THE EXCAVATION OF A TURF LONG-HOUSE AT LAIRG, SUTHERLAND

R.P.J. McCullagh

INTRODUCTION

This paper concentrates on just one aspect of a large-scale archaeological project funded jointly by Highland Regional Council and Historic Scotland and centred upon a series of excavations near Lairg, Sutherland [Fig. 8.1]. The project was instigated by a proposal to upgrade, and in places re-route the road between Bonar Bridge and Lairg as part of a general programme of infrastructure improvements throughout the then Highland Region. As part of the preparations for these works, archaeologists were consulted on the best means of mitigating the impact of road construction. Surveys by the Ordnance Survey and the Royal Commission for Ancient and Historical Monuments of Scotland had listed a substantial number of individual and groups of archaeological sites, but their precise nature extent and significance was poorly understood. The road planners (the then Highland Regional Roads Authority) had defined a zone of interest within which the improvements would be contained, and it was within that zone that the Lairg Project has subsequently operated. The zone of interest comprises of a corridor of land some 3.5 km long by 0.3 km wide, centred on the existing roadline. Within that corridor a large scale programme of archaeological survey, prospection and excavation has sought to mitigate against the anticipated loss of archaeological information. From a very large and diverse assemblage of recorded monuments, well-preserved examples of potentially threatened monument types were then excavated under optimum conditions and, wherever possible, well in advance of the actual construction of the new road.

In 1988, in the course of the survey, some 32 rectangular structures were identified. Trial trenching in 1989 provided some 20 profiles through randomly selected examples and as part of the analysis programme three radiocarbon dates from rectangular buildings or associated monuments were obtained. In 1991, Sites 1103 and 1099 were fully excavated [Fig. 8.2] and in 1994 a much smaller scale investigation took place within Site 966, a similar sized structure some 600 m to the south of Site 1103. In 1996, the site of House 1103 became a quarry for road stone. The quarry eventually consumed both the whole site and some of the adjacent field boundaries, and from the new road no hint of this former dwelling is visible. In the excavation report,[1] the site nomenclature has been simplified and Site 1103 is referred to as House 9. It is so referenced in this text.

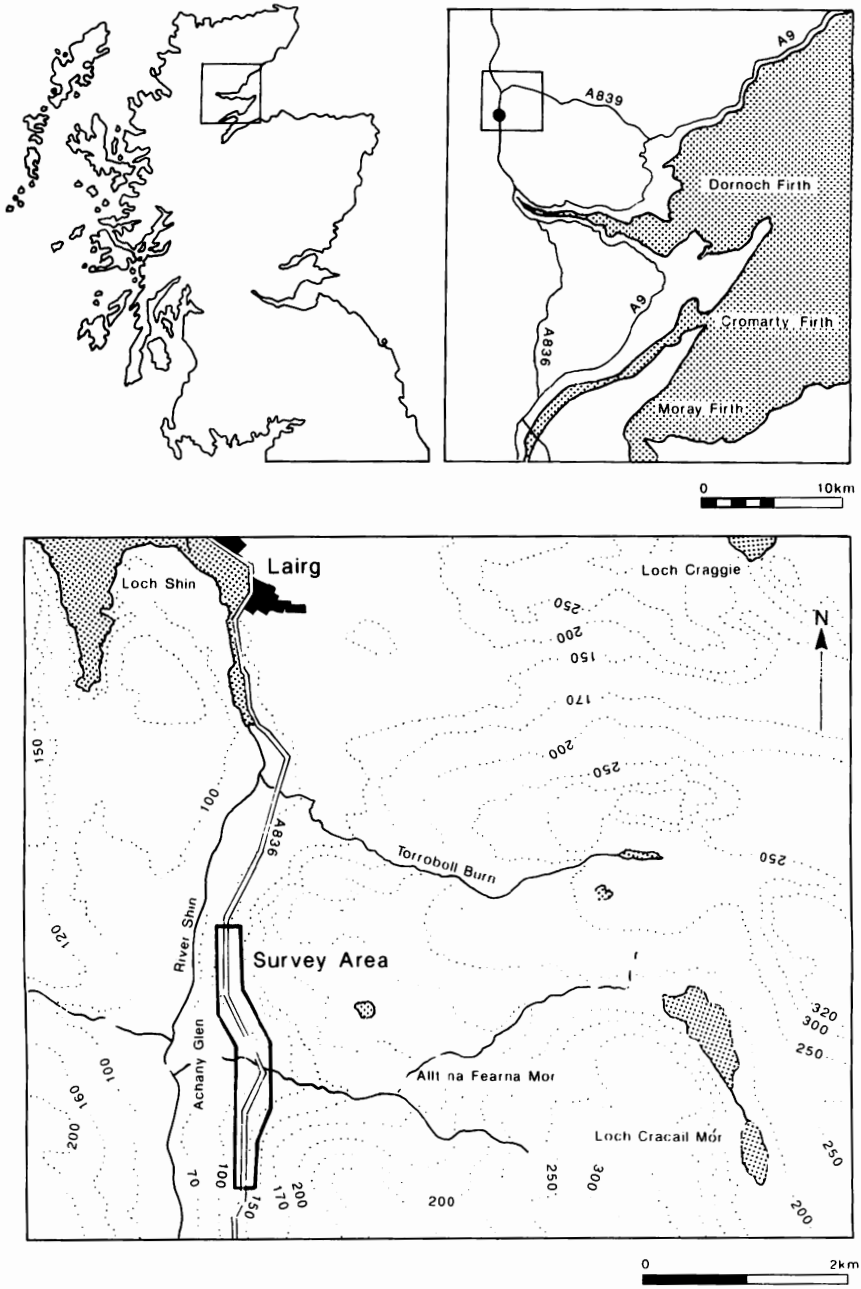

Fig. 8.1 The survey transect encompassed all possible routes for the upgraded road.

