

I.

EARTH-HOUSES AND THEIR OCCUPANTS. BY DAVID MACRITCHIE,
F.S.A. SCOT.

The term "earth-house" is here used in its common acceptation, as denoting an underground structure almost invariably built of stone, and used as a dwelling. *Yird-hoose*, or *eird-hoose*, is the form of the word in the vernacular of Lowland Scotland, and *iord-hus* in Scandinavian speech. *Tigh fo thalaimh* ("underground house") is one of the Gaelic equivalents, but a more usual Gaelic name is *uam* or *uamh*, "a cave," which word is corrupted into *weem* or *oo-ag* by non-Gaelic speakers. As is well known to antiquaries, such structures are found in various parts of the British Isles and in foreign countries. The present paper relates chiefly to those of Scotland, with an occasional reference to other examples.

Although the correctness of the term "house" is now generally admitted, it may be useful, for the sake of those who have not hitherto turned their attention to this subject, to state briefly the reasons for regarding earth-houses as dwellings. At one time there was considerable dissent from this conclusion. It was pointed out that underground structures were used in various countries as storehouses, as tombs, and as temples. Undoubtedly this is true, and the statement applies not only to past ages but also to the present. Moreover, there are underground structures, of the ordinary "earth-house" plan, which were in some cases primarily and solely used as tombs, in other cases as dwellings, and in others as tombs *after* being used as dwellings. Attention was drawn to this circumstance by Sven Nilsson in 1867, if not earlier.¹ "We may rest assured," he says, "that before the savage of the forest plains of Scania and West Göthland began to build gallery-chambers for the dead, he had already constructed similar ones for the living."² Nilsson therefore divides these galleried structures into two classes—gallery-huts and gallery-tombs. Sir Bertram Windle writes to the same effect in his *Life in Early Britain* (London, 1897), p. 55. He observes that Sir Arthur Evans "points out that the early barrows of the North are in fact a copy of a primitive kind of mound-dwelling, such as is still represented by the gamme of the Lapp." This idea finds its fullest development in the huge burial-mounds of Japan, which were constructed as sepulchres and not as dwellings, but with an entrance

¹ Perhaps as early as 1844, but my knowledge of Nilsson's work is limited to the enlarged edition published in English in 1868 (London), and edited by Sir John Lubbock, under the title of *The Primitive Inhabitants of Scandinavia*.

² *Op. cit.*, pp. 142-3.

passage which is very unsuitable for the former purpose although of much use for the latter. Among the Eskimos of the Aleutian Islands a custom formerly obtained which resulted in their semi-subterranean buildings serving both purposes at the same time; for when a member of their large communal dwellings died, his corpse was walled up in the compartment which he had inhabited, and his kinsfolk continued to live on as before in the tribal home.¹ It is unnecessary to enlarge further upon this detail, which has been introduced here for the purpose of showing that the earth-house and the sepulchre cannot be altogether dissociated from one another.

So far as regards Scotland, however, the earth-house is a dwelling before anything else. The pronouncement made by Dr John Stuart, Secretary of this Society, on 14th December 1868, holds good to-day. "It has been doubted," he remarks, "if these houses were ever really used as places of abode, a purpose for which they seem in no degree to be suited. But as to this there can be no real doubt. The substances found in many of them have been the accumulated débris of food used by man, and indicate his presence as surely as the kindred kitchen middens which have recently attracted so much attention, while their occurrence in groups marks the gregarious habits of the early people. The bones of the ox, deer, and other like creatures have been found, as well as the shells of fish, mixed with fatty earth and charred wood. Ornaments of bronze have been found in a few of them, and beads of streaked glass. In some cases the articles found would indicate that the occupation of these houses had come down to comparatively recent times, as is the case of the Irish crannogs, where objects of the rudest times are found alongside of those of the seventeenth century. The traces of hut foundations on the surface in connection with some of these underground chambers are also conclusive of their use as places of, at least, occasional retreat of man."²

The facts cited by Dr Stuart will prove convincing to most people. But if further evidence be required, it will be found in those instances where obstructions have been deliberately built or placed in the entrance passage, rendering access to the interior difficult. The best examples of this peculiarity are found in Ireland, and the nature of these obstacles will be at once understood by an examination of the sections and plans of the earth-house at Rathmullen, County Down. There is no room for doubting that this structure was built as a refuge for man, and not for the purposes of a storehouse, a tomb, or a temple.

¹ W. H. Dall, *On the Remains of Later Pre-Historic Man obtained from . . . the Caves of the Aleutian Islands*, Smithsonian Contributions to Knowledge, 318, Washington City, 1878, p. 7.

² *Proceedings*, vol. viii. p. 25.

The accompanying illustrations explain the Rathmullen earth-house. It is 120 feet 6 inches in length; its general height is 6 feet; and the

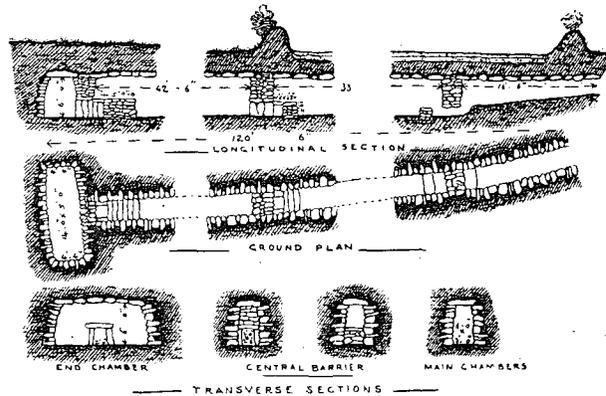


Fig. 1. Sections and Ground-plan of Earth-house at Cove Hill Rathmullen, Co. Down.

doorways at the barriers are 2 feet 6 inches in height. These barriers are in some cases built from the ground upward, and in others from the

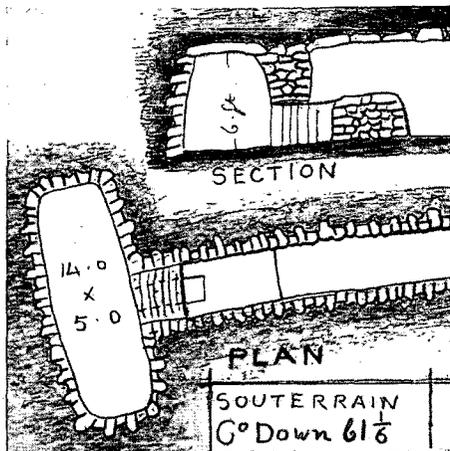


Fig. 2. Enlargement of Section and Ground-plan of Earth-house at Rathmullen, Co. Down.

