

Some Clay Dabbins in Cumberland: their Construction and Form Part II

by

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This paper, of which Part I was published in Transactions, 33 (1989), summarizes the results of field studies of a number of cruck-framed and clay-walled houses on the Solway Plain in Cumbria, undertaken between 1979 and 1982. Part II presents a number of individual case-studies of building plan and section and considers the way these changed with time. It concludes with a brief survey of the wider structural, material and plan-form context of the tradition.

The complete statesman's house, as it now stands, was often not built all at one time. The plan consists of a single long rectangle . . . The ground floor was divided into two unequal parts by a through passage. This was called the 'Hallan'¹ . . . To one side of the hallan is the 'Down-house', which may be used as a shippon, barn, dairy or domestic offices. On the other side of the hallan . . . [is] the 'House-place' . . . The house-place forms the main living room/kitchen. At the opposite end of it . . . a wooden partition screens off a smaller room used as the statesman's bedroom or parlour.

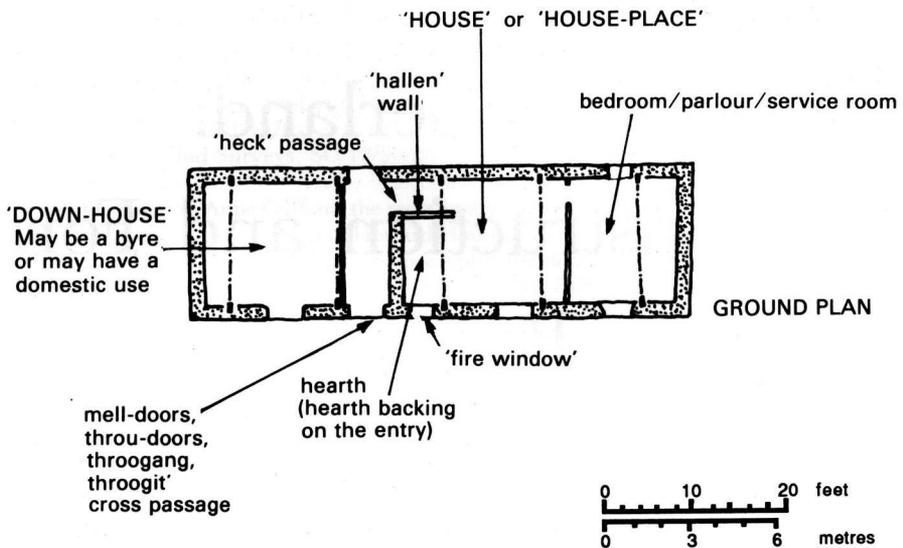
The first floor comprised bedrooms . . . where the house was only built in the second half of the seventeenth century, house-place and down-house are of one build, the earlier houses may have had down-houses built of wood. Where it was of stone in the earlier part of the century it was of one storey only, and a second storey was often added later.

R.W. McDowall, writing of the stone-built 'Westmorland Vernacular' in Singleton, W.A. (ed.), *Studies in Architectural History*, II (1956), 132.

PLAN AND SECTION—1

It was noted in Part I that there is much re-use of frame members in the buildings and it is likely that this was an old-established practice. In their *Register and Records of Holm Cultram* on the Plain, Grainger and Collingwood tell us that in 1662, James Jackson built himself a new barn for which, on 14 October, his friends, giving him boon labour, 'brought a great sile from Souterfield' (now Southerfield). It seems suspiciously late in the year to be building in mud, or any, walling, but perhaps they did. 'Sile' is the northern English term for cruck.

