Winds of Change

An exhibition about Tiree's thatched houses.

Tiree and Coll Gaelic Partnership, Summer 2004

Tiree's Thatched Houses

The beautiful thatched houses of Tiree (known as *taighean-tugha*) are one of the island's most distinctive features. They are simple buildings with no unnecessary, fussy details.

"Architectural features, as such, find no place. There are no crow-stepped gables, no pediments, no corbels or other 'bits' of detail with which the architect delights to fill his sketch book." [1]

Kenovay in 1990.

Ever since man first settled permanently on the island at the end of the Bronze Age, he has attempted to solve the problem of how to create a warm, dry shelter using local materials. In the Hebridean climate this has to be waterproof and capable of withstanding winds of up to 120 mph. Without the help of an architect the design has evolved over two and a half thousand years by a process of patient observation and trial and error. The result is supremely successful.

The solution involved constructing a low building. Wind hitting the thick walls was lifted up, hitting the roof about halfway up. Although the roof only rested on the walls, the pressure of the wind kept it in place in a way that would have required years of research in a wind tunnel.

"A Tiree dwelling will stand a hurricane without the least injury. The whistle of the wind is no more heard from within than in the interior of Ben Cruachan…The wind strikes against the walls and shoots over the roof without scarcely touching it." [2]

Although there are fewer than a dozen left on the island today, Tiree still has the greatest concentration of thatched houses in Scotland. Before the end of the 19th century almost all the buildings on the island, at least three to four hundred of them, were thatched. The main exceptions would have been the 'grand' houses - Island House (built in 1748), the lighthouse complex built by Alan Stevenson in Hynish in 1837, the Gott manse (built in 1832), the schools and the churches.

However, by the end of the 19th century many traditional houses changed their roofing from thatch to tarred felt and larger, two-storey poured concrete houses became popular after the First World War, funded by the Board of Agriculture. Numbers of the traditional thatched houses have steadily

declined over the last hundred years. An Argyll and Bute Council survey in 1985 found 23 thatched buildings and today there are just ten.

Their design is markedly different from that of thatched houses on the mainland and even from traditional houses on the other islands. *"The dwelling houses of Tiree are of different construction from that of any other part of the County" wrote* Argyll's County Medical Officer in 1893. The rounded curves of the roof and the complex pattern of ropes holding the thatch down make a Tiree *taigh-tugha* unmistakable.

Sandaig Terrace in the early 20th century.

The older style on the outer islands was usually for a single dwelling and byre to be built with one door. Cattle were stabled to the right and people lived to the left. No houses like this have been found on Tiree, where the pattern was to build the house, byre, workshops and sheds joined in a line. The cattle were usually wintered outside. Some cottars who had no land built rows of houses, one joined on the other, as at the Land in Barrapol. By using the end of someone else's house for the end of yours, fewer stones were needed

A visitor in 1802 wrote of Tiree houses, *"Most commonly every hut has two doors that when the wind blows hard, the one to windward may be shut and that to leeward opened. It is not always these poor folks have wooden doors, they then stop the gaps in their huts with thick bundles of heath or straw* [called ceannagan]*, tied tightly together."* Few houses like this exist today, the one exception today being *Taigh Dhonnchaidh Dhòmhnaill 'ic Nèill* in Balevullin.[3] It seems unlikely that this style was commonly used as it would have given little shelter from the prevailing wind. The byre, however, often had a door opening to both sides. The one to the west, the *soran*, was opened to create a draught for winnowing corn.

Traditionally Tiree houses face east. *Cùl ri gaoith, aghaidh ri grèin* (back to the wind, face to the sun) and *An ear 's an iar, an dachaigh as fhèarr* (east and west the best home)[4] are two traditional proverbs.

Tiree houses were made as far as possible from local materials. *"The other important factor which governed the design of these Highland houses was the nature and extent of the materials available. For obvious reasons, as little as possible was imported, and choice was consequently limited to those materials which were readily available in the locality."* [1]

Stone, lime, clay, straw rope and the thatch were all available locally. Only glass and wood for the roof timbers, doors and windows were imported.

The traditional houses of Tiree look utterly immovable. In fact, nothing could be further from the truth. We know where people used to live on Tiree from Turnbull's 1768 map of the island. Islanders were then clustered in townships or *clachain* of which there are now little trace. The modern croft system with the croft house on its own piece of land was introduced around 1800 and we can therefore say that there are probably few traditional houses left on Tiree that are older than two hundred years.

Islanders moved around a great deal, either by choice or because the factor gave them no option. Their houses were solid but, in a way, they were Britain's first mobile homes. The thatch had to be discarded but the turfs and roof timbers were taken down and put into the back of a cart and the stones moved on sledges, load by load to the new site.