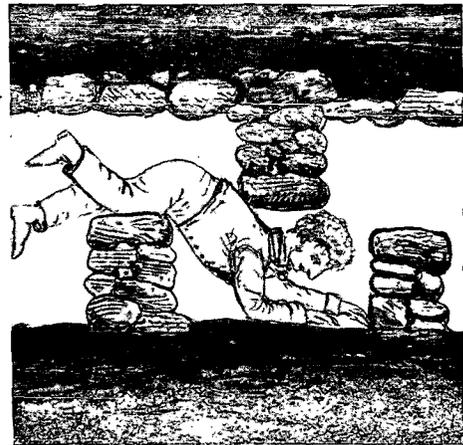


Fig. 3. Figure of Ulsterman at Barriers in Earth-house at Rathmullen, Co. Down.

roof downward. They form an integral part of the original structure, and it is obvious that their purpose is to impede the advance of an intruder. The third illustration shows, by an imaginary figure of a modern Ulsterman, the risk attending intrusion if the occupant of the earth-house was an enemy of the intruder. In passing, it may be

observed that this human figure is drawn to scale, thereby indicating the general dimensions of the passage.¹

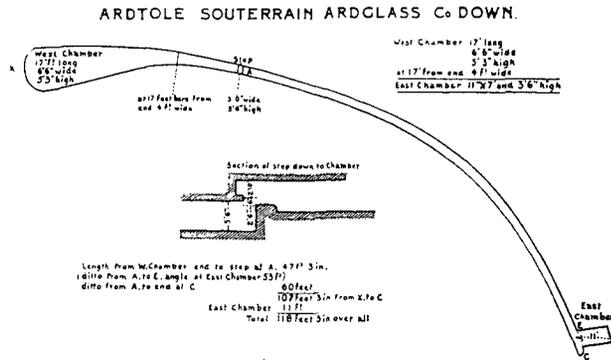


Fig. 4.

Another Ulster earth-house, that at Ardtole, County Down, exhibits the same idea of a deliberate impediment placed in the way of an



Fig. 5. Interior of Earth-house at Ardtole, Ardglass, Co. Down.

intruder. The total length of this souterrain is 118 feet 3 inches; most of it consisting of a long, curved gallery, the height of which throughout is apparently 3 feet 6 inches, and the width 3 feet. The two chambers rise

¹ I am indebted to the late William Gray, M.R.I.A., Belfast, for these and other Ulster illustrations.

to a height of 5 feet 3 inches. The only obstacle occurs at a distance of 60 feet from the entrance. It is formed by a "step" down to the level of the inner chamber, which necessitates the visitor lowering himself through a contracted ingress, where the roof and the floor are only about 18 inches apart.

The photograph here reproduced of the passage in the Ardtole earth-house (fig. 5) shows that it, like other Irish earth-houses, is of the same style of architecture as those of Scotland.

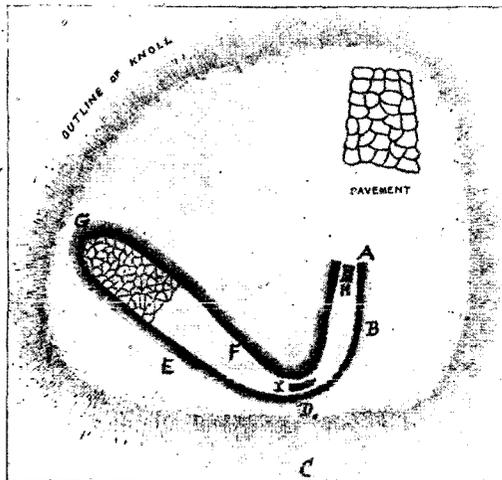


Fig. 6. Ground-plan of Mound-dwelling at Milton of Whitehouse, Cromar, Aberdeenshire, showing obstructions at H and I.

The obstructive "step" is again seen in a souterrain at Bog Head, County Antrim.¹

In Scotland there do not seem to be any obstacles corresponding exactly with those of Ireland. But the same idea is not wholly absent from our Scottish weems. A notable instance is in the mound-dwelling at Milton of Whitehouse, in the Braes of Cromar district of Aberdeenshire. It was first described in *Scottish Notes and Queries*, Aberdeenshire (vol. ix., No. 10, March 1896), by Mr George Gauld, who had "recently" discovered it.² The ground-plan shows that its passage is intentionally blocked at two places by large upright

stones. The larger of these stands at the point where the passage turns abruptly to the right, forming an acute angle. It is "a granite slab, 3 feet 11 inches high. This slab almost fills the passage, which is narrowest at this point." "In the passage at the entrance stands a flat hornblende slab (2 feet 4 inches in height)." Mr Gauld adds that "this probably formed the door to the house," but it is difficult to see how it could be so used. More likely it was intended as a stumbling-block in the way of an unwelcome intruder; like the taller slab at the bend.

With regard to this earth-house, it may be explained that it stands, or stood, in a pre-existing knoll; and Mr Gauld concludes, with good reason,

¹ This souterrain is described by Mr W. J. Fennell in the *Ulster Journal of Archaeology*, July 1896, pp. 272-3.

² A supplementary notice by myself, more fully illustrated, appeared under the title of "An Aberdeenshire Mound-Dwelling" in *The Antiquary*, London, vol. xxxiii., May 1897. It was also noticed by the Hon. John Abercromby in our *Proceedings*, vol. xxxviii., p. 121.

that it "was built to suit the slope of the knoll, and if roofed with wood, as it most likely was, would present the appearance of one-half the roof of an ordinary house."

South Uist furnishes another example of what appears to be intentional blocking, in the case of *Uamh Sgalabhad*—the Weem or Oo-ag of Skalavat.¹ Here there is a slab of transported rock which narrows the passage so as to make it almost impassable. Had the builders not wished to utilise it as an obstruction, they could easily have built the opposite wall at a greater distance from it. If this assumption be correct, the entrance to this weem would probably be at the left-hand side of the picture, and the egress at the right hand might be concealed from outside view by bushes or otherwise. However, this is merely a detail.

