground floor is covered with concrete and the first floor is boarded on quartered tree trunk joists. There are windows on alternate faces. Two on the ground floor are blind. One ground floor window is a fixed light, the other is an inward opening casement. Both windows have four panes.

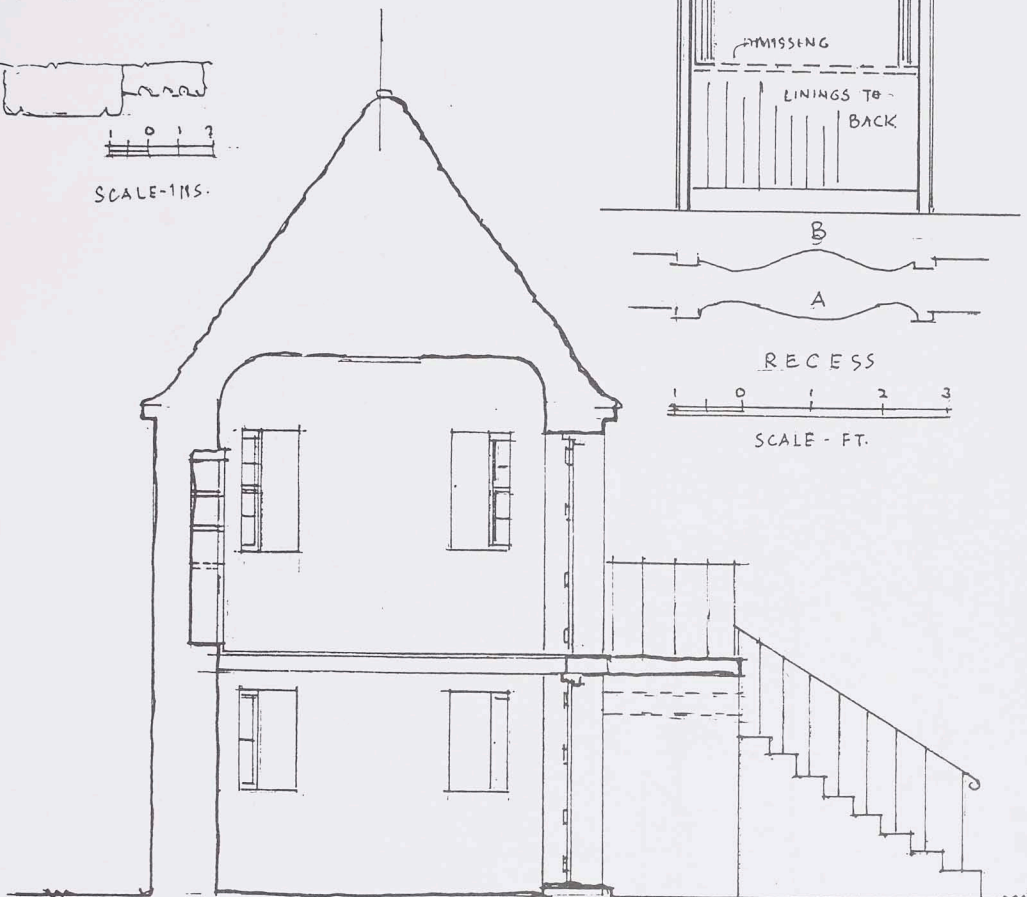
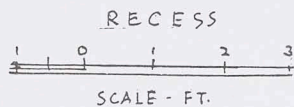
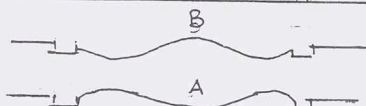
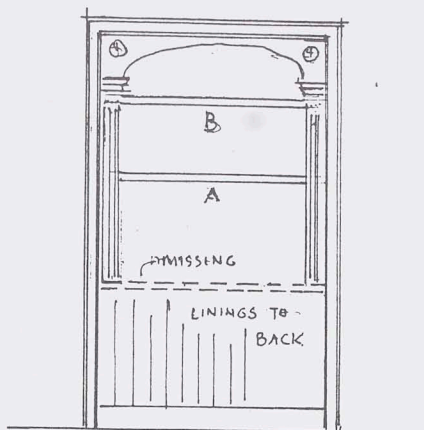
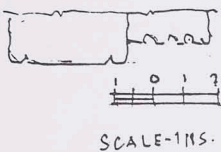
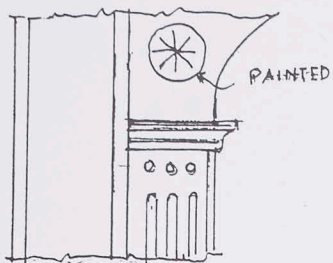
The first floor windows are sash and case, each of twelve panes. The first floor compartment (2.6m high) which is somewhat taller than the ground floor (1.9m), has a coved ceiling and is accessed by an external stone stair, with a wrought iron handrail, on the north side of the building. On the first floor there is a small mural fireplace served by a tall chimney stack on the east side of the building.

There is a faceted pyramidal slate roof, with a slight bellcast onto a wallhead table course, crowned with a weather vane in the form of a stylised bird in flight. In the first floor compartment wooden shelves are set in the wall with a shaped wooden reeded profile surround. In the centre of the ceiling is a painted rosette in the style of a ceiling rose covering the access hatch. The entrance doors are each of several boards with a 1cm bead 'U' joint and four battens internally.