Na Ballachan (the walls)

Tiree's thatched houses have immensely thick double walls, an inner *balla-staigh* and a slightly lower outer *balla-mach*.

Most of the island's stone is Lewissian gneiss, a heartbreakingly hard material to work. The older houses, built before around 1850, were made using rough, un-dressed stones as they were found in the fields and at the shore. Their walls are rougher and the corners rounded.

Alasdair MacDonald's thatched house in Kilmoluaig in 1990.

"The stones are built without mortar, the external faces having a 'batter', an inward slope, and the corners are rounded - an expedient arrangement requiring no specially dressed stones in the way of...corner stones." [1]

Stones were taken, if possible, from nearby derelict buildings or walls, although there may have been a superstitious reluctance to use stone from some of the Iron Age brochs and duns several of which have considerable remains.

"Earlier on, if they wanted stones, a fair deal of what we would now call vandalism went on. These old forts round the edges of the island – a great many of them were reduced and entirely used up in building other buildings. If houses fell empty altogether, abandoned as being obsolete…the stones

were immediately used on the next…There used to be a row of four houses in Brock which have completely disappeared today. Every single stone had been put into a later building." **Alasdair Sinclair, Brock, talking to Dr. John Holliday, January, 2004.**

As the technology of working with stone improved, the stones were made more regular and the corners sharper. If a family had enough money a stonemason could be involved.

"If you wanted something like a lintel or a doorstep, something where you wanted a large piece of stone roughly rectangular in cross section…this was a job really for a proper mason. He could look at a piece of stone, and he could tell that, just as in a piece of wood, there's a grain…it will split where you want it.

"Having studied a piece of stone for a while…he would then make quite small holes, they would only be about two inches deep and a half to three quarters of an inch in diameter. And he'd make several of these a few inches apart right along the length of the stone…he then had chisels…and quite a collection of small wedges…steel wedges. The idea was to put a [chisel] *in the middle and one of these tapered wedges on either side of each of the holes.*

"Then he took quite a light [2 lb] *hammer and tapped these one after the other, back and forth, back and forth, always getting a little bit tighter. And all the time the wedges were pushing against the stone and ultimately there would be a crack and the stone would split right along the line of these holes. Then you could turn it ninety degrees and do the same again to get the other faces…*

"Just this week, one of the houses in Brock is being renovated and the original old lintel above the fireplace has been uncovered, and along the bottom edge are those little holes, hand cut." **Alasdair Sinclair, Brock, talking to Dr. John Holliday, January, 2004.**

It takes a lot of stone to build a house. *"When locals are asked the question, 'How did you calculate the number of stones required to build a house?' the common reply is 'Collect a heap of stones that looks sufficient and double the amount.'"* [5]

The walls of the older traditional houses on Tiree are between five and eight feet thick and six feet high with larger stones at the bottom. They were traditionally built dry, without mortar. The stones of the inside wall are laid slightly tilted, with the inner face higher than the outer, so that any penetrating water drains away from the room.

Despite this, the County Medical Officer for Argyll wrote of Tiree houses in 1893:
"In wet weather the walls in many cases are damp. This is only what might be expected as the roofwater runs to the top of the wall and percolates through the middle stratum of sand." [2]

It is difficult to build a stable dry-stone wall to a height of six feet and impossible to make it windproof. The solution on Tiree was to build a double wall separated by a layer of sand and rubble called *an glutadh* or *glut-lìonadh*, the hearting. This acted as a layer of insulation and gave the two walls extra stability.

"The purpose of the hearting calls for elucidation. It was not introduced for the purpose of eking out the quantity of stonework required; nor was it an expedient adopted in the interests of labour saving in constructing a wall of uncemented stones whose stability would depend largely on inordinate thickness. The hearting was directed to special needs. As the rainwater from the roof discharges upon the wall top it is caught by the hearting, through which it percolates to the soil, thereby providing a damp blanket of earth which very effectively prevents those tempestuous winds to which the Hebridean isles are subject from penetrating the uncemented masonry of the wall." [1]

However this view has recently been disputed. "*The commonly held belief that the core has to be kept wet to eliminate draughts and that the stone skins are built to channel the water inwards is totally erroneous as water passing down through the core washes out the earth fill through the dry masonry joints leaving the wall structurally unstable."* [5]

Since the roof rests on the inner of the two walls, the top of the hearting and outer wall form a wide ledge known as *an tobhta* (although this word is also used to describe ruins in general). When the walls are un-mortared this can be left open and grass and sometimes flowers grow there. It is even said that rhubarb grew on the *tobhta* of *Calum Bàn* (Calum Sinclair) in Balephuil.[3] In summer the dogs would often lie there in the sun and sometimes sheep would climb up to graze.

Kate MacDonald of Balephuil standing on the t*obhta* of her house.