House 9 was initially interpreted as an example of the class of housing that typified pre-Clearance settlement in the Highlands. As work progressed, it became apparent that the site contained far more archaeological information than is ever likely to be gleaned from a prehistoric structure, yet it represented a form of architecture and a way of life that remain largely unnoticed within Scottish archaeological literature. In turn, this wealth of detail has drawn attention to some inadequacies in our techniques and to the continuing lack of familiarity with the potential benefits from joint historical and archaeological research. It is also hoped that House 9 may demonstrate that those untapped benefits can accrue mutually to archaeologists and historians.

THE EXCAVATIONS

Aims & Objectives

The excavation's aims were to:

* establish the form of each component in the structural sequence
* establish the duration and date of occupation
* acquire evidence for the relationship of the structure to its contemporary local landscape
* establish the function or functions of the site throughout its period of use
* place these diverse fragments of the site history within a dynamic model of social and landscape change.

Before excavation began, a radiocarbon date obtained in 1989 provided a good indication of the approximate cultural horizon from which the structure originated, and from the outset the site was assumed to represent the type of dwelling that had preceded the revolutions in Highland estate management in the early 19th century. One of the main attractions of such a site was that it might offer up sediments, ecofacts and artifacts whose origin, function and mode of deposition were in some way referenced within the ethno-historical literature of that period. Such monuments hold the potential to elucidate many of the interpretational problems that beset or lie hidden within the investigations of much older sites.

A detailed account of the excavation methods and results can be found within the project archive and an extended summary is included within the main project report. This paper highlights those findings, and those inferences that have a particular relevance to studies in post-medieval northern Scotland.

Location

The site was first recorded in 1988, in the course of a topographic survey along the prospective route of the upgraded A836, 1.5 km south of Lairg

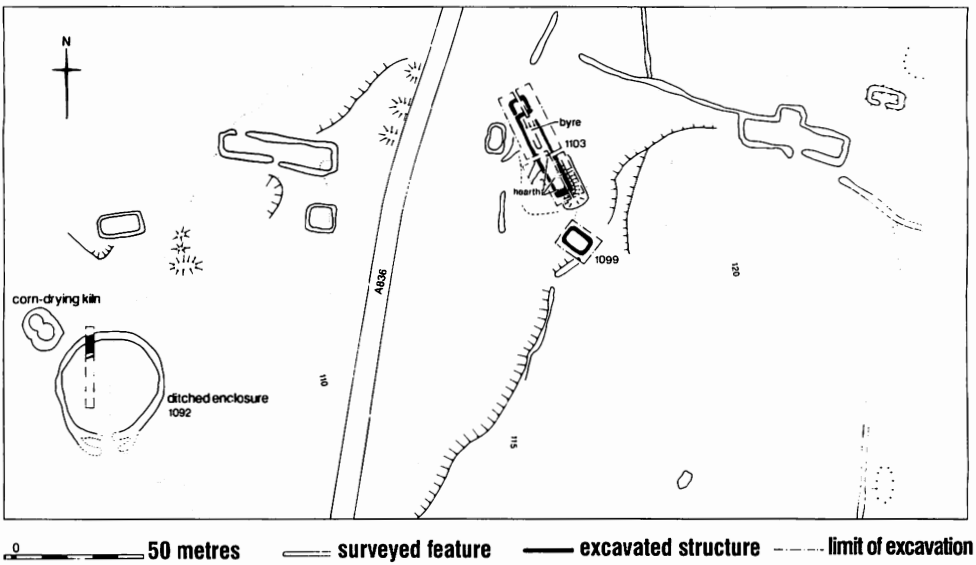

Fig. 8.2 Surveyed sites and excavation areas at the northern end of the survey.

station [Fig. 8.1]. This rectangular monument (the original survey code was Site 1103) is located on a short terrace (113 m OD) within a generally steep (gradient: 19%) slope [Fig. 8.2]. The site lies towards the northern end of the surveyed area and at the northern end of a large enclosed area of improved pasture (30 ha). All the extant maps refer to the general area as Achumor, Achimor or, as in the current Ordnance Survey maps, Achiemore. It is overlooked from the east by Cnoc an Achaidh Mhoir. These various names can be translated as 'big field', and it is not improbable that this name may be contemporary with and derive from the establishment of the large enclosure. Documentary evidence suggests that this enclosure was in existence from at least the late 18th century.

A second rectangular structure (survey code: Site 1069) lies 8 m back up the slope (at a height of 120 m OD), and a third such site (survey code: Site 1082) is situated some 40 m downslope (110 m OD). Although not identical, these three sites appear to be so similar that it is reasonable to presume their approximate contemporaneity. Numerous other field monuments were recorded in the immediate vicinity, including field banks, cairns, smaller rectangular structures (?barns) and a certain grain drying kiln, seemingly incorporated into a small turf building. The large circular enclosure (Site 1092 and entitled Ditched Enclosure 1 in the published report) was identified

by excavation as a 1st millennium BC ditched and palisaded site. It may also have functioned as an enclosure (eg a kale yard) within the much later complex of buildings. Limited excavation on the interior in 1989 revealed marks in the subsoil surface which may have resulted from recent tillage.

All of the rectangular buildings, and most of the smaller monuments, were examined in 1989 as part of a more detailed analysis of the field monuments in this area. The results of this work point to a building tradition based on the use of turf as the main building material. A small assemblage of artifacts pointed towards a late, perhaps 19th century site-use.

A series of radiocarbon dates were obtained in 1989 from charcoal extracted from wall or sub-wall soil samples (see 'Chronology', below). The resulting medieval or early post-medieval dates therefore do not date construction, they merely provide a *terminus post quem* for the inclusion of the charcoal into the turf.