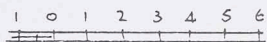
This is a deceptive little building. From the outside it appears to be a regular octagon with all sides approximately 1.9m but is actually slightly 'squashed' so that the internal compartments are oval on plan approximately 3.8m on the long axis and approximately 2.8m on the short axis.

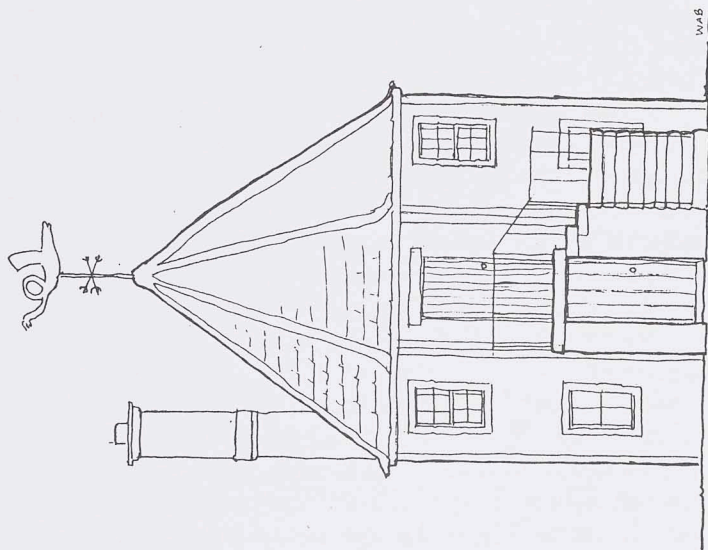
The minimum requirement to preserve the fabric from further deterioration is wire netting for the four windows, and a means of securing the two doors.



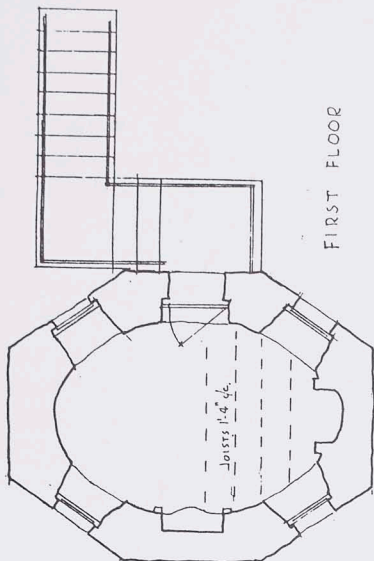


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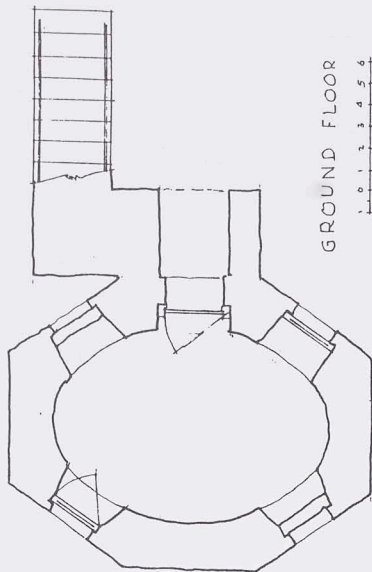




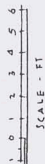
NORTH ELEVATION



FIRST FLOOR



GROUND FLOOR



A NOTE ON THE OLD SETTLEMENT AT KEIL, ISLE OF MUCK

Pamela and Laurence Draper

The map made in 1809 by J. A. Chapman shows a small settlement of about half a dozen houses at the upper end of the now-abandoned village of Keil above Port Mor (NM420796); an alternative name for the settlement is Sean Bhaile (Shanavalda). A path leads from the harbour through the settlement towards the north coast, east of Gallanach. The present road lies to the east of the old path. The site is a sloping one with a sheltering cliff on the west and falling away to the east. Rock outcrops are abundant on the grassy hillside. In a survey in 1982, the rubble walls of about 35 buildings, most of which are assumed to have been houses, were located. Most walls are now of between 0.5 and 1 m in height, and about 1 m in width. Few were of dressed stone.

The most obvious characteristic of the settlement is that the main street was basically straight, a feature which suggests an element of planning. It is 4 m wide, walled on the east side for all of its length of 178 m and for 64 m on the west. The planning which produced the straight street did not extend to the arrangement of houses, which were rather arbitrarily placed and aligned, sometimes dependent on existing rocks and a water course; some were even built in the main street which then had to be diverted.

The site is overlooked by a level, roughly hexagonal, grassy platform with sides of about 12 m, near the top end of the main street. At the bottom end is the cemetery, still in use today. Amongst the houses there were several walled fields or gardens, but these now show no visible signs of cultivation.

The history of the settlement is rather obscure. From discussions with the present owners and islanders, it seems that the population of Muck reached about 300 during the peak years of the kelp-potash industry, which by about 1820 had collapsed. Sheep, or possibly cattle, then became more profitable than people for the landowners, and the crofters were moved from their homes around the island; some emigrated to Cape Breton, Canada, in 1826, and those remaining were allocated the area around Keil and expected to live by fishing. Two years later, after hearing good reports from Cape Breton, many of those who had remained decided to emigrate. By 1831 the island population had halved, and by 1841 had halved again to 68.