"[The tobhta] *being laid over with turf and green grass where pet sheep or lambs often graze and occasionally - when the building abuts on a bank, as is sometimes the case - a courageous cow and calf, or even a mare and foal…In suitable summer weather the women of the family take possession of these grassy wall-tops and sew, spin or knit, and look about them while the household dogs sleep beside them in the sun."*

Nowadays the spaces between the stones are usually filled with mortar so that the walls can no longer 'breathe', and the *tobhta* is usually sealed with concrete.

"All surviving [Tiree] *dwellings have the inner wall mortared or lined, but an open wall-head or* tobhta*, may still be seen with only grassy turf covering the sand infill. This can work only where the outer wall remains dry stone to permit drying. Most of the thatched houses, however, now have their walls completely cemented, the sealed* tobhta *being given an outward cant."* [7]

In a few houses, such as *Taigh Iain Mòr a' Bhrùnaich* in Balevullin, there is a small space in the wall where ducks lived.[6] Occasionally there were steps built into the wall to make it easier for those thatching to get access to the roof, as on *Taigh Iain Mhòir* in Brock. **Alasdair Sinclair.**
The ground at the back of the house is usually higher than at the front. If the houses were built on a slope they would be slightly dug in at the back to give them greater shelter, but drifting sand would also tend to build up the level at the back of the house. In the house of Jessie MacArthur (*Teasaidh Ceatarain*) in Balephuil the ground was so high at the back that her ducks could waddle up and tap at the window when it was feeding time! [3]

Traditionally the walls at the front of the house, the chimneys and around the windows were painted with white lime. The inside room walls were also given a coating of lime twice a year, in the summer and at New Year.[3] This lime, *aol-shlige*, was made by burning shells (a rich source of calcium carbonate).

Effie MacDonald in the doorway of her house in Kilmoluaig.

"A solid circular layer of peats is built on the ground to the size of a cart wheel, with a space in the centre for a kindling fire to which air is led through four equidistant channels in the layer of peat. On the top of the first layer a second layer of peats is arranged without air channel, and this is covered with cockle shells to depth of six inches. Then come more alternate layers of peats and shells until a structure shaped like a bee hive six feet high has been erected. This is covered all over with turf except at the entrance to the air channels next to the ground. In the centre the kindling fire is lit, and the peat kiln burns itself out and collapses in the course of a week. Under the burnt turf there is nothing save a white powder of peat ashes and lime." [8]

In Tiree, limpet shells and latterly wood and coal were used in the place of cockles and peat. The resulting lime (calcium oxide) could be mixed with water to make slaked lime (calcium hydroxide) This could be mixed with dry sand to make mortar (the calcium hydroxide recombining with atmospheric carbon dioxide to re-form calcium carbonate) or used as a whitewash to paint the walls.

"Shells were collected in a heap within a ring of stones beside many houses and burned twice a year." **Alasdair Sinclair.**

A small limestone quarry in Balephetrish was used for a while, it is said, in the building of Island House. However, the deposit was small and the beaches yield an abundance of sea shells, making its further use unnecessary.

Over the door there is usually a broad lintel, *an t-àrd-doras*, of stone or wood to provide some shelter, while the lintel over the windows is narrow. *"In the case of the window…the breadth of the lintel is limited to that required to meet the edge of the thatch, thus covering only the inner section of the composite wall, an arrangement that permits more light to reach the interior."* [1]

An Ceann (the roof)

Traditionally Tiree thatched houses were built with hip ends (the four walls of the house being the same height), as opposed to the more usual gable ends seen on the mainland. The pitch of these hip ends was slightly steeper than the pitch of the main roof. A few thatched houses with gables were built in Balephuil at the instigation of the factor. For a discussion of this see *Seann Taighean Tirisdeach* by Ailean Boyd.

Timbers

Roof timbers for were brought from the mainland or from the shore as driftwood, if they could not be taken from another house. Islanders were given permission by the estate to bring timbers from the Duke's woods on Loch Sunart but demand was so high that the Duke was forced to limit access.

In 1786, the Duke of Argyll wrote:
"My Chamberlain of Mull continues to complain of the abuses committed on my woods by the people of Tiry and says that in a few years they will utterly destroy the woods. I insist that you take measures for preventing them getting a single stick without your order and knowing what use it is for, and that you enter in this or some other book the orders you give for timber that I may see the amount yearly." [9]

The main roof timbers or couples, about six inches in diameter, went from the inner wall head to the apex of the roof. They were known as *ceanna-mhaidean* or *lànain*, and were usually of oak. Those at the rear of the house were about a foot shorter, which made the back of the roof slightly steeper than the front.