In 1991, House 9 was selected for excavation. This site was chosen as it appeared to be typical of its class of monument and also to be relatively well-preserved. It was selected in preference to the more substantial site, 1082, because the latter appeared to suffer from impeded drainage that could reasonably be assumed to affect the progress of excavation and to cause problems at the interpretation and analysis stages. From the outset it was assumed that the site represented a class of dwelling that would have been typical for the majority of the rural population until the late 18th or early 19th centuries. Fairly detailed descriptions[2] and illustrations[3] of such structures abound, characterised by a remarkable degree of conformity through time. This is illustrated by the similarities between the house in the Lairg area described by Bishop Pococke in 1760,[4] and Hugh Miller's description of his aunt's home at Gruids, which he visited in the 1820s.[5] The common appearance of such dwellings, and the apparent and almost uniform use of space internally, indicates an architectural tradition deeply embedded within the social and cultural structure of the native population. The excavation of House 9 at Lairg thus offered the prospect of excavating the remains of independently identifiable activities contained within a readily reconstructed architecture.

Stratigraphy & House Layout

The archaeological remains of House 9 were generally well-preserved and the recorded relationships suggest that the building process was more of a complex continuum than a single event or series of separate events. The interpretation combines the evidence from field work with a suite of insights drawn from other data, especially various soil analyses.

The structure consists of four composite soil and stone walls forming an elongated rectangular building aligned across the contours. The upslope, short wall measured 4.5 m wide externally [Fig. 8.3]. This gable wall was almost entirely built in dry stone masonry and was keyed-in at its base to the

more sparse stonework of the long walls. The inner face of the gable retained small fragments of clay bonding or cladding. The basal layers of both long walls, but especially the downslope half of the northern wall, contained stone; but the uppermost elements throughout were soil. It is probable that the source of these wall sediments was cut turves that have decayed in situ. Soil analyses (particle size analysis) indicated that the turf originated from a single location, although this was not in the immediate vicinity of House 9. The maximum length of the building was uncertain but it had clearly undergone a complex series of re-builds and various vestigial wall lines for the downslope gable were identified up to a maximum of 24 m downslope from the upper gable. The building narrows slightly towards its lower end and one gable position measured just 3 m wide externally. No substantial internal partition walls were identified. The total declination of the ground surface over the length of this structure was 1.7 m.

Prior to excavation, the low broad profile of the walls gave no clue to their original width. In the excavation, the long walls revealed in each case a series of compacted deposits and occasional large blocks of stone forming an axial ridge. These were initially interpreted as the remains from a series of rebuilding phases. Away from the centre of the ridge, the layers became indistinct and it was assumed that each wall had in time slumped to form the flattened profile observed in the initial survey. In several places, sections cut through this ridge revealed a basal layer that was clearly narrower than the overlying vestiges of the wall fabric. Soil thin-sections of the putative wall layers indicated that in fact the lowest layer was probably a compacted vestige of the original turf surviving in situ. The overlying wall material was also shown to be turf, but containing mineral components that were similar but not identical to the subsoil on site. It is probable, therefore, that these were obtained from ground in the vicinity of the building but the site itself was not stripped of turf prior to construction. To judge from the width of the *in situ* turf layer recorded in excavation, the wall base varied from 0.8 m and 1.0 m wide, although, in one transect profile, the width of this preserved topsoil measured 1.2 m wide.

Along the inner face of the northern wall, especially along the downslope half, a series of small post- and stake-sockets were identified. These are interpreted as the sockets for structural timbers, though presumably not crucks, and for smaller timbers such as the sails in wattle panels. Two of the larger holes had been cut at the same location in sequence and must indicate a phase of full or partial re-building, refurbishment or repair. Only one certain post-hole was found on the southern long wall and none on either gable walls. Both long walls contained a few large stone blocks which could have served as pads for crucks (an interpretation suggested by Dr Bruce Walker), but no regular setting was apparent. In both long walls there was a slight but distinct distortion northwards giving a slightly bowed ground plan, as if the whole building had been pulled slightly off its true line. The apparent stronger or more elaborate build of the north wall may either reflect extra stresses that were anticipated in the design or were extra elements made