The term 'house' is a grandiose one for these small shelters built mainly of rough stones or boulders, with turf. Although they were undoubtedly homes in their time, such simple structures would hardly be considered adequate for animals today. A report on living conditions in the Small Isles concluded that even in the late nineteenth century, 97% of the population must be considered to have been poor (reference unknown).

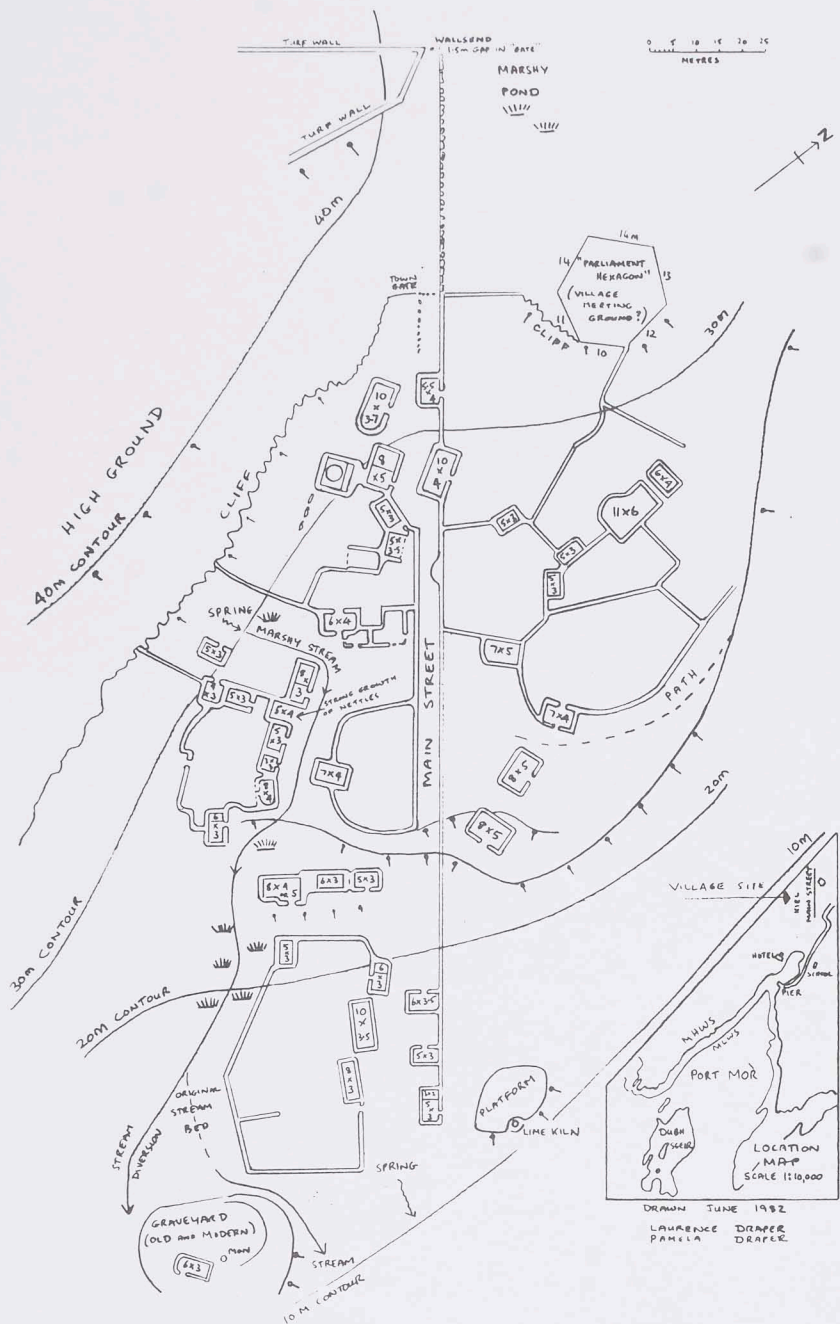


figure 1 Sketch plan of deserted village of Keil, now Port Mor, Isle of Muck. Plan by Laurence and Pamela Draper: the original has been placed in the National Museums of Scotland Scottish Life Archive on permanent loan for safe keeping (negative reference: C22002).



figure 2 View of settlement from the south, from which Eigg can be seen in the distance.

A booklet *The Island of Muck: A Short Guide* by Lawrence MacEwen, Laird of Muck, 1995 (£1.50) is available from the author or the Arisaig Hotel, and gives a good overview of the island including geology, climate, flora and fauna, and a brief history.

Westray Buildings Preservation Trust

Jocelyn Rendall and Paul Newman

The Orkney landscape is undergoing violent change as the traditional stone-built croft buildings are replaced by kit houses and massive concrete byres. The characteristic low flagstone-roofed steadings are distinctly under threat; even in the most northerly islands where they have so far survived to a greater extent than elsewhere in Orkney they are rapidly disappearing. While larger vernacular houses, schools and even kirks and mills are often successfully adapted to modern use, the small farms are much more vulnerable and usually abandoned to ruin. More traditional buildings can be seen on Westray than perhaps any other island and here at least a few may survive, due to the efforts of a determined band of campaigners who in 1994 founded the Westray Buildings Preservation Trust.