The constriction of passages at certain points ought probably to be regarded also as intended to impose a temporary check to the advance of an intruder.

In all such cases, especially in the notable instance at Rathmullen, Ulster, it is manifest that the earth-house was built for no other purpose than to afford a retreat for men. The occupation may have been casual and intermittent, or the earth-houses may have been occupied (as I am inclined to believe) throughout the winter months, to be abandoned for a nomadic life during the milder seasons, but that they were human habitations is evident. It is hardly conceivable that anyone would maintain that only those which were built with intentional obstructions were human abodes. Not unlikely these represent an earlier type, just as a fortified house belongs to an older period than an undefended mansion.

Of the date of these buildings we can speak with certainty in some cases, namely those which have stones of undoubtedly Roman workmanship built into their walls. A clear instance of this is the weem at Crichton, Mid Lothian (fig. 7), where the Roman origin of more than forty stones has been established. The fact of their situation as integral parts of the structure proves that it was built after the advent of the Romans in Mid Lothian, and after their abandonment of some station in that neighbourhood; perhaps even subsequent to their departure from Scotland. Of similar character was the weem at Newstead (figs. 8 and 9), now obliterated, which stood near the famous Roman post in that locality. It was discovered in 1845, and is described in vol. i. of our *Proceedings* by Dr John Alexander Smith. It was built of hewn stones, many of them bevelled on one edge, and two of them presenting "a rope-moulding of distinctively Roman character."² One of these two, as we have been

¹ Described by Captain Thomas, *Proceedings*, vol. vii. pp. 167-8.

² Dr Joseph Anderson, *Scotland in Pagan Times*, 1883, p. 301.

lately informed by Mr Alexander Curle, is now preserved at Mertoun House.

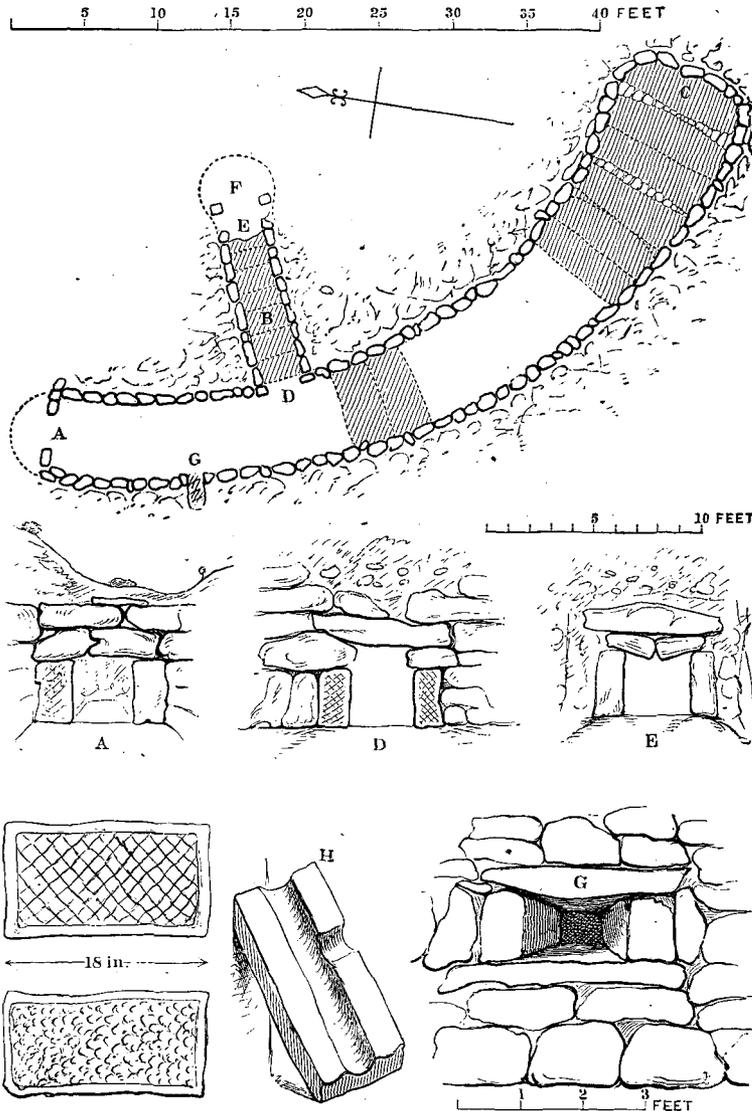


Fig. 7. Plan and Wall Elevations of Earth-house at Crichton.

The Crichton and Newstead weems prove by their construction that they did not exist prior to the arrival of the Romans in Scotland. Other weems show that they were occupied contemporaneously with the

presence of Romans in their neighbourhood, or very soon after the invaders had left. This conclusion is arrived at from the fact that they have been found to contain specimens of the red glazed ware known as "Samian." It did not really come from Samos, any more than Dresden

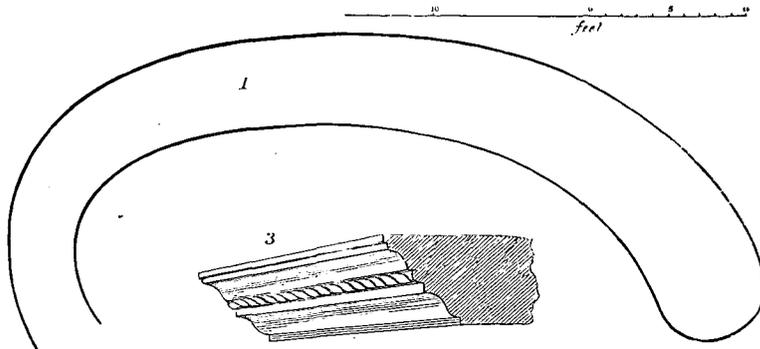


Fig. 8. 1, Plan of Earth-house at Newstead; 3, Stone, ornamented with rope moulding, therefrom.