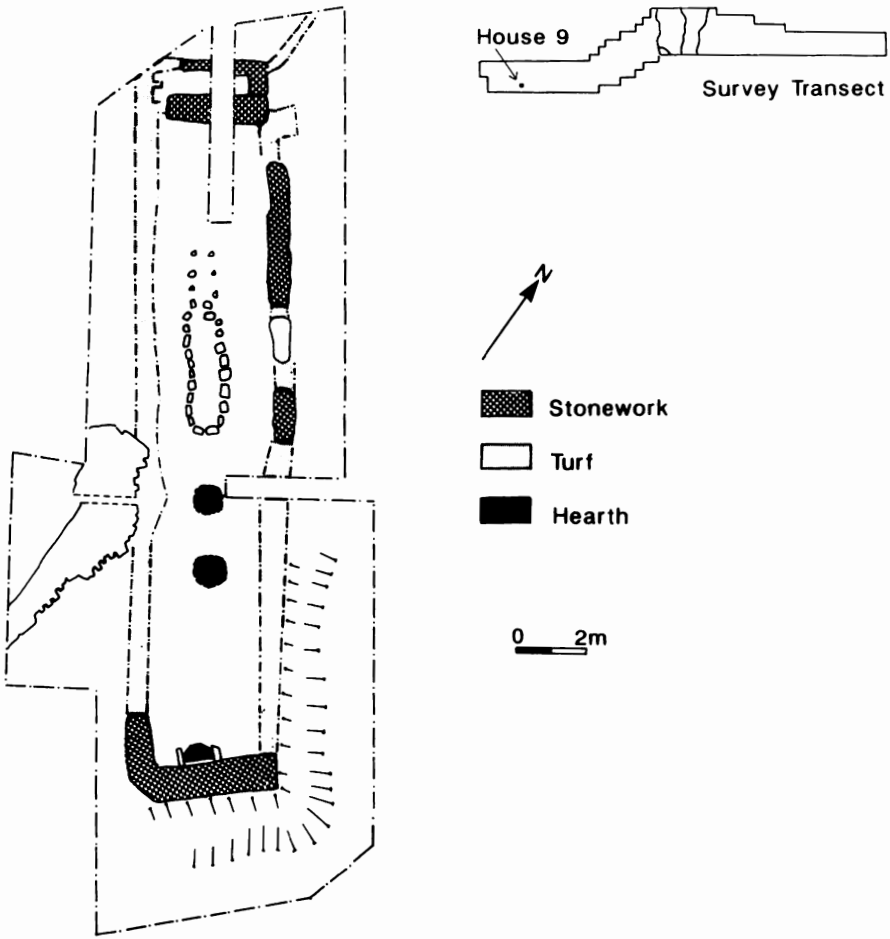

Fig. 8.3 Simplified plan of House 9: dark stipples = stonework
grey stipples = turf

necessary by the outcome of those stresses. The source of these unequal stresses could possibly be either the tethering of livestock against the inner face of the north wall, or unequal moisture within the fabric of the opposing walls resulting from differential exposure to weather conditions. These may not be the only explanations, but whether or not either alternative is credible in this case, it should be noted that the uneven and often flimsy nature of some structures was a frequent object of comment by travellers in northern Scotland in the 18th century.[6]

Access to the building was by way of a well-laid stone path leading to the entrance on the south side, some 7 m from the upper gable. Inside, the building was split into two unequal parts, separated by a slight scarp. The upper half was dominated by a substantial hearth set almost at the centre and some 4.5 m downslope from the upslope gable. The hearth survived as a few fire-cracked slabs, small deposits of ash and a large, dished area of intensely reddened sub-soil. In the lower half, a stone-lined gully or drain had been laid parallel to, but slightly off from the central long axis of the building and stopped short of the lower gable wall. Post-excavation analyses, such as soil phosphates, pollen and fungal spores, failed to identify any evidence of a specific function but, at some risk of circularity, this feature was interpreted as a byre drain and provided the primary evidence for the use of the lower half of the building as stalling for cattle.

External drainage also appears to have been of importance. Around the upslope gable, on its northern and eastern sides, a broad gully had been cut. During excavation the gully served to drain away surface water from the marked lynchet directly upslope from the building and it is likely that this was its original function. A second external drain had been laid beneath the stone pathway leading to the doorway in the southern wall.

Prior to excavation, the low broad walls gave no clue to the original wall width. In sections cut through the long walls in several places, the basal sediment was clearly narrower than the overlying and supposedly slumped wall fabric. Particle size analysis has demonstrated that this sediment probably represents the topsoil on to which the turf walls were directly laid. To judge from the width of this sediment, recorded in excavation, the wall base varied from 0.8 m and 1.0 m wide, although in one transect profile the width of this preserved topsoil measured 1.2 m wide.

In cross-section the interior surface of the structure was slightly concave, though this was less apparent in the longitudinal section. At several places where there were large stones at the base of the wall, for instance at the base of the upslope gable, a slight scarp had formed, accentuating the dished or hollowed profile of the interior. These features were only revealed with the excavation and removal of a series of highly variable sediments that formed a sparse and uneven capping to the irregular and clearly worn surface of the glacial till. The removal of these sediments had revealed the central hearth in the upslope half of the building and on this basis those overlying the hearth, at least, were interpreted as originating in some later phase of use.

Traditionally, such sediments would be interpreted as 'occupation

deposits' and treated by the more sophisticated archaeologist with great reverence; these layers might possibly retain direct evidence of the every-day use of space within the structure. A less optimistic explanation could be proposed, that these sediments merely represented the residue of the collapsed building fabric. In fact neither explanation is supported by the evidence drawn form soil analysis. In thin-section, the vestigial wall fabric was shown to contain very little organic material, and low phosphate readings emphasise this trait. In contrast, the internal sediments contained relatively high levels of phosphate and the thin-sections contained abundant burnt and unburnt peat fragments. One further trait was noted in soil thin-section of some of the interior sediments, these contained microscopic slivers which were identified as minute fragments of some form of calcareous rock. None of the constituents of the local till was calcareous and the nearest source of such material is almost 20 km away. Perhaps the best explanation for the presence of such material on site was that it was derived from a lime wash or render applied to the wall surfaces. Although not proven, this explanation would then imply that the slivers and fragments became detached from the rendered surface as it decayed. If correct, then the internal sediments formed when the walls were still standing but in the initial stages of neglect.

Thus organic sediments, rich in fuel residues, had accumulated after the main hearth had ceased to function and when the wall surfaces were weathering. Far from describing an 'habitation' use of the building, these so-called occupation deposits can be best provenanced to a period of neglect, when refuse was accumulating in the building. Perhaps the best analogy is one that is a familiar sight in the Highlands, a dwelling that has passed from human habitation to a shelter for sheep.

One further corollary of this interpretation is that the marked dissimilarities between wall fabric and the internal sediments probably means that in situ slumping of the wall mass did not occur and instead all but the basal vestiges of wall fabric were removed after abandonment. It is worth noting that no trace of burning of the building fabric, so often mentioned in accounts of evictions, was identified in this case.