From the beginning the Trust's first purpose of maintaining buildings 'considered to be of importance to the history and heritage of Westray' was inseparable from an educational role and the aim of preserving and recording other aspects of the island's history and natural history. Its first purchase was a former school in Pierowall and this has been renovated as the Westray Heritage Centre. Somehow this small and unpretentious space manages to house office, cafe, photographic and documentary archives, a superb permanent display on the natural history of the island, and temporary exhibition space. All the artwork and literature has been created by local artists and designers, and is of stunningly high quality. Any material relating to the history of the island is welcomed in the archives; here you can trace your family history on computer or browse through photographs not only of Westray's buildings, but of the folk who lived in them, and their daily life.

A prime intention was to purchase one of the small traditional farms to preserve as a museum. South Hamar became available this year; this is a miniature complex of two room dwelling, kiln barn, stable and byre, impeccably 'traditional' having been lived in by the same occupant for over eighty years until 1996 without the addition of any amenities or modernisation. The buildings are an excellent example of the typical nineteenth century Westray croft, while the house interior represents the living conditions of most people on the island before the Second World War (and the byre that of their beasts - the doors are too narrow and low for the late twentieth century cow to enter).

South Hamar has been surveyed by the authors and a description will be prepared for publication in the next issue of *Vernacular Building*.



South Hamar, Westray

HOWLIN HOUSE, HOWLIN, EIGG

Graham J. Douglas

Howlin House is located at the north end of Eigg at the foot of the hill that divides the island. On the west side of the island, its aspect is south-west, orientated NW-SE, at an altitude of 50 m (NM479895).

Howlin House is a tacksman's house dating from the 1770s and is the oldest surviving house on Eigg. From a distance it appears to have the standard two storey, three bay format, but closer examination reveals some interesting features.

The rubble-built house is unusual in incorporating a byre/stable with loft above as its south-east bay, and this arrangement seems to be original. Howlin seems therefore a rare survival as few houses with this arrangement are known to the author. How widespread this type of layout was is difficult to assess, though a similar Eigg example, the Priest House (demolished 1910) followed the same pattern. While single storey byre dwellings were common throughout Scotland, to find a two storey symmetrical house of this standard following such a pattern is comparatively rare. Such houses may not have survived because of the relative ease of extending the living quarters into the former livestock areas as domestic requirements changed.

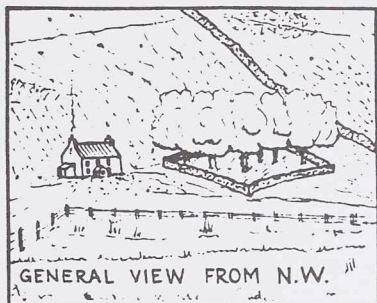
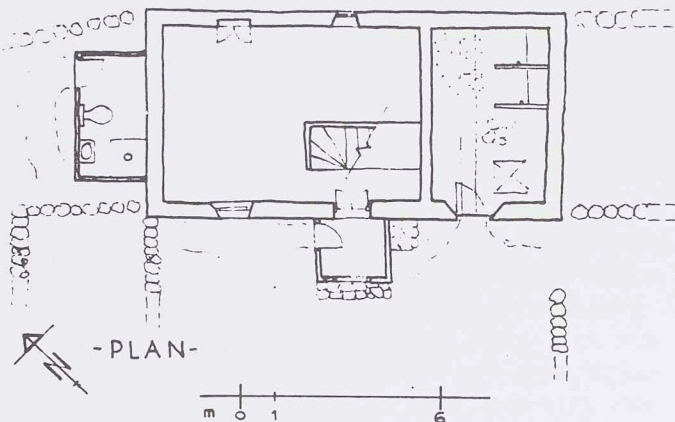
The existing roof of coated corrugated sheet (not sheet metal) was fitted in the 1970s, and replaced a curved corrugated sheet metal roof which is said to have been fitted in the 1930s. The present chimney stacks are re-built in cement block; that to the south-east is false, being simply for appearance's sake. The byre/stable end is entered by a high door with sharply embrasures; the surviving fittings are a pair of single stalls with concrete trevices. The floor is part-concrete, part-cobbled. A hatch in the south corner gives access to the loft above. The floor level is higher than that in the dwelling house, and in line with the sill of the window in the south-west elevation. The cross wall extends up into the roof, and it now has a central door at the upper level, which is a recent slapping. At ground level, the north-west end is a kitchen, which was gutted in the 1970s when the building was used as a monastery for Anglican monks, who removed the partition walls along with the wall panelling. On the north-west gable is a sheet metal clad toilet and shower room, with a single roof. The building is now used as a holiday house.

The township of Howlin declined in the mid-nineteenth century, and the building stone was used to construct the nearby sheep fank and shed. The Ordnance Survey 6 inch map of 1877 shows a roofless U-plan complex. This is flanked by a pair of buildings to the south-west. The footings of these buildings are still visible. To the south end of the house is a walled garden, with trees said to be about two hundred years old.

Further details of the area's history can be found in *Eigg: An Island Landscape* by Susanna Wade Martins (1987).