china comes from China, but these two terms are convenient, although not strictly accurate. A good example of this Samian ware is the bowl found in one or other of the earth-houses at Pitcur, Forfarshire. One of these two earth-houses, that of Ballo-field, was discovered in 1863, and in it were some fragments of Samian ware which were presented to our Society by Mr Stewart Hood¹ on 13th April 1863. That earth-house seems to have been quite demolished. The other, situated on the farm of Pitcur, was not discovered until 1878. It is a little uncertain out of which of these earth-houses the Samian bowl (fig. 10) now preserved at Hallyburton House was obtained. Formerly I assumed that it came out of the one discovered in 1878, but subsequently there seemed reason to believe that it was found at Ballo-field. It is said to have been intact at the moment of its discovery, but got broken by rough handling. It was put together at the Museum under the supervision of Dr Joseph Anderson. An interesting point in connection with this bowl is that its presence intact seems to show that the earth-house in which it was found must have gone out of occupation soon after the Romans left Inchtuthil. If the earth-house continued to be occupied for a thousand years or more after that date, it is inconceivable that such a fragile vessel could have

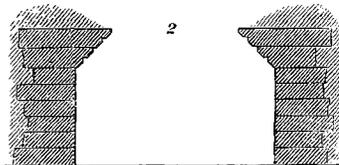


Fig. 9. Section of Newstead Earth-house.

¹ Mr Hood's contribution from Ballo-field consisted of "two small portions of embossed red Samian ware; portions of rusted iron; teeth and bones of cattle, found in an underground building or 'Pict's house,' at Pitcur, near Cupar-Angus." (*Proceedings*, vol. v. p. 82.)

survived. The presumption, therefore, is that the occupants had left their home one day, perhaps to begin their summer wandering, and had never returned, being killed or captured. If, as is likely, they had closed the entrance or entrances for the purpose of concealment, the Samian bowl may have rested inside undisturbed for some fifteen centuries. It may be added that at least two other Forfarshire weems contained Samian ware—those at Fithie and Tealing.

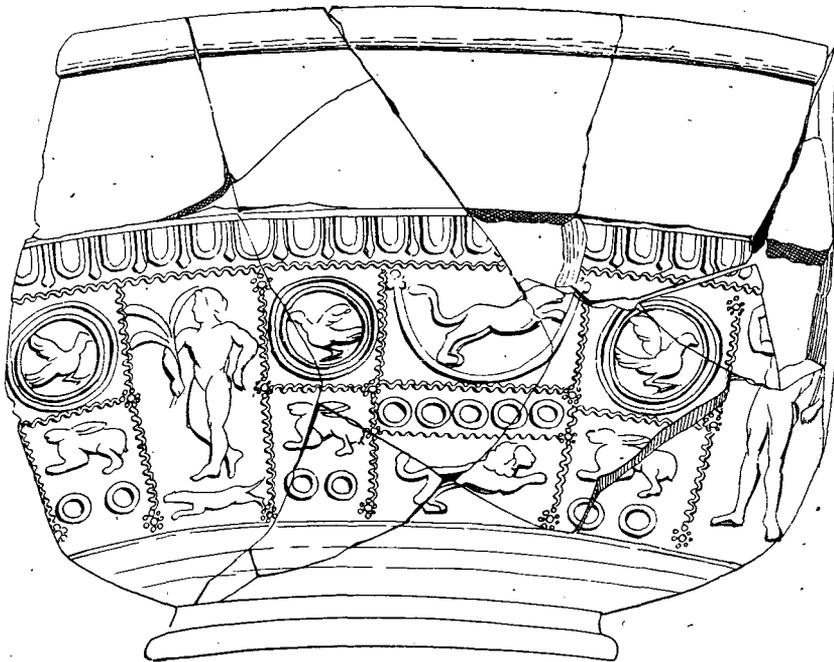


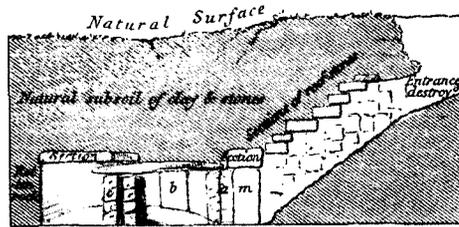
Fig. 10. Fragment of Samian-ware Bowl preserved at Hallyburton House.

The larger of the Pitcur earth-houses may be noticed here. It appears to be the largest specimen in the British Isles, its total length being about 190 feet. Judging from the portion still roofed, we may estimate its height throughout at 6 feet or more. The wide annexe that forms the western portion of the structure must have been roofed with wood. The reason for this assumption is that its great width forbids the idea that it was spanned with flagstones. Moreover, it has no traces of any kind of stone roof.¹

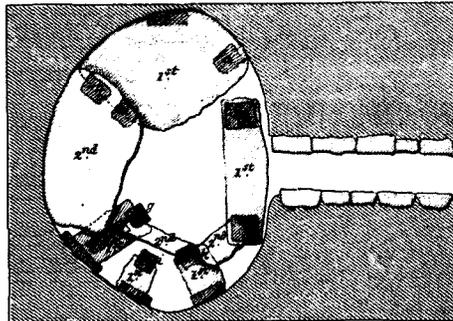
While noticing this important specimen of a Forfarshire earth-house, it is not out of place to give a passing glance at another earth-house in

¹ See my "Description of an Earth-house at Pitcur, Forfarshire," *Proceedings*, vol. xxxiv. pp. 202-214.

the same county, which is remarkable for being in a complete state of preservation. This is due to the forethought of a former Earl of Airlie. The discovery was made in or about the year 1794, and Lord Airlie, who had realised that two other earth-houses found on the same farm (the Barns of Airlie) had been utterly destroyed and their stones used for building material, had a clause inserted in the lease of this farm by



Section showing the East side, and the greatly inclined Gallery by which it is entered.



Plan of the first and second courses of the roof stones.

Plan & Section of subterranean Picts House situated in the Links of Pierowall

Fig. 11.

which the tenant and his successors were bound to protect the remaining specimen. A full and interesting description of this weem by W. A. Jervise, Brechin, was read to the Society on 13th June 1864.¹

It has been stated that the wide chamber at Pitcur must have been roofed with wood. But, although wooden roofs were probably not infrequent,² there was another method employed in roofing spaces which

¹ *Proceedings*, vol. v. pp. 352-355; plan and section opposite p. 302.

² There is a definite reference in the tenth-century Saga of Thorgils to the wooden balks supporting the roof of an earth-house in Ireland into which Thorgils and his men forced their way and encountered the inhabitants. Sir Daniel Wilson also refers to wooden roofs in earth-houses in his *Prehistoric Annals of Scotland*, 2nd ed., 1863, vol. i. p. 121.

were too broad for even the longest flagstone. This was by the erection of pillars and piers at intervals on the floor. These formed supports for flagstones of ordinary length, whose other end rested on the side walls. This method will be clearly understood by an examination of three Orkney specimens and one in South Uist.