Prior to this abandonment, it seems likely that the building was temporally re-occupied despite its now poor condition. Two sets of hearth deposits, one set located almost centrally in the building (ie downslope from the abandoned primary hearth) and the second set lying upon a stone hearth built into the upslope gable, had been superimposed on the internal sediments and point very definitely to a late phase of re-use of the building. Downslope from this secondary, central hearth, one particular deposit was marked by such an abrupt downslope boundary that the excavator interpreted it as abutting a, now, otherwise undetectable screen or partition wall. This putative screen, which would have lain over the primary deposits within the upper end of the axial drain, indicates that this late occupation was not without some sophistication but partition walls seem to have been features of even the meanest hovels.[7]

DATING EVIDENCE & CHRONOLOGY

Three sources of dating evidence are available for House 9:[8] radiocarbon dating, artifacts and historical references and analogies.

Radiocarbon Dates

A single radiocarbon date was obtained from a sample of the wall fabric from House 9:[8]

GU-2848 350 ± 50 BP
AD 1450 - AD 1595 (70%)
AD 1445 - AD 1660 (96.17%).

Two other sites in the vicinity of House 9 have also produced dates:

GU-2856 430 ± 50 BP
AD 1420 - AD 1475 (68.71%)
AD 1405 - AD 1660 (95.9%).

GU-2868 890 ± 50 BP
AD 1025 - AD 1120 (69.27%)
AD 1015 - AD 1245 (95.52%).

One date (GU-2856) was derived from charcoal within a buried soil preserved beneath a putative turf bank or field wall. This turf bank appears to be part of a system that integrates with use of the rectangular structures. The second date (GU-2868) also comes from a buried soil profile.

Although no simple explanation can be given for this range of dates – partly because they do not result from full excavation – it is probable that they represent a series of earlier phases of site use. As such, these dates only serve as exemplars; they neither represent all periods of use nor describe the frequency of that use. Only a more ambitious dating programme from extensive archaeological excavation could resolve this issue. Nevertheless, these dates alone should serve to raise expectations of a medieval rural archaeology from which sites such as House 9 have evolved.

Artifacts: Pottery, Glass & Metalwork

The two main components of the artefactual assemblage were glazed pottery[9] and glass.[10] Five types of pottery fabric were identified: red earthenware, stoneware, white earthenware, bone china and coarse ware. In most cases the type of pottery was not chronologically distinctive but amongst the white earthenwares two distinctive pottery types were noted: Pearlware (3 vessels)

and Pratt-type ware (6 vessels). The former probably date from the first half of the 19th century; the Pratt-type pottery was common between 1800 and 1820. There was no unequivocal evidence of 20th century manufacture.

From a total of 229 sherds, 45 vessels were recognised. However, almost all of these were recovered from topsoil. Only 8 vessels, represented by 8 sherds, were found within contexts that were unequivocally located in the sequence of construction or use. However, many of these contexts also contained sherds of vessels distributed throughout the stratigraphy. There are thus only 2 sherds (from Vessels 7 and 30) that are from unequivocally undisturbed contexts, and these both represent chronologically undiagnostic forms. Of the 12 vessels that were represented by more than one sherd, none came uniquely from construction or use deposits; all were represented by at least one sherd found within topsoil.

All of the glass assemblage was of a domestic nature with the majority of the sherds being bottle glass, mostly from wine bottles. Seven sherds were Crown glass, two of which were retrieved from later use or abandonment sediments and may indicate the one time presence of glazed furniture (such as cabinets) or windows within the building or within the vicinity. Examples of both the early and late 19th-century types were found throughout the stratigraphy:

GLASS
With Percentage of Each Type Retrieved from Topsoil (%)

18th C	*Early 19th C*	*Mid 19th C*	*Late 19th C*	*Unknown*	*Total*
1	37	32	7	6	85
0%	84%	81%	89%	0%	76%

The earliest piece was a folded foot from a wine glass, attributed loosely to the second half of the 18th century. It was discovered when the late, gable-end hearth was being dismantled and had been incorporated within the packing material behind the stone fire-back and the gable masonry.

A small assemblage of metallic items was also excavated from House 9. Most of this material was either uninformative slag or metal fragments. The only pieces worthy of comment were fragments of a large cast iron cauldron, which came from a late deposit on the interior of the building. This context was not easily interpretable but probably relates to the building after domestic use had ceased. It is extremely unlikely that this object decayed *in situ* and ought to be seen as evidence, along with much of the artifact assemblage, of dumping of refuse into the remains of House 9. Burt records an example of this practice amongst abandoned dwellings on the edge of towns.[11] The source of such material cannot be identified, but was presumably within the immediate area.

It is clear from the foregoing descriptions that most of this assemblage can be assigned to a period that largely spans the 19th century. Most of the assemblage was recovered from sediments that have been shown, by soil

thin-section analysis, to have accumulated when the building was already in an advanced state of decay. It is therefore unlikely that much of the assemblage relates to the actual habitational use of the building. The correlation of the date of manufacture to date of deposition is also probably erroneous; there would have been a considerable time lag between manufacture, acquisition and disposal of artifacts. At best then, the artifacts indicate that the building was probably not occupied much before the late 18th century and that it had reached an advanced state of decay by half way through the 19th century.

Ecofacts: Charcoal & Grain

The source of the dated charcoal has already been discussed (see above). The charcoal from the interior deposits is generally less common than on prehistoric sites excavated at Lairg. Two locations were identified which had meaningful levels of charcoal within the deposits. One was the early, central hearth with the charcoal coming from the ash layer overlying the slabs. The second location was in the deposits that accumulated around the upslope end of the drain. While the former may have survived because the hearth was deliberately buried, it is possible that the latter deposits escaped much of the force of the internal floor erosion by being at the boundary between the byre and the domestic spaces.

Charred grain, identified as six-row hulled barley, oats and carbonised hazelnut shells were present as very minor components of internal sediments.[12] While these can be presumed to reflect aspects of local produce and diet, the assemblage is too small for any deeper analysis. The general lack of such materials on the site may reflect the nature of cereal processing, for example the use of a communal corn-drying kiln, the roasting of grain on the sheaf,[13] and the poor preservation of contemporary house-hold waste matter on the internal floor surface.