- SW ELEVATION -



HOWLIN HOUSE, EIGG.

§ JULY '97.

SVBWG VISIT TO THE HIGHLAND FOLK PARK, NEWTONMORE, 23 AUGUST 1997

Veronica Steele and Ronnie Robertson

Those members present at the 1997 AGM of SVBWG in Shetland will remember Ross Noble's invitation to visit the Highland Folk Park, Newtonmore, to see the work of the Highland Vernacular Buildings Trust; a visit was organised for 23 August. Those attending were offered the choice of touring the Folk Park and related sites of interest, or taking part in 'hands-on' activities to learn traditional skill. A fascinating and informative day was had by all, as the following accounts by Veronica Steele and Ronnie Robertson (respectively touring and participating) describe.

The tour of the Highland Folk Park, conducted by Ross Noble, began at the Interpretation Centre which sets out the aims of the project through panels and a model of how the Folk Park will look as completed. This was particularly useful, showing the layout with divisions into different eras from hunter-gatherer to post-Improvement farming. The centre also contains some examples of the traditional materials used in the site.

The Highland Folk Park covers 85 acres, and is situated on esker (post-glacial sand and gravel). This malleable ground allows the terrain to be moulded into individual pockets with different building types separated from each other, and also to make an 'upland' area. A major part of the Folk Park is the reconstruction of the deserted township of Upper Raitts (NH775023), and the contours of that site have been replicated.

The Folk Park is a fascinating collection of microcosms, where building, structure and road types from its locality and throughout mainland and island Scotland have been replicated with materials, technique and labour from the relevant areas. Throughout the tour we became aware of the painstaking and intense attention to detail that is shaping the Folk Park - the year by year construction of heather moorland; the methodical and empirical solving of structural problems when constructing and reconstructing buildings; the rejection of modern assistance when moving large rocks and other heavy materials in favour of man and horse (albeit with the very twentieth century encouragement of Polo mints for the horse!).

The tour paid particular attention to the L-shaped steading which the Folk Park encompasses, presented as it was in the 1930s. Interesting points included the cobbling which had been probed for and re-laid, the threshing floor made of railway sleepers, and the demonstration dairy. The farm included a corrugated iron dwelling, lined with timber, where the farmer and his family would live during the summer months when the farmhouse was let to summer visitors. The small end room contained a history of wall decoration from the 1870s onwards. The livestock

of the farm included shorthorn cattle, Scots Dumpies hens, and rejuvenated cats from the local Cat Protection League.

The reconstructions planned for the Folk Park include a still, and a joiner's workshop, and there will also be a museum of sport and an open-air theatre. The major focus is the reconstruction of the c.1700 township at Upper Raitts, upon which the active members of the Group worked. There we saw different building types in varying stages of construction, and heard of the problems and triumphs which had featured in the building process. Archaeological evidence is studied in minute detail to determine what purpose individual buildings served, and also how they were constructed. Some of the problems faced relate to public access to these buildings in terms of access and lighting, and whether compromises will have to be reached when the Folk Park is fully opened to the public.

After the morning tour of the Folk Park, and lunch, the touring group travelled north past Kingussie to look at the Upper Raitts site. There we related what we had seen at the Folk Park to the remains on the hillside, and imagined what it would have been like as a busy settlement. The vision and achievements of the reconstruction at the Folk Park became even greater when we saw the bare bones of the evidence that formed its basis. The excavations at Upper Raitts will continue, and all evidence will be used at the Folk Park. Future visits are essential to study the development of this fascinating place.

Veronica Steele

Hands-on participants on the day were limited to nine intrepid enthusiasts, which with four subject groups - cruck framing, cobbling, turf walling and bodging - meant that we were able to have almost individual tuition. The first group which I undertook with Simon Fleming started to tackle the assembly of a cruck frame. Fortunately the main timbers had already been laid out on the ground for us to align in accordance with the design drawings, but even so it took some time before we were able to progress to using side axes to form the joints in the timbers. Unfortunately we had only made one cut with the large two handled saw before we had to move onto the next subject - bodging.

Bodging turned out to comprise:- taking a freshly cut section of sapling, quartering it, roughly shaping it into a cylinder with a hand axe, using a draw knife to further improve its form on a bench stool, then finally turning it on a pole lathe. The pole lathe is a remarkably simple tool taking the form of a long springy sapling held to the ground at an angle. A cord or rope is attached to the top of the sapling, then anchored to the foot board at the base of the turning lathe. When the roughly cylindrical piece is ready to be fitted to the turning lathe, the cord is wrapped twice around the piece of timber to be turned. Power is obtained by depressing the foot board when the timber can then be shaped with the appropriate wood chisel. Once the cutting rhythm is mastered the timber can be easily shaped into whatever form is desired. There is a very satisfying feeling of control over the shaping of the timber which is lacking when using conventional mechanised lathes.

Lunch unfortunately interrupted our efforts at bodging; however, by waiting until the lunch queue had subsided I was able to gain some extra time and complete my spurtle!