"In the treeless islands of the Hebrides timber was a valuable commodity and its economical use a strict necessity. Stability and warmth were secured by walls of great thickness; to span these walls from the inside edge obviously effected a very considerable saving of timber. On the scientific side, the device proved of real value in securing that, in the stress of the gale, the wind was deflected upwards from the face of the wall, leaving the roof intact." [1]

The timbers are held together at the apex by an oak pin, *prìne daraich*. The couples are also held together by one or two timbers, *an spàrr bheag* and *an spàrr-tharsainn* which complete the A-frame.

"It has been said that the best present a young couple could be given when setting up house was a set of poles for the roof." **Alasdair Sinclair.**

On top of the couples there are two or three purlins, the *taobhain* or *tarsainnean*, running lengthwise along the house. At the apex of the roof, the top purlins on each side are joined by short lengths of wood. This gives the Tiree roofs their distinctively round shape and allows the thatchers to stand easily on the top of the roof.[3] On top of the *taobhain* is laid a layer of finer branches, the *cabair*, often hazel.

Na Sgrothan (turfs)

Over the layer of branches is laid a layer of turfs, or *sgrothan*. These are cut from the moor or *sliabh* with a spade known as a *làir-chaib*. Well-developed root systems in the turf are needed to hold the soil together during handling. The turfs are cut about two feet in length and 18 inches

across. May to August is the best time when the ground is fairly dry. It would take an experienced cutter five days to cut the 1,000 turfs need for an average roof.

"The rough roof rafters are first overlain with a layer of turf…ideally these should be in the shape of rounded squares, about 18 inches across. Thickness at the centre should be two inches or so, and they should taper off to the sides to allow a more level finish when they are applied to the roof. This is done overlapping, roughly in the manner of slates. As well as by mere friction, the turfs may be secured by small wooden pegs and/or by tying to the rafters. There is some variance of opinion as to whether new turfs should be allowed to dry somewhat before laying, or whether they should be laid on the roof 'wet' and allowed to dry there a bit before thatching." [10]

Alasdair MacDonald of Kilmoluaig with new *sgrothan* on his roof.

Starting at the wall-head, the turfs are laid upside down (with the growing side facing downwards) on the roof and slightly overlapping. Those going over the apex of the roof are cut slightly longer. The turfs are held in place by small wooden pins or a rope tie. If the turfing is done properly the roof should be watertight without any thatch. If the thatch is kept renewed, these turfs should last for more than a hundred years.

An Tughadaireachd (thatching)

The preferred material for thatching on Tiree was marram grass (*Ammophila arenaria*), also known as bent or, in Gaelic, *muran*.

*"*Muran *grows on the extensive sand-dunes which fringe a large part of* [Tiree's] *coast. The* muran *with its long deep roots helps to bind blowing, shifting sand thereby forming stable dunes. Even in fairly recent times* [the 'Sahara Desert' between Balevullin and The Green, and in front of Donald MacIntyre's house in Gott] *it was deliberately planted in areas of blowing sand…it is claimed that in some places it was possible to cut it with a horse-drawn reaper!"* [10]

There is evidence that in the past demand for *muran* outstripped supply. In 1771, the Duke instructed his Chamberlain on Tiree, *"You are to attend to ... the pernicious consequence of cutting bent."* [9] And writing in 1804 to his Chamberlain, the Duke of Argyll complained that *"the pernicious practice of ...cutting bent was universal this season. The most of the people who cut bent did it in the night time or by stealth, but the tenants of Gortendonil* [Barrapol] *set to work in broad daylight to show others how strong their backing was"* and the next year, *"if they do not immediately agree to give up these hurtful practices it is my order that you warn them to remove at next Whitsunday."* [7]

Carting *muran* from behind Ben Hough.

There is less *muran* on Tiree today than there used to be. This may be due to the use of fertilisers which encourage the growth of other grasses and out-wintering of cattle who shelter in the dunes and trample and eat the *muran*. Sometimes the less-preferred reeds (*cuilc*), rushes (*luachair*) or rye straw were used in the past for thatching, particularly for byres and other less important structures.

"The Duke of Argyll in 1800 exhorted his Chamberlain to encourage the erection of slated houses 'from which relief to the farms themselves would arise from the saving of thatch for winter provender for cattle'. Up until at least World War 2 many islanders imported for thatch what some called 'Belgian Straw' - long baled rye or wheat straw - through Macfarlane Shearers of Greenock." [7]

Straw that had passed through a threshing machine or combine harvester was little use for thatching.