Historical and Archive Information

A wide range of sources have been searched for evidence of land tenure, land use and estate management. These include title deeds, legal processes, maps and estate plans, sheriff court and Court of Session records, Hearth Tax Records, Teind Commissioners Records and published works.[14]

There are place-name references to such early Christian sites as the island on Loch Shin (recorded as 'Ellan Murie', by Sir Robert Gordon in 1630 or 'Ylen Mulruy' in Pont's manuscript map of ca 1590 and probably synonymous with the chapel site of St. Maelrubha;[15] also to possible Pictish locations (eg Pitarxie) and to Norse settlement (Torroble, Arscaig). There are no secure references to the general locality of House 9 until the 16th century, when rental payments in kind are recorded from Lairg, Pitarxie and Shinness.[16] In 1738, the tenancy of Achiemor was separated from the farm of

Achinduich,[17] and for the next 100 years there is a fairly complete record of tenants for Achiemor:

1738	Robert Gordon[18]
1756	Robert Gray, tacksman farmer and drover[19]
1765	Robert Murray, sub-tenant to Robert Gray[20]
1776	Robert Murray in full tenancy after Gray's bankruptcy[21]
1787	after the death of Robert Murray, his widow, Katherine and son, Alexander were in possession[22]
1793	Alexander and his ?brother, John, as tenants with their mother living possibly as a cottar[23]
1807	Alexander and John's lease expired and they were removed, their mother retained her dwelling[24]
1808	Katherine evicted[25]
1812	Alexander MacDonald resident in Achumor [*sic*], working as servant or labourer on the Lairg Sheep Farm
1815	Alexander MacDonald may have moved to Achinduich, taking work as a shepherd[26]
1822	Achiemor in the possession of weavers[27]
1824	Achiemor again recorded as inhabited by weavers[28]

On the basis of these documents it seems improbable that extensive arable farming, which even throughout the previous hundred years probably had played only a secondary role to the cattle trade, continued at Achiemor after 1807. Maps of 1790[29] shows two clusters of buildings. The first perhaps comprised one small and six larger buildings clustered around a small enclosure. The second group lies to the south towards close to what appears to be a major march dyke. Abutting this dyke on its northern side is an enclosed area marked as 'arable lands'. It is possible that the latter area correlated to an area of broad rig recorded in aerial photography in 1991 and mapped on the ground in 1994.

INTERPRETATION

The Archaeological Evidence

The archaeological reconstruction of House 9 depends on the interpretation of and extrapolation from three sets of data. The physical evidence from excavation has recovered the form of the surviving elements of the building and has identified various elements from a putative structural sequence. Post-excavation analyses, particularly of the artifact evidence and soil analysis, have provided evidence of the source material for the sediments, mode of deposition, post-depositional processes and the nature of, and in the case of the artifacts the probable chronology for, the integration of exotic inclusions within those sediments. Finally the historical and ethnographic records have

provided a cultural framework that offers the rare possibility of amplifying the terse archaeological evidence. Although the result may seem credible, care must be taken to avoid confusing proximity with proof. The end result will only be an interpretation.

The excavated remains of House 9 show it to have been a narrow (between 4 m and than 3 m wide internally) elongate structure (maximum external length 24 m). Built slightly skew to the slope, there was nevertheless a fall in floor level of 1.7 m. The walls of the building were certainly made of turfs, obtained from somewhere close to but not actually in the immediate vicinity. The slight evidence for a supporting sub-structure, to what was in effect a turf cladding, could not have been interpreted as the vestigial remains of cruck-supported creel- or hurdle-work had the ethnographic evidence not been so persuasive. The excavators were obliged to interpret the site as a multi-period entity: there was good evidence for multiple positions for the downslope gable, the central hearth had become buried, the hearth location shifted and the axial drain was replaced. Coupled to this, the degree of internal erosion clearly evident throughout, but especially at the upslope end, indicated that occupation had been of considerable duration. This erosion had clearly been anticipated by the occupants, in part at least, as is shown by the provision of a laid-stone pavement approaching the doorway.

In excavation it was clear that this evidence for erosion was contradicted by the accumulated internal sediments. This contradiction was resolved by the presumption that sediment formation only occurred where and when erosion was diminished. One area where accumulation of sediments could have occurred in the course of normal occupation would have been at the margins and particularly if these were enforced by physical barriers. As noted above, one such area was detected at the point where the upslope zone, centred on the hearth and the downslope zone, centred on the axial drain, merged. Here, the form of the sediments were suggestive of a partition and the localised high charcoal content in the sediment emphasised the reduced level of erosion.

This late partition only emphasised a demarcation between the upper and lower portions of the building that appeared to have been part of the original design. The identification of the hearth with human habitation and the central drain with accommodation for livestock would have been archaeologically reasonable. The all pervasive ethnographically recorded model for such structures, with cattle arranged with the hind-quarters over the drain and the heads tethered to the wall, with the human occupants' eating and sleeping arrangements focused on a central floor hearth, corresponded well to the excavated physical remains.

One fragment of evidence intimates the rigidity and permanence of this architectural tradition. The external drain, which was discovered beneath the upper stones of the pavement, was laid with the effect of preventing water getting to the threshold. This small feature hints at a clear understanding of how the building would perform, how use would effect its fabric and how a certain standard of accommodation would be achieved and maintained.

Initially, the excavators interpreted the remains of the walls and gables as indicating a clear progression from a wholly turf construction to one of stone and turf. Analysis of the constituents of these sediments has shown the primary turf phase to be no more than the native turf of the site upon which the building was erected. It would thus seem implausible that the massive clay-bonded, stone upslope gable was a secondary feature, although the hearth attached to its inner face was clearly a very late addition. Such stone gables are not generally considered to have come into vogue prior to the mid-19th century[30] and its presence here clearly conflicts with most of the other date of use evidence.