Turf walling followed lunch and consisted of using a combination of stones and turves to construct walls which would have been used for the creation of enclosures as opposed to buildings. The stones used would have been those deemed unsuitable for building construction thereby minimising waste. Two strings were set out to mark the proposed width of the base of the wall, then the largest stones were selected and placed with their best face outermost. The space between these stones was then filled with the smallest stones roughly packed. Turves, cut to fit using a hand-held saw, were then placed across the width of the wall in two layers. This process was repeated until the wall had reached the optimum height (approximately chest high). The wall had taken on a battered form as it rose in height and was capped by stepped layers of longitudinally placed turves and a final top layer of cross turves forming a rounded water shedding cope. The final result was a very 'green' wall in all senses, and one which demanded many final 'pats' from the participants.

Our final group was to have been cobbling, the laying of river pebbles on a bed of beaten earth with riddled earth mortar between them. The fact that the previous participants had made such good progress here enticed me to return to bodging once again for the final hour. Another spurtle was produced, and my enthusiasm for turning on a pole lathe resulted in a much more elaborate attempt, described by our tutor, Morgan Kennedy as 'baroque', he preferring a more minimalist approach! So the battle of the styles extends to even the simplest of vernacular productions.

The 'hands-on participation' element of the day was something of an experiment for the Folk Park, and judging by the enthusiasm of our participants and requests for further, longer visits, I have no doubt that future such programmes will be as successful.

Our thanks are due to the instructors Dougie McLean, Peter Gibbon, Andy Woodburn, John Watson, Grant Harold, John Skelton, and Morgan Kennedy for their skills and patience; and to Ross Noble and Stephen Whymant for the original invitation and all the planning that resulted in such a successful 'extra' Autumn day.

Ronnie Robertson



Reconstruction of Upper Raitts settlement



Reconstruction of Upper Raitts settlement

REVIEWS

Scotland's Traditional Houses: From Cottage to Tower-House

**Elizabeth Beaton. Discovering Historic Scotland series, ed.
Alexandra Shepherd. Edinburgh. The Stationery Office. 1997.
pp104. £10.99.
ISBN 0-11-495785-1**

SVBWG can take some vicarious pride in this splendid achievement of Elizabeth Beaton, our current Chairman, and of her editorial and production team. *Scotland's Traditional Houses* is both an attractive and an authoritative book, the first to draw together the various threads that make up Scottish domestic vernacular building. A lucid, easy-to-read yet highly informative text, allied to a range of well-chosen illustrations, mostly in colour, guides the reader gently but firmly over this vast architectural territory in a mere 100 pages. It is a great tribute to the author's approach that there is something here for everyone - beginner and 'expert' alike - and from every corner of Scotland. A striking cover design and a useful format, which is similar to that of the successful RIAS series, add to the appeal and usability of the book, and augur well for the new series which the book is launching. Unfortunately, the series title, *Discovering Historic Scotland*, is wide open to ambiguous and whimsical interpretation!

The contents of the book are well organised, beginning with an exposition of the range and use of building materials, a subject dear to the author's heart. The succeeding chapters follow a broadly chronological sequence. Period-types of rural building, from prehistoric times through to relatively modern adaptations of ancient techniques, are first described. The author then takes us through the towers and urban residences of the lairds and merchant classes of early modern Scotland, following these with an examination of the ways in which concepts of symmetry, planning and 'Improvement' affected the design and context of the entire hierarchy of rural housing in the eighteenth and nineteenth centuries. The special qualities of Scottish fishertown vernacular are highlighted, and there is a concluding note on vernacular revival and survival, followed by a glossary, index and a list of sites to visit.

A clear picture, though wisely not a tightly worded definition, of both national and regional tradition(s) in Scottish building emerges. Throughout, the author is at pains to depict the general background - physical, social, economic and cultural - which has helped to shape those traditions. In the detailed foreground, walling and roof construction, which are so necessary for any appreciation of Scottish building history, are given their due place, but a welcome emphasis is also given to key anatomical features of Scottish domestic architecture such as

doorways, window-openings, fireplaces, stairs, and fittings such as doors, windows, beds and cupboards.

With all these considerable strengths, this book deserves, and will undoubtedly enjoy, an enduring influence. It is in tribute to its likely importance that a few general points should be aired here.

Although burgh merchants' houses are discussed, it is not unfair to conclude that the overall emphasis of the book is on *rural* houses. Distinctively Scottish *urban* traditions of long standing such as timber-fronted houses, 'stacked' cottages and flatted tenement-buildings, prevalent in the historic towns of central Lowland Scotland since at least the sixteenth century, find little or no mention. So far as lesser rural dwellings are concerned, the transition from prehistory to modern times is somewhat abrupt, given that survey and excavation are now casting more light on the character of the *medieval* peasant house, including the cot-house predecessor of the 'but and ben' cottage. So far as lairdly rural residences are concerned, this reviewer is uneasy in finding tower-houses coupled to the 'manorial' epithet throughout. What manorialism and the term 'manor-place' mean in Scotland is still not entirely clear, but the defining elements are likely to be institutional and agrarian, not architectural, and implied word-picture comparisons with England may be misleading.

However, these are minor quibbles in relation to the sheer breadth and style of a book for which Elizabeth is to be warmly congratulated - and thanked. No-one could have made a better job of this task, and no member of SVBWG should be without a copy!