Jim Souness, from Historic Scotland, has devoted much of his professional life to preserving the thatched house traditions of Tiree. He writes:

"[The muran] *must be won with a scythe, a procedure with which the writer is all too familiar. The scything of* muran *bears no comparison to that of corn, hay or rushes. It is hard if healthy work and requires a degree of practice and skill. The tough nature of the material and the presence of sand ensures that as much time may be spent in sharpening the scythe as swinging it."* [7]

"The thatching material is now invariably marram grass, also known as bent grass, but referred to locally as muran*...On the rare occasions where a completely new thatch is laid directly onto the turfs, a layer of rushes (*luachair*) is considered to form a good bed for the* muran*, but used alone rushes are considered too weak for thatching and short-lasting (one year). Apparently in the past, some people used various kinds of straw for thatching, some of it imported, as well as local reeds, but again these all seem to require annual replacement on the Tiree houses, and are considered inferior to* muran*. With* muran *a re-thatching is most commonly done every two years. Re-thatching annually is rare but certainly ensures a good roof. Re-thatching every three years is not uncommon, especially now with the shortage of* muran*, and if a skilled job is done it should be sufficient. Patching may be undertaken between complete re-thatchings. Generally the new thatch is laid straight on top of the old, which compacts with time, contributing to the rounded profile of the Tiree roofs. Infrequently the old thatch may be partially or totally stripped off, usually because the roof is becoming too heavy or because turfs need to be replaced. When thatch is laid straight on the turfs, re-thatching should be done annually for the first, say, three years to build up a decent thickness.*

Iain Cameron, Nan and David MacClounnan gathering *muran* in 1993.

"The muran *should be cut from the sand dunes outwith its growing season that is between about September and March, so thatching must usually take place during this period also. The cutting is done with a scythe and is apparently very much harder work than scything corn or grass. It becomes harder still after the frost has affected the* muran*, although frost is rare on Tiree before the turn of the year. Most thatching therefore seems to be done in the autumn.*

"The longer the muran *the better. Longer stuff ensures a more waterproof roof, less work, and requires a lesser thickness to be applied (less overlapping).It may be found up to four feet long, and below about two feet it is not really worth cutting. At the time of cutting, the* muran *may be tied into small sheaves* [sguaban]*with the blades all pointing the same way, then into bundles* [adagan] *(approximately an armful) for transporting.*

"Between 50 and 100 bundles seem usual for re-thatching a house, a quantity which can be gathered from about a quarter to half an acre of well-grown muran [this would take about 5-10 man days]. *Unfortunately in Tiree these days the* muran *tends to be short and patchy, so larger areas have to be covered. If there is grass intermingled with the* muran *it tends to reduce its thatching quality. The cut* muran *may be stored or stacked for some months."* [10]

Good areas for *muran* are at the shore on Gott Bay, Balevullin, and Cornaig. Good stands can also be found on Coll.

Thatching is started down at the *tobhta*, a part of the roof called the *bun-baca*, with the first row of sheaves being put on tips uppermost. After the first row the sheaves go on tips facing downwards, until the ridge is reached when the sheaves are laid on alternately facing upwards or downwards. The thatch is put on thicker at the back, the windward side and slightly halfway up the roof to give a more rounded shape. The angle where the thatch met the chimney is a common place for leaks and a piece of wood is sometimes put along the chimney's sides under the thatch.[3]

Archibald MacLeod thatching an outhouse in Balevullin.

"Thatching itself requires calm weather. Given good conditions Tiree thatching is relatively straightforward and swift…One side of the roof is done at a time. First the anchor stones are removed and the netting rolled back to the ridge and secured. The muran *thatch is then laid on a sheaf at a time in horizontal rows, working it with the hands to achieve an even thickness…the overlap between rows will be no more than about two thirds of the length of the thatch…at the ridge handfuls of longer* muran *are laid on carefully in alternate directions"* [7]

As new thatch is laid on top of old, the ridge becomes almost flat *gus an ruith an uisge* [until the water runs]. At that stage the thatch has to be partially stripped off before the next layer is applied.

Thatch insulates extremely efficiently against noise and heat loss. New thatch is also extremely water resistant, rain only penetrating some two inches. However it has a number of disadvantages:

- it is fire hazard;
- it quickly becomes saturated and rotted if the house is not ventilated and heated;
- it can be attacked by birds looking for seeds or nesting material;
- it is easily pierced by rats;
- it needs skilled, regular maintenance which includes a lot of physical work.

An Sìomanachadh (roping)

The thatch then has to be tied down. Recently this has been done with chicken wire or plastic netting but traditionally ropes were used. *"The Tiree style of roping was of a complexity and excellence possibly unsurpassed in Scotland."* [7]

Straw rope, *sìoman-connlaich*, was used until the middle of the 19th century when coir rope, *sìoman-ruadh*, made from coconut husks began to be imported.