In addition to the use of architectural typology as a basis for chronology, the possibilities of using radiocarbon dating and artifact typology were investigated. The radiocarbon result acquired in 1989 cannot be attributed to either the construction or use of the building; instead it provides a *terminus post quem* for the inclusion of the charcoal into the topsoil that eventually was transported onto the site as the turf for the walls. The artifact evidence, with its inherent dichotomy between the 'known' date of manufacture and its unknown date of disposal, only offers broad and crude chronological boundaries. The glass and the ceramic evidence point to the use of the building, in its later phases, not earlier than the mid-19th century. Even though the pottery contained types whose date of manufacture can be relatively precisely dated to the first quarter of the 19th century, it is virtually certain that the discard date lies somewhere within the second half of that century. Further caution must be exercised because it is by no means certain that the period which witnessed the accumulation of sediments within the building and the accumulation of broken glassware and pottery coincided with the main phase of site use. The presence of micro-flakes of what was probably an internal wall render within the internal deposits may indicate that the building was no longer being maintained.[31] The longevity of the occupation is further stressed by the stratigraphically late insertion of the gable end hearth.

Integrating the Historical Evidence

In contrast to the bulk of the archaeological evidence, but perhaps in agreement with the inference drawn from the extent of erosion, the historical evidence points to a primary phase of use being prior to 1807. Significantly, subsequent records for Achiemor (census, muster records etc) do identify non-agricultural tenants in the subsequent decades, although research has not yet penetrated the record later than 1830.

Not only does this structure well illustrate the difficulty of keying in the evidence for duration of use of the site with its dating evidence, but it also adds depth to the raw historical data. From 1765 until 1776, Robert Gray is recorded as the sub-tenant at Achumor [*sic*]. After 1776, he was paying rent directly to the estate and after his death in 1787, the possession passed to his sons until they were removed in 1807. Their mother was evicted in the

following year. While it would be foolhardy to claim that House 9, or indeed any of the upstanding group of sites can be related to known tenants, this record does identify several points in time when events identified in the archaeological record (such as the shift in the hearth location) might have occurred. Given the long duration of the Murrays' combined tenancy (42 years) both the extant historical record and the archaeological record are shown to be woefully ill-equipped when attempting to reconstruct past ways of life. Miller's description of a house interior,[32] seen in the 1820s, serves to underline the weakness of the link between archaeological sediments and primary use:

> We entered the cottage and plunging down two feet or so, found ourselves upon the dunghill of the establishment, which in this part of the country usually occupied an ante-chamber, which corresponded to that occupied by cattle a few years earlier.

These quasi-ethnographic records drawn from the literature of travellers and analysts journeying in the Highlands in the 17th, 18th and 19th centuries have not been scrutinised by archaeologists. The tendency and temptation is to extract odd anecdotes as and when they fit the needs of the archaeological text. One reason for this approach is that systematic synthesis has not been undertaken and there is frequently no means of gauging variation in time and space. For instance, I.F. Grant, when discussing the over-wintering of cattle, observes that there was an 'old standing variation in the methods of housing cattle between the east and west'.[33] It is also difficult to assess the effect of economic and political changes. Did the heavy recruitment by Scottish, Scandinavian, French and latterly the British armies distort the Highland pattern(s) of land-use and architecture? Indeed was there a uniform pattern within the diverse landmass of the Highlands? Did political boundaries such as that between the Gordon earldom of Sutherland and its neighbours, or more subtle cultural boundaries such as that between the Protestant Mackays of Strathnaver (with their centuries old links to the Netherlands) and their various Catholic and later Jacobite neighbours,[33] impinge upon the traditions of land-use and settlement of the rural population? The absence of a systematic archaeological approach to such data must clearly urge circumspection in their use.

The historical context of the occupation of House 9 and of the use of the Achiemor enclosure coincides with what is portrayed as the final death-throes of the old order. The later half of the 18th century witnessed the protracted assault on the political and cultural bastions of Gaeldom, with the transformations of the economy, landscape, language and religious observance, all coupled to the judicial suppression of dissent.[34] Devine has listed four sources:[35, 36]

1. *changes to the economic structure*: the increase in rentals which accompanied the transformation of land tenure to a process of competitive bidding for leases. This process is linked to the changing circumstances of the social elites, characterised by the ambitions of the

land owners to metamorphose themselves from chieftains to courtiers, from Gaelic leaders to absentee gentlemen;
2. *changes to the settlement structure*: the alteration of the location and form of settlements from the communal townships of the *baile* to the single tenant farms;
3. *changes to the social structure*: two changes can be identified: the replacement of the delicate and graduated hierarchies of the *baile* with more uniform and increasingly Protestant and English-speaking communities, and secondly the disappearance of the middle order gentry (manifested in the tacksmen) and their replacement by alien ranchers and sheep farmers;
4. *changes to the locations of population*: this was expressed in the evictions that presaged the establishment of the great sheep farms.

The actual impact of these changes are witnessed in the first hand accounts from the period. Donald Macleod's descriptions of the burnings and ruthless evictions in Strathnaver, orchestrated by Patrick Sellar, are still redolent with the sense of loss and betrayal.[37] (See Gouriévidis, this volume).

In the archaeology of prehistoric Scotland, substantial changes in the material culture have been identified – for example, that which occurs after 2000 BC, with changes in burial practice, pottery design, settlement form and both domestic and ritual architecture. How such transformations relate to or reflect broader social changes is a matter of continuing debate, but it would be difficult to imagine a more profound change than that claimed for Highland Scotland during the 18th century AD.