Geoffrey Stell

The Ruins of Craibstone Limekilns, Deskford

Written and compiled by N. A. Brown. Regional and Thematic Studies Series No.4. Elgin. Scottish Vernacular Buildings Working Group with assistance from The Moray Council. 1996. 52pp. £4.50 (£3.00 to members of SVBWG). ISBN 0 9505084 97

In autumn 1995, twenty-nine people selflessly swapped home comforts for a saturated spell of fieldwork in Banffshire, assisting the SVBWG in its attempts to assess and record Craibstone Limekilns near Deskford. This booklet is their story, but it also represents the combined efforts of a variety of interested parties, ranging from The Moray Council, the Regional Archaeologist, the Deskford Heritage Group, the Scottish Lime Centre, and of course, SVBWG itself, one of whose aims has always been to promote the measured survey of vernacular buildings.

As it turned out, Craibstone Limekilns was an inspired choice of site for many reasons (barring meteorological, of course). At a practical level, it offered

the opportunity for the SVBWG to run six workshops on measured recording. It also assisted in the generation of a record (both documentary and field survey) of a Scottish industry, the products of which have had a profound (and rarely recognised) impact on vernacular building throughout the country.

The booklet begins with useful chapters providing documentary, cartographic, geological and basic technological background, before giving an account of the physical remains at Craibstone itself. The latter descriptions utilise a number of useful drawings compiled from the survey work, along side photographs.

There follows a chapter describing the recording exercise itself, which began with assessment by the Regional Archaeologist, and was followed by the dispatch of an elite squadron of defoliators (Moray Training for Work, Buckie Division), who also installed vital pieces of infrastructure, such as a temporary bridge over a swelling burn. A short account is also provided of each of the six training workshops.

Ultimately, flora and fauna are the real villains here, their relentless growth and prosperity (no doubt flourishing on the plentiful quantities of lime in the area) accelerating the demise of the fabric of the site. Craibstone is not protected, and beyond a few remedial management measures, is not likely to receive formal protection. On the other hand, it is representative of a very significant, if low-key, Scottish industry. The initiative to assess and record the site by the then Moray District Council and SVBWG was therefore thoroughly worthwhile, and as a record of that process, this booklet is an important document, a valuable record, and a good read.

Miles Oglethorpe

The Piers and Ferries of Bute

Ian MacLagan. Rothesay. The Buteshire Natural History Society.

1997. pp153. £12.95.

ISBN 0 905812 05 0

This volume builds upon 'Rothesay Harbour: An Historical Survey from 1752-1975', *Transactions of the Buteshire Natural History Society*, Vol XIX (1976); Ian MacLagan has been able to add newly discovered information on that harbour as he extends his previous publication to include all the piers and ferries of Bute. The extent of his research is shown as he relates the development of the transport form and its associated structures and buildings from the early fifteenth century to the roll-on, roll-off ferries of the present day.

As an island, Bute was utterly reliant on shipping, and changes in the ferries dictated how settlements were formed; the importance of Rothesay is reflected by its busy harbour, and by contrast, Port Bannatyne now has a pier in a state of

disrepair. Similarly, the pier of Kilchattan harbour which once served the local limekilns and the Kilchattan Tile and Brick Works has now been demolished.

The author has analysed many sources to compile this book; he quotes from legal, financial and trade records to trace the developments of Bute's harbours. His analysis of records and plans allows a complete history of the harbours to be drawn, as pre-construction discussions are traced, repairs noted, statistics of use given, and the need for expansion or destruction described. The development of the harbour at Rothesay is dealt with in most detail. Numerous drawings and plans show the layouts and dimensions of piers (details of the sources of these would have been interesting). Photographs of harbours busy with fishing boats and steamers also evoke an era. Furthermore, he demonstrates the human aspect with examples including excerpts from the diary of an eighteenth century commuter who regularly sailed on the Greenock Packet including December days when 'the wind blew hard at East' preventing the ferry from sailing. Charges of non-human passengers are given for 1880 from Kilchattan - to transport a horse cost 1s., a cow 6d., with sheep 6d. for twenty.

Though aimed at the specialist in sea transport and harbour development, this well-researched book also contains valuable information on and analysis of the social history of Bute.

Copies of the book are available by post from The Bute Museum, 7 Stuart Street, Rothesay, Isle of Bute PA20 0EP for £12.95 per copy plus postage and packing at £1.80 per copy.

Veronica Steele

OTHER PUBLICATIONS

Encyclopaedia of Vernacular Architecture of the World

**Cambridge University Press. ed. Paul Oliver, Centre for Vernacular Studies, School of Architecture, Oxford Brookes University.
(International advisory board)**

Notice was given of this publication, which has entries by 750 contributors, on the vernacular buildings over of eighty countries. Volume 1 covers the principles and philosophy of traditional architecture, including cultural traits and attributes, materials and resources, production and components, symbolism and decoration, uses and functions. Volumes 2 and 3 deal with the practice within specific cultural (rather than national) contexts, explaining anthropological principles relating to social structure, family and kinship, religion and belief where relevant. The Encyclopaedia is illustrated with photographs, line drawings, computer generated

projections, and maps. It also includes a comparative lexicon, glossary, and bibliography.

The Encyclopaedia costs £695 and is published in October 1997.