The Orkney specimens are those at Pierowall (fig. 11), in the island of Westray; at Saverock, near Kirkwall; and at Grain, near Kirkwall. Illustrations of these are here shown. Orkney furnishes a fourth specimen at Yinstay, on the estate of Tankerness. The earth-house at

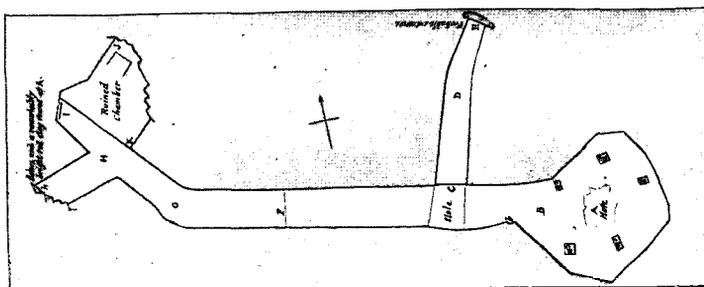


Fig. 12. Ground-plan of Earth-house at Saverock, near Kirkwall.

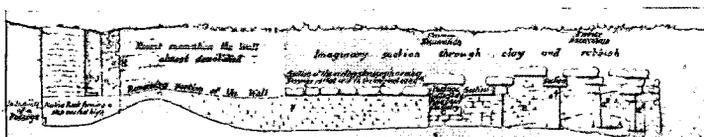


Fig. 13. Section of Earth-house at Saverock, near Kirkwall.

Grain appears to have been opened about the year 1827, after which the entrance became choked and covered over. It was reopened in 1857 by Mr Farrer and Mr Petrie, and again reopened in 1901 by Mr James W. Cursiter, who contributed a detailed description of it to *The Scotsman* of 19th October 1901, in the course of which he says: "The most remarkable feature of the chamber is the fact that the roofing is supported by four massive pillars, each pillar consisting of a single water-worn block of stone placed on end, supplemented when required by small ones placed on the top of them. Resting on these, with their other ends built into the nearest side wall, are other stones forming cap-brackets. Over these cap-brackets are placed heavy lintels lengthwise and crosswise of the building, these lintels serving to support the roofing, which consists of

heavy water-worn stones, laid chiefly crosswise, some being laid flat and others on their edge."

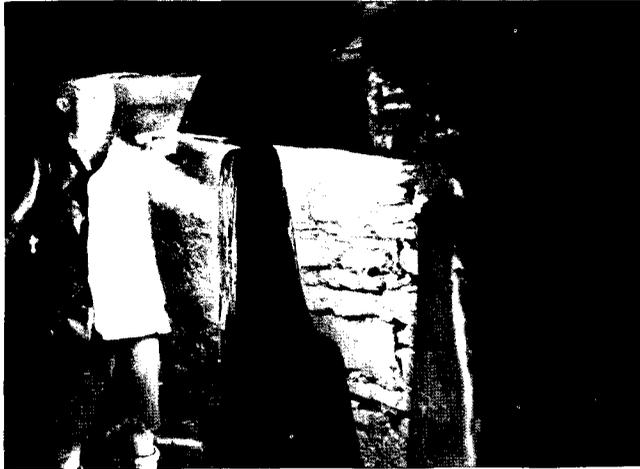
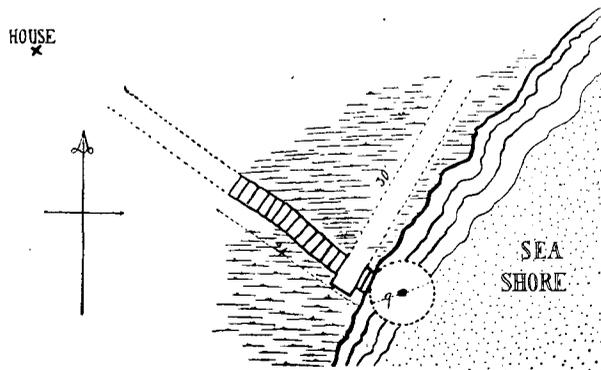


Fig. 14. Interior of Pillared Earth-house at Grain, Kirkwall.

[From a photograph by James Tudor Cundall, B.Sc.]

The South Uist specimen occurs at Usinish, the supports in this instance being piers, not pillars. This structure has been fully described



GROUND PLAN OF SUBTERRANEAN STRUCTURE AT GRESS.

Fig. 15.

by Captain Thomas (*Proceedings*, vol. vii. pp. 166-7). A similar structure existed at Gress, on the east coast of Lewis, north of Stornoway, having a central pier to support the roof of a circular building. An account of it

by Peter Liddle, Gress, appeared in the *Proceedings*, vol. x. p. 741. The adjoining gallery was described by me in a paper read before the Society on 10th December 1894, but the paper was not printed in the *Proceedings*.

It is interesting to add that the *Third Report and Inventory of Monuments and Constructions in the County of Caithness* (issued by the Royal Commission on the Ancient and Historical Monuments and Constructions of Scotland) contains the statement that in the parish of Latheron, in the south of Caithness, there are several "galleried dwellings" which have their roofing-space extended by means of pillars, in the same way as those of Pierowall, Saverock, Grain, and Yinstay. This information, which is one of the many results of Mr A. O. Curle's labours in that district, shows an architectural kinship between Caithness and the Northern and Western Isles.

The same method of supporting by means of pillars is found in the Balearic Isles, in connection with the same kind of structures. See illustrations at pp. 18 and 40 of Cartailhac's *Monuments primitifs des Iles Baléares*, Toulouse, 1892.

Other instructive varieties of the earth-house are found at Taransay, Harris; Seffister, Shetland; Eriboll, Sutherland; Belleville, near Kingussie; Broomhouse, Berwickshire; and Meall na h-Uamh, South Uist.