A broader chronological view reveals that quantitatively similar changes were occurring at regular intervals throughout the post-medieval history of the Highlands, from the internecine fighting of the 14th century up through the upheavals and dislocations that accompanied the political, religious and military turmoil of the 17th century.[38] Over the last few decades, archaeological investigations of the ethnographic record have attempted to test the nature of the link between social change and material culture. Typical of such exercises has been the examination of one of the key elements of the archaeological record: architecture. Numerous studies have sought to investigate the subtle role that buildings play as metaphors for the dwellers' perceptions of their various environments: the economic, the spiritual and the social.[39] If such analyses are sustainable, then perhaps it is in the archaeology of the dwelling that transformations in the social circumstances ought to be most readily observable.

Local Landscape Change: Pollen, Soil & Documentary Analysis

The history of landscape change, and in particular vegetation change, has been a primary interest within the Lairg project. The results of two studies of

the pollen record[40] indicate that by about AD 1000 the vegetation had acquired much of its modern character. At the Allt na Fearna quarry, it has been possible to chart the slow decline in the extent of arable land whilst at the same time the use and management of pasture was becoming an increasingly prominent characteristic. Indeed, it has been suggested that the use of fire, possibly in muirburn, was so extensive that charcoal dust actually reduced the natural drainage of some areas of tilled ground to a point where arable agriculture could no longer be sustained.

Analysis of the soils buried by the main head-dyke in Achiemor also emphasises the role of pasture management. The enclosure wall (speculatively dated to the late 18th century on the basis of documentary records)[41] sealed a deep soil. Within this soil profile several distinct superimposed ground surfaces were identified, which represented periods of stable turf interspersed with phases of soil accumulation. The turf layers contained layers of organic material, including burnt peat, which may represent midden deposited as a manure.[42] In addition, charcoal in the same turf layers indicate deliberate firing of the vegetation, presumably as a management technique. Within the accumulated soil profile, soil thin-section analysis identified discrete turfy sods, again possibly representing a manure. The source of this material cannot be identified with any certainty but it is not inconceivable that they represent discarded building or roofing reused as a manure or mulch. The effect of this application of reused midden, was to produce a soil that was far deeper than the pre-existing soil in the area and, to judge from the frequency of microscopic faeces, was also much more biologically active than the earlier soils. The purpose is less certain, but one explanation is that the pasture was being intensively managed.

Landscape management at a variety of scales is detectable during this period. A map dated 1809[43] records within the enclosure of Achiemor, discrete areas of 'arable land' and 'corn land'; and the map is sufficiently accurate for the area of 'arable land' to be located with some confidence. Today, this forms an area of poorly drained pasture within which it is still possible to detect a pattern of slight, 5 m wide rigs. Excavation in 1994 showed these rigs had been constructed upon very poorly drained ground. The soils were heavy, stony and gleyed, and today, do not seem capable of rewarding the obvious investment of labour that went into creating the rigs. Given the documented growth and clearance of the settlement within Achiemor, it seems reasonable that short-lived phases of tillage affected areas marginal to settlement. Similarly, areas of better pasture were created by burning off the scrub and rank heather and/or by manuring. These areas, like the so-called 'arable land', are unlikely to have been extensive,[44] and their use does not seem to have been sustained over long periods of time.

On a larger scale, pollen evidence from Lairg suggests that woodland regenerated during the second millennium AD in some areas.[45] Documentary sources (estate records[46] and the 1809 survey) suggest that managed woodland was well-established and it is likely that the systematic investment in woodland accounted for the observed expansion in the pollen record.

The image thus created is of a highly controlled landscape within which a subtle dynamism wrought gradual changes in the nature and scale of arable and of local woodland. The frequency of more striking changes is difficult to ascertain because detection of the results is unusual; however such changes can be occasionally recognised. Recent excavations at Gruids, on the opposite side of the River Shin from House 9, have identified evidence on one such event. In a long transect, through what is today rough pasture, archaeologists have identified the truncated remains of levelled narrow rigs. Charcoal, sealed within one of the preserved furrows, has been radiocarbon dated to approximately AD 1400.[47] This deliberate flattening of rigs may represent one stage in a cycle of land-use, but equally it could record a dramatic re-organisation of the nature of the agriculture at this locality and possibly of the society that it sustained. The single, biggest change in the landscape around House 9 was two-fold in nature and occurred as a result of the alterations to the nature of the pasture in the last 200 years. With the decline in cattle has come an expansion in bracken, and with the rise to dominance of sheep has come the removal of regenerating deciduous woodland. Over the same span of years, northern Scotland has witnessed the steady encroachment into the pasture land by plantation forestry. This expansion of industrial forestry can be traced in the pollen record and remains the single largest landscape change in the last 1000 years.

CONCLUSION

House 9 lies at a point in Highland history beyond which the key archaeological clues to understanding sediment formation process, itself the primary focus of archaeological excavation, rapidly become indecipherable.[48] It seems likely that in all but the most remarkable locations, the active biology and chemistry of Highland soils tend to limit archaeological observations to an extremely crude level. Thus, it is in sites like House 9 that the current techniques have to be refined and new developments made if this temporal barrier is to be breached.

One avenue of research offered by such sites relies on the detailed analysis of ethnographic and historical records to define the nature and duration of the diverse elements of the mosaic of activities within the site and its landscape. In most cases, the historical researcher has sought other goals and the points of contact between the historical and archaeological research are few and ill-conceived. There are a limited number of excavated sites available for comparison with House 9[49] and clear architectural differences even exist amongst contemporary structures in the Lairg area.[50] These limitations, and the wide formal variance, point to deficits in current archaeological and architectural investigations. Here then is the challenge, but with the virtual ubiquity of such sites throughout the Highlands of Scotland, Wales and Ireland, here also is a fertile field of endeavour.

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