Farm Architecture: The Listing of Farm Buildings

Historic Scotland (available from Historic Scotland, Longmore House, Salisbury Place, Edinburgh, EH9 1SH)

This useful leaflet provides a background to the listing of farm buildings, and is aimed at those researchers as well as owners. A brief introduction outlines the reasons for recording and protecting these buildings which are at risk through changes in farming. The need for recording is being addressed by the Scotland's Farm Building Survey of the Royal Commission on the Ancient and Historical Monuments of Scotland; protection through listing is being enhanced by the current Historic Scotland resurvey programme. The categories of listing are explained, and the implications outlined. There is also advice about grant aid, and about the possible advantages of converting, and the care needed in that process. A final section points out that farms may also include Scheduled Ancient Monuments, either among the buildings, or hidden below the soil.

Veronica Steele

OVER THE THRESHOLD

Exhibition at the Royal Museum of Scotland, Edinburgh, from 1 December 1996 to 6 April 1997.

This exhibition was the culmination of Annette Carruther's research into 'Form and Function in the Scottish Home 1600-1950'. Like the associated volume *The Scottish Home* (reviewed in *Vernacular Building* 20) it showed the diversity of building types, decoration and objects which characterised the home in Scotland over this period, and beyond, from the grandest to the most humble.

The exhibition dealt with the home in terms of room function - hall, drawing room, bedroom, dining room, bathroom and kitchen, with displays formed of related objects ranging from toiletries to grand furniture. This approach drew the closest possible comparison between different types and periods of homes. Small dwellings allowed an different approach through a display suggesting an early period rural dwelling with furniture and utensils from different areas and dates; another display suggested a later city dwelling, based on a painting by Joseph Paterson of his childhood home in Dundee, providing a good contrast between city and rural dwellings. Such displays are particularly valuable in that they emphasise how little space an often large family would have. These displays were filled with

appropriate household items drawn from many museums and private collections with the Highland Folk Museum and Lerwick Museum featuring prominently. Open displays were complemented by further objects in display cases, which included paper and other models of houses, and household items and accounts of domestic life. Written display panels and a wealth of photographs of homes and their inhabitants also gave examples and information.

As well as the household objects and furniture displayed, an important aspect of the exhibition was demonstrating how knowledge of homes through the ages was gathered, and the importance of works of art as sources of information was stressed. Thus accounts ranging from a nineteenth century antiquarian, Reverend John Sime (1790-1864), to film footage from the 1950s of the daily life of the ideal housewife, were used to give as much information as possible, and the importance of living memory was stressed. Visitors were encouraged to comment on the exhibition, and to write down their reminiscences (and also to guess at the function of obscure utensils). Sources of visual information varied immensely, from John Everett Millais' painting 'Waking' with details of a bed and bedspread, through a painter's commonplace book from which a hall floor was reproduced to scale, to catalogues for linoleum and sanitary ware.

The exhibition dealt with a subject that all people could relate to, and included a doll's house and activities for children. Given its appeal and the wealth of exhibits, it deserved return visits, which the free entry encouraged. Complemented by study days organised in conjunction with the Scottish Society for Art History, Scottish Industrial Heritage Society, and a most interesting one with SVBWG (Out of the Wild on 6 February), the exhibition and the whole research project have greatly increased knowledge of the Scottish home.

Veronica Steele

CONTRIBUTORS

W. Ashley Bartlam was born and educated in England, and discovered Scotland during the War. He has lived in Elgin since his demobilization in 1946. A Chartered Architect, he founded a private practice in Elgin which he enjoyed until retiring in 1982. He now spends some of his time painting, sculpting and writing.

Graham J. Douglas is a self-employed draughtsman and interpreter of the built environment.

Pamela and Laurence Draper are retired research oceanographers. Their archaeological publications include *The Raasay Iron Mine: Where Enemies Became Friends*, and other papers, mainly for *Industrial Archaeology*.

Christopher McGregor is an architect with Historic Scotland.

Paul Newman lectured in Architecture at Heriot-Watt and Edinburgh Universities. His current research interest is Orcadian traditional building. He now lives in Orkney where he will be delivering a course on the Traditional Farm Buildings of Orkney for University of Aberdeen Centre for Continuing Education.

Jocelyn Rendall farms at Holland, Papa Westray, Orkney.

Bruce Walker is a founder-member and Vice-President of SVBWG.

Stephen Whymant qualified as a Chartered Civil Engineer with construction experience varying from roads to multi-storey office blocks. He specialised in the interaction between soil/foundation movements and building response, and believes firmly in understanding a structure prior to effacing repairs. He is Project Director of the Highland Vernacular Buildings Trust, currently engaged in the construction of a traditional highland township c.1700 at Newtonmore.

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 urban tenements or 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 buildings 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 interests and attitudes, all of which are clearly evident in its activities.

Members of the Group are invited to attend annual conferences held at different venues in Scotland each year. The 25th Conference was held in the Spring of 1997 in Shetland, and two Autumn meetings were held, one at the Highland Folk Park, Newtonmore, and another at traditional fishing villages in Angus between Montrose and Arbroath.

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 1997-98

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Ordinary membership (outside UK)	£15.00
Joint membership	£15.00
(one copy of <i>Vernacular Building</i> journal annually)	
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