It is from James Jackson's period and later that date-stones are found over the doors of one or two mud houses on the Plain (Fig. 2) and, coupled with these, one



The drawing conventions in the key below apply to all drawings of a similar scale, throughout this paper

KEY

Clay walling	
Other mass walling	
Cruck positions	
Light internal screen walls	and
First floor and ceiling beams	

Fig. 1

'Statesman' type plan based on Lamonby Farm, Burgh-by-Sands. The room names shown are those discussed by Bouch in 1954 (Hodgson, K.S., Bouch, C.M.L., and Bulman, C.G., 'Lamonby Farm: a clay house at Burgh-by-Sands', *Trans. Cumberland and Westmorland Antiq. Archaeol. Soc.*, N.S., 53 (1954), 149-59)

of the earliest recognizable type-plans in the region—the ‘hearth backing on to the cross-passage’ plan which was referred to in Part I when the role of the ridge was being considered. Fig. 1 shows a typical plan of this sort. The arrangement is found quite widely in the north of England and it is generally thought that it replaced plans that were less fully ‘compartmented’ in their layout and which were sometimes long-houses. Turner and Parker, writing of mid-nineteenth-century Northumberland, confirm that the long-house shared by man and beast still existed there at that time:

Sometimes there are only two apartments, the first, containing the only external door, is occupied by the cow, a rude partition, called a brattish, rises to the eaves, and separates this from the only dwelling room of the family, and happily for the health of the inhabitants there is no ceiling and there is an open space to the ‘riggin tree’.²

In Cleveland in 1874 it was recorded that:

... within the two or three years last past, the writer has been into more than one farmhouse ... low, ill thatched, with no upper chamber, ... with partitions, not by any means reaching up to the roof between the living room and the outer or entrance passage, on the other side of which had been, much less than half a century since, a pig sty or calves-pen, and all beneath the same roof.³

As far as the house part in particular is concerned, Celia Fiennes, writing at the end of the seventeenth century, provides useful information on the sort of accommodation to which ordinary people in the far north-west of England, and along the Scottish Border, were accustomed. On her way from Penrith to Carlisle she passed by ‘the little hutts and hovels the poor live in like barnes some have them daub’d with mud-wall others drye walls’. At Adison Bank (possibly Aitchison Bank) on the Border the houses were,

... just like booths at a fair ... they have no chimneys their smoke comes out all over the house and there are great holes in the sides of their houses which lets out the smoake when they have been well smoaked in it; there is no room in their houses but is up to the thatch and in which are 2 or 3 beds even to their parlours and buttery ...⁴

The description confirms in its mention of parlours and buttery that there were at least some dwellings in the region at this time with two, or perhaps three, separate rooms on the ground floor, as is evidenced in some of the surviving buildings. The primitive heating system, however, is no longer to be seen. Finally, at Haltwhistle, Celia Fiennes was forced to lodge in a poor cottage:

which was open to the thatch and no partitions but hurdles plaister’d; indeed the loft as they called it which was over the other roome was shelter’d but with a hurdle; here I was forced to take up my abode ... but noe sleepe could I get, they burning turf and their chimneys are sort of flews or open tunnills that the smoake does annoy the roomes.⁵

Here was a house with two ground-floor rooms, one open to the roof, the other with a ‘loft’ over it, and with what in all likelihood was a wicker fire-hood. Whether there was an attached byre, as in the example in figure 1, we are not told, but in its other arrangements it corresponds exactly with some surviving clay dabbins to be found on the Plain today—though these examples are probably of higher status than Miss Fiennes’s overnight lodging.



Fig. 2
Date-stone lintel, Ratten Row, Durdar, 1988



Fig. 3
House at Kirkandrews on Eden. The attached barn, later in date than the house, is of masonry, with wall-head roof-trusses. It was in a derelict condition when the photograph was taken in 1979. The position of the chimney stacks shows that the elevation seen across the garden was originally the (probably windowless) rear of the house. Note the small gable window lighting the chamber over the parlour and the galvanized iron sheeting covering thatch. The building has subsequently been preserved and modernized and with the removal of the galvanized iron sheeting the original roof-raftering and thatch structure will have disappeared, as at Lamonby Farm

It seems likely that at some time in the seventeenth century an up-to-date cross-passage plan, conclusively separating animals from humans, as is shown in figure 1, was being brought into use on the Plain replacing the true long-house in the region. Evidence of surviving buildings indicates that this was sometimes in tandem with an already established complete framing system of crucks, ridge, purlins and rafters. Certainly this appears to have been the case with Lamonby Farm, which seems to be an early, rather than late, example of the cross-passage type. The framing system—so much of it reused—pre-determined structural bay-lengths and dwelling depth. Sometimes, as it seems with the original part of Lamonby Farm, the whole building was constructed 'as new' with all or much of its framing coming from elsewhere. In other cases, possibly Meadowbank, Curthwaite and the recently re-investigated Ratten Row, Durdar, the seventeenth-century work may be an up-dating *in situ* of an earlier structure. Either way, the record of local use of this particular cruck-frame system is pushed back well beyond the late seventeenth-century dates inscribed on the stone lintels over the doorways of houses such as Ratten Row (Fig. 2).