Dr John Stuart's observation, already quoted, that "in some cases the articles found would indicate that the occupation of these houses had come down to comparatively recent times," raises an interesting question. On the one hand, the existence of a Samian bowl, intact, demonstrates pretty clearly that the house in which it was found had been closed for about fifteen hundred years. On the other hand, the kind of articles referred to by Dr Stuart show a late occupation. Speaking of the above-ground structures of this nature in Ireland, Mr Thomas J. Westropp, M.R.I.A., remarks: "The continued use of the cahers, lisses, and raths is very interesting," and he enlarges upon this theme in the *Transactions of the Royal Irish Academy*, vol. xxxi. pp. 624-632. The subterranean retreats connected with such overground buildings are naturally included, and Mr Westropp cites the statement that in the year 1317 "even every man in a caher's souterrain" was summoned by Prince Donough to the fight of Corcomroe (*ibid.*, vol. xxxii. p. 158). The inference therefore is that the weems of that part of Ireland (County Clare) were in regular occupation at the time of the battle of Bannockburn. Casual occupation in more modern times may also be inferred, and there are definite cases of this by the Chouans of La Vendée, and by the Highland Jacobites in 1745-6. A very remarkable instance of an inhabited dwelling closely resembling, if not identical with, an earth-house was that visited by Dr McCulloch in the early part of the nineteenth century,

in the island of North Rona. M'Culloch's account is quoted at length by T. S. Muir in his *Ecclesiological Notes* (Edinburgh, 1885), p. 86. I have myself seen traces of tinker occupation of such places in recent years. Captain Thomas gives similar evidence (*Proceedings*, vol. vii. p. 189).

It is impossible to understand the kind of life led in those subterranean abodes unless we study the similar life of the Arctic races, European, Asiatic, and American, whose dwellings have been so often compared with our earth-houses. The comparison was made with great elaboration some fifty years ago by Sven Nilsson, and it has been repeated since by many others. The most recent of these is, I think, Mr Erskine Beveridge, who observes:¹—"The ancient Earth-Dwelling or 'Erd-House,'—often found in the Hebrides, . . . would seem to have had widely extended use. A recent visitor to Ungava Bay, Labrador, describes the Eskimo dwellings as of three kinds, the third, or Igloshuak, being 'simply an underground cellar or tilt. It is impossible to stand upright in such a residence, but the natives being small in stature experience no difficulty on this point. A subterranean passage about twelve feet long forms the principal entrance to the house, and it requires no small amount of gymnastic agility to wend one's way through. A square hole in the roof serves a like purpose.' This *Igloshuak* [remarks Mr Beveridge] appears strongly to resemble an Earth-House, both in size and arrangement."

Captain Scoresby describes a deserted Eskimo village visited by him in 1822, in similar terms.² The village was situated at the southern extremity of Jameson's Land, Scoresby Sound, East Greenland, and was composed, says Scoresby, "of nine or ten huts in close combination, besides many others scattered about the margin of the flat. . . . The roofs of all the huts had either been removed or had fallen in; what remained consisted of an excavation in the ground at the brow of the bank, about 4 feet in depth, 15 in length, and 6 to 9 in width. The sides of each hut were sustained by a wall of rough stones, and the bottom appeared to be gravel, clay, and moss. The access to these huts, after the manner of the Esquimaux, was a horizontal tunnel perforating the ground, about 15 feet in length, opening at one extremity on the side of the bank, into the external air, and, at the other, communicating with the interior of the hut. This tunnel was so low, that a person must creep on his hands and knees to get into the dwelling: it was roofed with slabs of stone and sods. This kind of hut being deeply sunk in the earth, and being accessible only by a subterranean passage, is generally considered as formed altogether under ground. As, indeed, it rises very little above the surface, and as the roof, when entire, is generally covered with sods,

¹ *Coll and Tivee*, Edinburgh, 1903, pp. x-xi.

² *Journal*, Edinburgh, 1823, pp. 208-214.

and clothed with moss or grass, it partakes so much of the appearance of the rest of the ground, that it can scarcely be distinguished from it."

A later writer, Captain Hall, gives a similar description of the older Eskimo dwellings:¹ "Formerly they built up an earth embankment, or a wall of stone about 5 feet high, and over this laid skeleton bones of the whale or spars of drift-wood, then on top of that placed skins of the seal



Fig. 16. Eskimo Earth-house, St Lawrence Island, Aleutian Isles.
Behind the figure of the boy is seen, on right, the mound-dwelling.
On left is the shelter above entrance to tunnel.

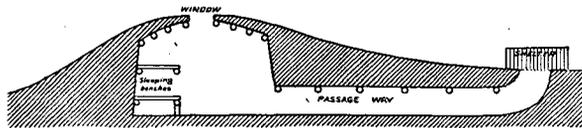


Fig. 17. Eskimo Earth-house, St Lawrence Island, Aleutian Isles.
Section: viewed from the opposite side.

or walrus. . . . The entrances were serpentine tunnels under ground, with side walls, and roofed with slabs of stone. To pass through them one is obliged to go on 'all-fours.'

Commenting on such descriptions, Nilsson observes: "It is not in Greenland only that we meet with dwellings constructed as here described; we find them amongst all Esquimaux tribes, wherever they are domiciled. They are invariably and everywhere characterised by the long, narrow, straight or curved, covered side gallery, pointing to the south or east, and by the chamber about five feet high."²

¹ *Life with the Esquimaux*, London, 1864, i. 130-1; ii. 111.

² *Op. cit.*, p. 136.

As far west as the Aleutian Islands, the North American Eskimos followed the same custom, although with architectural variations. "The natives, especially in their winter villages, were used to construct large, half underground habitations, often of extraordinary size. These were so arranged by internal partitions as to afford shelter to even as many as one hundred families. No fires were built in the central undivided portion, which was entered through a hole in the roof, provided with a notched log by way of ladder. In the small compartments each family had its own oil lamp, which, with the closely-fitting door of skins, and the heat of numerous bodies in a very small space, sufficed to keep them warm."¹

In more modern times the older fashions have been modified and improved upon. Examples of Eskimo dwellings in the Aleutian Isles

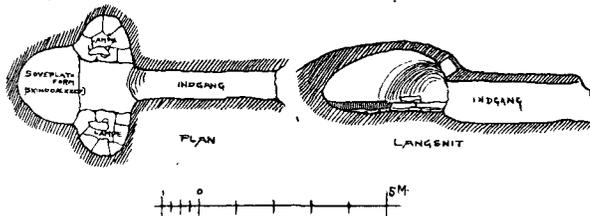


Fig. 18. Ground-plan and Section of a North Greenland Winter Hut.

and in North Greenland, here shown, demonstrate the close resemblance between the Eskimo mode of life and that of the dwellers in our earth-houses.