"The thatch was kept secure with ropes that went down and across the roof. The sìoman-droma [ridge rope] *was the first rope that was put on, which ran on the ridge from end to end, where it was weighted down with an extra large stone. On an end where there was a chimney, the* sìoman-droma *was tied to another rope or chain which went round the back of the chimney, and which was kept in place by stones on both sides of it. The two lower ends of this rope were connected to one another across the base of the chimney with another piece of rope or sometimes with a chain. The next step was the* sìoman-gualainn[shoulder rope], *a rope which was going over the roof at the peak of the hip. The* sìoman-gualainn *took a turn round the* sìoman-droma *and it was anchored by a stone on both sides down at the* tobhta*. It was now the* sìomanan-taoibh [side ropes] *or* sìomanan-tarsainn [cross ropes] *that were put on, starting about a foot and a half above the* tobhta *with the* màthair-shìoman [mother rope] *and continuing up until the ridge was reached. At the corners the* sìomain-taoibh *would be taking a hitch around the* sìoman-gualainn *before they came to the rope round the chimney, to which they'd be tightly tied.*

John Lachie MacInnes' house in Salum.

"It was then that they'd start putting on the double rope (sometimes called the lùb-shìoman [bend rope] *or* lùbannan*) which went across the ridge from one side to the other. After being pulled tight, this double rope was looped around the* màthair-shìoman *before a stone was twisted into it at the* bun-baca*, where it was anchored down. With two people standing on the* tobhta *on both sides of the roof, and with someone else up on the ridge, the house would be roped from end to end with this one piece. At the two ends, where the roof was inclining down, the rope would be hitched to the* sìoman-droma *with the* lùb-ghìomh *so that it was secured like a series of inverted Vs.*

"About a fortnight after all was finished other ropes were woven into every seventh or eighth sìoman *(usually both horizontally and vertically) which they called* na criosan*. This was done in order to keep all the ropes separate from one another and to keep what had been put on tidy in its own place."* **Duncan MacPhee, Scarinish**.[3, 7]

The last house to have thatch held down by rope was that of John Lachie MacInnes in Salum which was still roped in 1974.[3]

Old herring nets and more recently chicken wire have been used to secure the thatch, the rolls being joined at the ridge. A rope is then threaded through the bottom of the net and round beach stones, which fray the rope least, are tied on about one foot above the wall head. This allows the stones to keep applying tension as the thatch settles. Thatching was not a specialised craft and most men would expect to thatch their own roofs with a group of other men from the township.

In the outer islands the smoke saturated thatch from the older houses was used as fertiliser. There is no record of this having been done on Tiree, probably because so much seaweed was available to fertilise the ground. *"It was common practice in the outer isles to employ the* sùith*, the smoke saturated thatch, as fertiliser for the crops. In the summer this was taken from the roof, but usually from the ridge and upper sides only, which portion of the roof…was often left free from* sgrothan *in order that it could be exposed to the smoke from the peat fire."* [1]

Lachie MacLean, Iain and Hugh MacKinnon thatching in Kilmoluaig.

Because thatching is so labour intensive, islanders began to experiment with different materials for the roof as soon as they became available. One house in the *Bail' Ur* in Balephuil had a layer of concrete poured over the thatch.

*"*Taigh Raonaild *in Brock has a layer of reinforced concrete over the sarking and felt!"*
Alasdair Sinclair.

The most popular roofing material has been a layer of felt laid on wooden sarking, which is then tarred every other year. This design allowed small windows to be put into the roof space which then gave a more usable upper floor.

By putting a modern roof onto old walls the traditional houses of Tiree were given a new life to an extent not seen any where else in Scotland. This has been helped recently by the Housing Action Scheme which encourages the renovation of the traditional houses rather than the building of new 'kit' houses.

The interior

Inside the front door, *doras a-mach*, of a Tiree thatched house there is traditionally a small hall, the *lobaidh* or *an t-ùrlar beag*. To the left through a door, *doras a' chalatha*, was usually the kitchen, or *ceann an tinidh*, and to the right a bedroom or *seòmbar*. Between the two was a small room known as the *clòsaid*. This was usually a bedroom too, although it is said that in the old days the loom for weaving cloth would be kept there.[3] In the hall was often a *balan* or *farmal*, a receptacle for collecting urine which was used for making cloth.

However, *"In the Brock houses the kitchen is on the right and the bedroom on the left."*
Alasdair Sinclair.

Calum MacKinnon inside his house in Kilmoluaig.
(Courtesy of RCAHMS. Crown copyright)

The internal walls, *na balachan tarsainn*, were made with a wooden frame and a mixture of clay, plaster and small stones or bits of rubble called *spallachan*. All the rooms had a ceiling except the *lobaidh*. Usually there was a loft upstairs where the children would sleep under the timbers and turf lining of the thatch.

The houses were often crowded. In Balephuil in 1841, the average number of people in a house was five, with seven eight or nine not uncommon. In one house in the township, Donald MacLean, shoemaker, aged 45, shared the house with his wife Ann (45), and children Ann (19), John (15), Alexander (13), Charles (11), Marion (9), Hector (5) and Archie (3). In our wealthier times, our response to a growing family like this would be to throw out an extension. This seems not to have been done.