In the late eighteenth century it was said that the natives of the western Border had perfected the art of 'expeditiously' building clay houses: 'they generally ground with stone about a yard high and a house thus built will stand, they say, 150 or 200 years'. The oral tradition of the time thus placed the use of the mud wall on the Plain back into the late sixteenth century.⁶ Its combination with the cruck frame must therefore have quite a long history in Cumberland. Figure 3 shows the external scale of a clay statesman, hearth backing on to the cross-passage, house, originally of one and a half storeys, where the degree of subsequent alteration had not entirely disguised the earlier form. Figure 4 by contrast, shows a house of similar ground plan, in which structure and detail have undergone considerably more alteration.

The remaining seventeenth-century clay dabbins, narrow in proportion to their length, had small squarish windows sparingly placed mostly along one elevation only. They were the successors to an even simpler generation of houses conceived along similar structural lines. However, there may well have been a difference in one aspect of structure; in many cases the cruck feet of these lost earlier houses may have been grounded lower in the wall. Houses with quite low stone plinths can still be seen on the Plain—an example of a cruck foot almost at ground level is shown in figure 5. One nineteenth-century report even implies that plinthless mud houses were still being built in the region in the early years of that century.⁷

In the examples that follow a variety of cruck-base to plinth-height relationships can be traced. The plan and section illustrated in figure 6 show crucks rising from close to the ground.⁸ Although, as is very common on the Plain, the building possessed no dateable features, and its plan cannot be accurately interpreted, the setting of the cruck foot at ground level is undoubtedly an archaic practice. A cruck foot literally on the ground and protected from the weather by a midstrey entrance is shown in figure 7. This is in a stone-walled barn in Wharfedale, north Yorkshire. The cruck tie-beam shown in figure 6 is, for the Plain, another archaism. It is a feature, as we shall see later, that is not usually present in the domestic parts of the earliest dated cruck- and mud-walled houses of the region, though empty housings on the blades, into which ties were once halved, are quite common.



Fig. 4

Fingland Farm, Fingland, Grade II*. Close inspection of the walls and roof of this house would probably confirm raising of the wall heads from an original height similar to that shown in figure 3. The barn has been rebuilt, only the house being of clay. Note the very small fire-window and variety of other windows

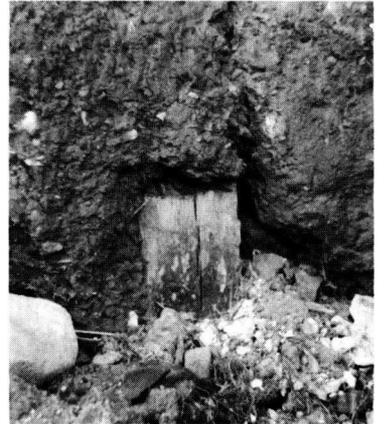


Fig. 5

Close-up view of a cruck foot exposed externally in the clay wall of a small house at Green Lanes, Dalston



GROUND PLAN



SECTION

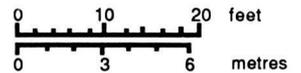


Fig. 6

Plan and section of a house at Causeway Head, Holme Low, recorded by Brunskill, and published in 'The clay houses of Cumberland' in *Transactions of the Ancient Monuments Society*, 10 (1962), 75. The building was being demolished at the time of its recording

A reconstruction of a mud-walled structure, buried inside an early nineteenth-century brick re-build is illustrated in figure 8. The side-walls stood some six feet high, five feet of mud based on a foot or so of stone. They were quite thick and very carefully finished. The eaves would have been just high enough to accommodate a doorway. Again, this remnant was impossible to interpret but the attention given to the construction of the walls suggests an original, quite low, structure of some standing locally; it has collapsed since it was recorded.