Kane, the Arctic explorer, writing in 1857, describes a specially small variety of Eskimo house. "The most astonishing feature," he says, "is the presence of some little out-huts, or, as I first thought them, dog-kennels. These are about 4 feet by 3 in ground-plan, and some 3 feet high." They were stone-built, of bee-hive shape, covered over with turf, and having a stone slab for a door. In spite of their small dimensions, they were used as dormitories in cases of emergency. It is clear that Kane did not regard it as possible that he and his comrades could have accommodated themselves within such narrow limits, and it is equally obvious that the natives of that region must have been small people. Eskimos have certainly the knack of packing themselves within very small compass, but a bedroom 4 feet long by 3 feet broad, with a height of 3 feet, demands an occupant or occupants of distinctly smaller size than that of ordinary Europeans.

¹ W. H. Dall, *op. cit.*, pp. 6-7. Nilsson quotes a similar description relating to Greenland, at p. 134: "separate cells, like the stalls in a stable," divided off by hide partitions.

Those who have visited the underground house on the Holm of Papa Westray, in Orkney, have seen little rooms there whose dimensions coincide almost absolutely with those of the Eskimo sleeping-places described by Kane. This fact serves to emphasise another link between the earth-houses of North America and of Scotland—their frequently

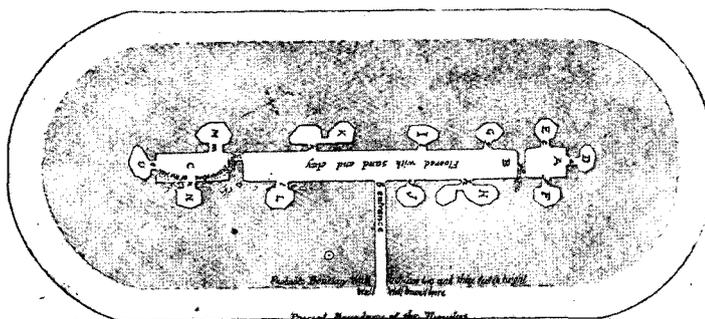


Fig. 19. Ground-plan of Earth-house at Holm of Papa Westray.



Fig. 20. Interior of Earth-house at Holm of Papa Westray.

small dimensions. This characteristic of our earth-houses has often been remarked upon. Of modern explorers of these archaic buildings one of the earliest was James Farrer of Ingleborough, M.P., who has left us a description of a specimen which he visited in 1855. It is situated in the islet known as the Calf, or Holm, of Eday, in the Orkney group. "The entire length of the building," says Farrer, "was found to be $16\frac{1}{2}$ feet; the entrance was very narrow, and a large stone was placed at the

mouth. There were four chambers, the largest being at the end of the building, and measuring 6 feet 2 inches long, 4 feet 6 inches in height, and 2 feet 6 inches wide. The doorway or entrance to this chamber was 1 foot 11 inches wide." After giving further measurements, Farrer observes:—"Whilst the size of the stones used in its construction is evidence of great personal strength on the part of the builders, the small and narrow rooms seem to indicate a diminutive race."¹ Other investigators have been impressed in the same way as Farrer. "What size could the people have been who crawled in through such rabbit holes as the passages of this eirde house are?" asks J. R. Tudor,² after describing in detail a similar mound-dwelling on the north-west side of Wideford Hill, near Kirkwall. Captain Thomas, R.N., who examined many of the Orkney and Hebridean souterrains, had previously (1867) asked the question that Tudor put independently in 1883. "What are we to think," asks Thomas, "when the single passage is so small that only a child could crawl through it?"³

In "An Account of some Souterrains in Ulster," read before the British Association at Leicester in 1907, an Ulster archæologist, Mrs Mary Hobson, writes to the same effect: "The entrances are small, but the tiny doorways between one chamber and another are even of more diminutive dimensions—great numbers being too small to admit the average-sized man—a person having to lie down flat in order to get through, and even then the width will not allow other than the shoulders of a woman or a boy to pass through." Captain Thomas, again, in his description of the Weem of Skalavat (*Uamh Sgalabhad*), in South Uist, remarks that the transported rock already referred to made the passage so narrow that, although some of his brother officers squeezed through, "I contented myself by looking through it." He adds: "This incomprehensible narrowness is a feature in the buildings of this period."⁴ There is nothing at all "incomprehensible" in this circumstance, the reality of which is testified to by these observers in Ulster, Orkney, and the Hebrides; not to bring in my own experiences. It is quite obvious that no sane race would construct buildings of this nature into which they could not enter, and the commonsense deduction is that the dimensions of the builders were proportionate with the dimensions of the buildings.

Those who have read the descriptions of the semi-subterranean houses inhabited by modern Eskimos must be struck by the recurrence of similar observations. The writer quoted by Mr Erskine Beveridge (*ante*, p. 191) says of the earth-houses of Ungava, Labrador: "It is impossible to stand upright in such a residence, but the natives being small in stature

¹ *Proceedings*, vol. ii. p. 156.

² *The Orkneys and Shetland*, London, 1883, p. 285.

³ *Proceedings*, vol. vii. p. 186.

⁴ *Proceedings*, vol. vii. p. 168.

experience no difficulty on this point." In passing, it may be noticed that this writer illustrates the attitude of other observers in Europe. He begins by saying that "it is impossible to stand upright in such a residence." But the next moment he contradicts himself by adding: "but the natives being small in stature experience no difficulty on this point." That is to say, it is perfectly possible to stand upright in an Ungava earth-house, provided one belongs to the race that built the earth-house. The "impossible" of that writer is a pendant to the "incomprehensible" of Captain Thomas. In both cases it is artlessly assumed that the average modern European represents mankind, in the present and in the past. When the fact is once grasped that there are and were races of distinctly smaller dimensions than the average European, then the "impossible" and "incomprehensible" features vanish altogether.