At the front there are two windows while at the back there are two or sometimes three. Remembering his childhood in Cornaig around 1860, Archie MacLean (*Eàirdsidh an Tuairneir*) said, *"There was a window…but it didn't have any glass or skin: but it had a little wooden door with a bit of leather with which it could be closed and opened according to which way the wind blew from. There was another opening on the western side and a straw* ceannag [plug] *beside it, so that it could be put in place or removed to suit the direction of the wind."* [3]

"The thick-walled Brock houses have windows in the west walls only." **Alasdair Sinclair.**

Originally the fire was in the centre of the room. *"The fire was in the middle of the floor, a rope from the spar above it with a chain and hook on it at the lower end on which used to be hung a pot or girdle as required, and a hole above to let out the smoke."* **Archie MacLean.**[3]

The inevitable blackness of the interior of these houses may have led to their English name, 'blackhouses'. Another derivation is a mis-translation of the Gaelic *taigh-tugha* (thatched house) for the similar sounding *taigh-dubh* (black house). Either way it is wrong and offensive to use the title 'blackhouse' for the modernised traditional Tiree thatched or tarred felt houses.

Although a chimney-less house sounds primitive, it had a number of advantages. The smoke lingering inside the house tended to extinguish any rising sparks, while sparks carried up a chimney might set the thatch on fire. The smoke also coats the timbers with tar which helps preserve them, discourages insects and smokes meat and fish left hanging in the rafters.

The range inside Calum MacKinnon's house in Kilmoluaig.

The central hearth became impractical when coal began to be imported to Tiree around 1850. Hearths and chimneys at one or both ends of the house were built onto the original walls, and the last Tiree house with a central fire was converted around the beginning of the last century. *"I was told by the late Donald Sinclair* [Dòmhnall Chaluim Bàin] *that he himself remembered a house in Moss where the fire was in the middle of the floor and a hole in the thatch."* [3] This would have been around 1900.

Writing in 1904, Ada Goodrich-Freer remarked on the changes caused by using coal in place of peat on the island. *"The absence of peats should certainly be held, among other causes, to account for what we afterwards came to value as the very superior cleanliness of the inhabitants of Tiree, as compared with any other island of the Hebrides. The burning of coal has necessitated the use of a chimney, and this, in most cases, has led to putting the fireplace at the side instead of in the middle of the room, so that the skin and clothes and belongings of the inhabitants do not become stained with peat smoke as in the other islands. This encourages a degree of house pride which we never saw elsewhere, and the houses, though quaint enough, are often beautifully clean and orderly, both within and without."*

Chimneys, lacking the support of a gable end, were relatively unstable, and were built at a sight angle outwards. If they did collapse the inhabitants would be safe.

***Taigh Raonaild* in Brock.**

The floors were originally made of earth mixed with clay. *"The floor that was usually set in the old houses of the Highlands was the kind of floor which was customarily called the 'black floor': and if it were set in a certain manner it was called* ùrlar chasa chaorach*, a sheep's feet floor'…A layer of mud and clay as fine as could be found handy would be procured. This would be well mixed and laid on the floor foundation inside the house, and pressed down with the feet of the men, but it was not a 'floor' just yet. Then a quantity of water would be showered lightly on the surface, and immediately a flock of sheep would be driven between the walls, as many as the four walls would contain, but still left with the power to move about. From time to time, if they would be inclined to settle in one place, they would be roused up and kept on the move; and after being there for most of the day perhaps they would be allowed out…all that was now to be done was to kindle a good fire to dry it, and the floor would be quite ready. Very good indeed it would be; mild and warm against the feet of the children compared with cement or stone flags."* [11]

The late Mabel Kennedy remembered a dance with the pipes held in Balephuil on the floor of a new barn to harden it around 1910.

White shell sand from the beach was sprinkled on this every day except Sunday to keep it clean. Duncan Grant remembers the floor of the family's thatched house in Brock in the 1940s. *"There was a waxcloth on the floor then, and I'm sure it must have been earth below it…quite bright. And there was a coir* [coconut fibre] *mat about six by four feet in front of the fireplace…We had a well outside – that was my job as a boy, to get the pail of water…it was taken and put in what they called the* preas [cupboard] *in the hall…a white pail, enamel pail…we had no running water, no toilet facilities in these days…All the Brock houses were the same."*

The gap between the top of the wall and the roof was sealed on the inside with a mixture of clay, straw, sand and dung called *am balla beag*. The top of this was fashioned into a small shelf called the *anainn*, on which were kept small precious articles like tobacco.

Tarred roofs

From the end of the 19th century, many islanders changed from thatch to tarred felt for their roofs. The main impetus is likely to have been the hard work involved in cutting the *muran*. Tar was being used to keep fishing boats watertight, and it allowed fuller use of the upstairs floor with the addition of roof lights.