Kindred evidence from Greenland is furnished by Dr Nansen, who tells of a fat Danish storekeeper who stuck fast at a difficult point in the entrance-gallery of an Eskimo house. He was, of course, crawling along on all-fours. "There he stuck, struggling and roaring, but could not advance, and still less retreat. In the end, he had to get four small boys to help him, two shoving behind, and two, from within the house, dragging him in front by the arms. They laboured and toiled in the sweat of their brows, but the man was jammed as fast as a wad in a gun-barrel, and there was some thought of pulling down the walls of the passage in order to liberate him, before he at last managed to squeeze through. If I remember rightly," adds Dr Nansen, "a window had to be torn down in order to let him out of the house again." There is another story of a missionary who, in his domiciliary visits to his Eskimo flock, had to be dragged along the entrance passage in a sack, in which he lay straight and rigid.

From the evidence cited, it appears that Ireland and Scotland once contained a race of people whose habitations, in character and dimensions, were similar to those of Eskimos. Nilsson, who exerts himself to show the same analogy in Scandinavia, is strongly opposed to the idea that this denotes any racial affinity. Buffon, on the other hand, believes, on these and other grounds, that the Arctic races of America, Asia, and Europe were all akin. It is, of course, understood that the connection is by way of Siberia, and not across the North Atlantic. The late Charles H. Chambers, a member of the Anthropological Institute of Great Britain and Ireland, concisely states the conclusion which he had arrived at, in this matter, as follows: "I believe the race which inhabited the northern shores of Europe to have been akin to the Laps, Fins and Esquimaux, and the Pickets or Pechts of Scotland, and to have given rise to many of the

dwarf, troll, and fairy stories extant among the Sagas and elsewhere." Chambers makes this statement in the *Anthropological Review* for 1864, but he does not there state the reasons which lead him to this deduction. It is probable that he was influenced to some extent by the discovery made in the island of Burray, Orkney, in the previous year, of a group of twenty-seven human skulls, some of which were pronounced to be "of the Esquimaux type, short and broad."¹ Not unlikely he was familiar with the fact that, as recently as the seventeenth century, the Church of Burray possessed a skin kayak belonging to the race of Finns, or Finn-Men who formerly frequented the waters of Orkney and Shetland.² Like the small earth-houses, these skin-canoes are constructed for a small people, and the specimen preserved in the Anthropological Museum in Aberdeen University could not be used by the average-sized Briton of the present day.³ Much might be said in connection with Chambers's closing words, but that could not be done without extending this paper to an extravagant length.⁴

¹ Wilson's *Prehistoric Annals of Scotland*, 2nd ed., 1863, vol. i. p. 120.

² For fuller accounts of these people I would refer to my "Notes on a Finnish Boat preserved in Edinburgh," *Proceedings*, vol. xxiv., and to "The Aberdeen Kayak and its Congeners," *Proceedings*, vol. xlvi.

³ This detail is explained by me in an article on "Dwarf Skeletons in Great Britain" in *The Scotsman* of 14th July 1914.

⁴ It may be added that Chambers was probably acquainted with the statement made in Tulloch's *De Orcadibus Insulis* in 1443, and subsequently quoted by modern writers from Barry onwards, to the effect that the Orkneys contained a population of "Peti" prior to the Norwegian colonisation, and that these "Peti," who were of very small stature, were accustomed to take refuge in little underground houses.

MONDAY, 14th May 1917.

THE HON. JOHN ABERCROMBY, LL.D., President,
in the Chair.

A Ballot having been taken, the following was duly elected a Fellow:—

JOHN WARRACK, 13 Rothesay Terrace.

A bequest by the late William Steele, F.S.A.Scot., of the following objects was intimated:—

Axe of Serpentine, measuring $2\frac{1}{8}$ inches in length, $1\frac{3}{4}$ inch in breadth across the cutting edge, $\frac{7}{8}$ inch across the butt, found in the debris on taking down an old thatched cottage at Gattonside, Melrose.

Axe of Indurated Claystone, $2\frac{1}{8}$ inches in length, imperfect at the butt, $1\frac{7}{8}$ inch in breadth across the cutting edge, 1 inch in breadth at the butt, from Linton Burn Foot, on the Kale, Roxburghshire.

Axe of Indurated Claystone, $2\frac{1}{8}$ inches in length, $1\frac{3}{4}$ inch in breadth across the cutting edge, $1\frac{3}{8}$ inch in breadth at the butt, found in the bed of the Leet, on Hirsell Estate, near Coldstream, Berwickshire.

Perforated Hammerstone of Gabbro, $5\frac{5}{16}$ inches in length, $2\frac{5}{8}$ inches in breadth across the centre, found on Craigend Farm, parish of Stow, Midlothian.



Fig. 1. Socketed Axe of Bronze from Cauldshiels Loch, Roxburghshire.

Implement of Quartzite, imperfect, $3\frac{5}{8}$ inches in longest diameter, with an indented hollow

on one face $1\frac{7}{16}$ inch in diameter, found on the surface of a field a few yards east of the burn and 20 yards south of the road at Hillend, Markland Farm, New Cumnock, Ayrshire.

Half of an implement of Basalt, $3\frac{3}{8}$ inches in longest diameter, with a slightly indented hollow on each face, found in a field road, Halton Castle, Northumberland.

Ball of Ironstone Clay, $1\frac{1}{4}$ inch in diameter, found in the Moorfoot Burn, New Cumnock.

Socketed Axe of Bronze, 3 inches in length, $2\frac{1}{4}$ inches in breadth across the cutting edge, with a loop on one side and a moulding beneath the rim

of the socket, from which depend three vertical relief markings, much weathered, found on the margin of Cauldshiels Loch, Roxburghshire (fig. 1).

Circular Button of Jet, $1\frac{1}{4}$ inch in diameter, flat on one side and convex on the other, pierced with a V-shaped perforation on the flat side, and ornamented on the convex surface with thirteen small punctulations roughly parallel to the edge, found in cutting a drain on Marshalmark Hill, New Cumnock.

Axe of Igneous Rock, $3\frac{1}{16}$ inches in length, butt imperfect, $1\frac{5}{8}$ inch in breadth across the cutting edge, from Connemara, Ireland.

Axe of White Flint, chipped but unpolished, $4\frac{7}{8}$ inches in length, from the Thames Valley.

The purchase for the Library was announced of:—

The Ancient Cross Shafts at Bewcastle and Ruthwell, by the Right Rev. G. F. Browne, D.D. (C. & O.), D.C.L., LL.D. Cambridge, 1916. 4to.

The following Communications were read:—