"The house of course was a small felt house, two bedrooms up the stairs. The roof was fully lined in wood with two roof windows. There were three beds down the stairs and a broad ladder going up the stairs to the bedroom." **Mabel Kennedy talking in 1998 about the MacNeill's house in Balephuil around 1910.**

The roof timbers were largely retained so that the shape of the new black roofs resembled that of the thatch. More recent renovations of these buildings have used higher roofs with a steeper pitch.

To suit the new felt roofs houses with thinner walls began to be built. These used dressed stones (and so needed the services of a stonemason) and mortar.

A good example of the transition can be seen in Brock. The oldest thatched houses in this collection of cottars' buildings were built around 1850 with thick walls and thatch. Around 1890 money was sent from a family member who had done well in Australia to build a new house. This had walls around two feet thick of dressed stone built with mortar made from shells and a tarred felt roof. A second house in the same style (*Taigh Uilleim*) followed soon after. In 1911 the Clarks next door changed from thatch to tarred felt.

***Taigh Uilleim* and *Taigh Èairdsidh* in Brock.**

The stone for these newer houses came from the shore. Alasdair Sinclair, Brock, describes the backbreaking work involved in its collection to Dr John Holliday in 2004.

AS: "[Later] *they could no longer simply pick up stones and they wanted to dress them to certain extent. That is at least the face of the stone had to be levelled off and...roughly rectangular. To get stones like that they had literally to quarry them…and the most obvious place* [in Brock] *was the outcrops of rock along the shore…and this definitely was not the building stone, sandstone or Portland stone, masons elsewhere were used to shaping. All they could do was break it into reasonably sized pieces and then square them off roughly.*

"They went down to the shore with what they called drills, that was a euphemism. It was just a long metal rod with a bit of a point at one end...and with a 14 pound hammer they would get one of them to hold one of these rods and the other fellow hit it with the hammer and when he swung it round for the next blow the other had turned the drill around 90 degrees and another bang. And it went on like that, turn it and bang, turn it and bang. The resulting hole was just over an inch in diameter but they wanted it to be a foot deep…"

JH: *"How long would that take?"*

AS: *"Days sometimes. You had to stop and get* [the drill] *sharpened, and then start again…They had quite a few of them, half a dozen or so. When they got blunt you made a bundle of them, and put them over your shoulder, and walked halfway across the island to the nearest blacksmith…*

"That sort of steel was what we would call carbon steel…you could grind it, but in the case of these drill rods the blacksmith probably did most of the shaping with a hammer…It was heated bright red hot and the end plunged into water…and it became very hard indeed, but in fact so hard it would be brittle…it would have splintered. It had to be tempered, toughened.

"The next trick was to polish the end of it…As the residual heat flowed down the rod, the polished surface changed colour… When it was the correct shade of straw [yellow] *you whacked it back into cold water again…*

"Next you had to get some gunpowder. The Victorians were very good about that sort of thing. You could walk into shops in the city and buy things like a gill of sulphuric acid…no regulations, no bother, you just took it off the shelf…There was a shop in Greenock that sold gunpowder, and one of the members of the crew of either the Hebrides *or the* Dunara [cargo boats that came from Glasgow to Tiree]…o*n a request from people on the island…he went to this shop and got so many pounds of gunpowder, took it aboard the boat and put it under his pillow in his bunk. And when he arrived…it was duly handed ashore. They didn't fly any red flags!…At the same time you could buy the cord, as they called it, the fuse. So they poured the gunpowder into the hole and stuck the fuse into it and got some clay which is quite easily got…on Soay, plugged it in, lit it and cleared out.*

"And there was a fair old bang, and if you were lucky it broke up into more or less manageable chunks. You might then have to break it a bit more just with hammers…

"Bit by bit you got quite a heap…In the case of my own house [in Brock] *my grandmother's brothers had a heap of these stones brought up by barrow from the shore. And the mason (who was not going to build the house as such but to give them professional guidance how to go about it), would be passing from other jobs here and there and he would say, 'Och, aye, you're getting on but you've a long way to go yet, maybe you've got a quarter.' Over the months it got to the point where the great day would arrive 'Right, you can make a start.'*

"The brothers did most of the building work but the mason, An Clachair Mòr, *Alasdair MacArthur, Balemartine's grandfather, gave advice and direct assistance with items such as the door, windows and fireplace openings. When the job was complete, the* Clachair Mòr *received a 140 lb Bag,* poca bolla*, of flour as payment. He swung the bag onto his back and walked off with it to Balinoe."*

Newer materials were coming in. The churches, schools and estate houses were roofed with slate from Ballachulish, and houses like Silversands, Vaul, were being built with 'tin', corrugated iron roofs. Men came back from overseas with new ideas for house building, including poured concrete. The day of the traditional thatched house was almost over.

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