Figure 9 shows the remnant of a house at Green Lanes, near Dalston, with slightly thinner, taller, mud walls, a very low plinth and substantial, but crude, timbers. On one side a slender 'eaves purlin' rests on the end of a cantilevering cruck spur. The ridge at the gable is carried on a wide timber spreader in order to avoid having to build a peak in mud. Any upper floor, if it ever existed, would have been no more than a loft, the cruck collar proving a considerable obstruction. The mud walls are constructed by the deep-course system. This house survives only in part, one end having been replaced by an architecturally overpowering stone extension. At Ratten Row nearby, however, a more or less complete example of a relatively early single-storey dwelling is to be found, built partly of clay and partly of stone. Referred to in the Department of the Environment List as a cottage, with a stone lintel dated 1689 (Fig. 2), the building is tall enough to allow for a loft with low side-walls.

The exterior of this house is shown in figure 10 with its clay-built section extending from the main entrance doorway towards the left of the illustration. It has been argued, from what can be seen of the building and from documentary evidence, that the lintel and associated stone label mouldings over the windows—the latter of extreme rarity in clay walling in the region—commemorate the modernizing and extension in stone of a pre-existing clay dabbin.⁹ It may be that what can now be seen of the clay structure represents its original full extent, two timber door-heads (Fig. 11) within this part of the building possibly dating to the earlier part of the seventeenth century.¹⁰ (A more or less identical door-head, but with chamfered arrises and in stone, has been illustrated in the Royal Commission on the Historical Monuments of England's *Rural Houses of the Lancashire Pennines*.¹¹ A date stone of 1630 is set above this lintel.)

Ratten Row is of great interest both in itself and in its setting. It is to be hoped that a full survey and appraisal of the house, the adjoining (raised) clay barn and stables and the farm site, will eventually be undertaken and published. A sandstone-built barn some thirty yards away features an exposed gable 'crutch support' at the ridge-end, seemingly identical with that described at Lamonby Farm (see Part I, figure 46).

The house as seen today, entirely unmodernized, is of the hearth backing on to the cross-passage plan-type with domestic rooms on both sides of the passage. As already noted, an alternative arrangement, directly in line of descent from the long-house proper, was for the cross-passage to be abutted on one side by domestic accommodation and on the other by a byre. Here, only the original, clay, house-end is considered. Layout, plans and sections based on those by Paul Barker are reproduced below with his permission and that of Cumbria County Council (Fig. 12).

The building is described as it was in 1988; a living room and a small parlour



Fig. 7
Wagon entry, Drebley Barn, Wharfedale, 1982.
Cruck foot rests on the ground

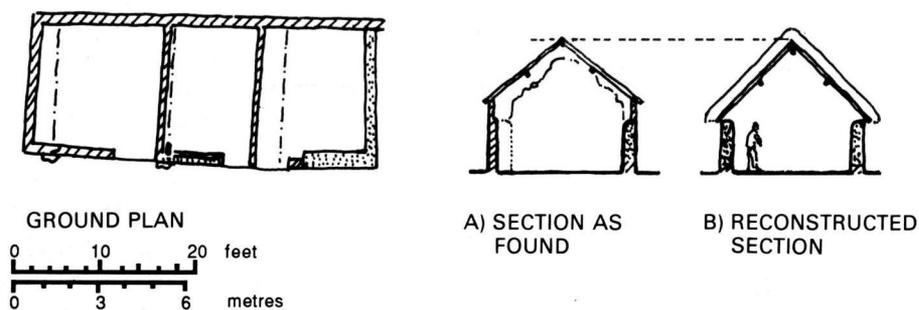


Fig. 8
Combined stables and wash house, Lamonby Farm, containing evidence of an earlier clay structure, with cross section of latter, reconstructed. Collapsed in late 1980s. This building was integrated into a brick nineteenth-century range, possibly of about 1840, at right-angles to the farmhouse, which also included a substantial open-sided wagon lodge with granary above. A single surviving cruck foot and, elsewhere, a substantial boulder protruding from the wall face (at a construction joint) confirmed the earlier structure as having been at least three bays long. The surviving mud-work was raised in brick at side wall and gable

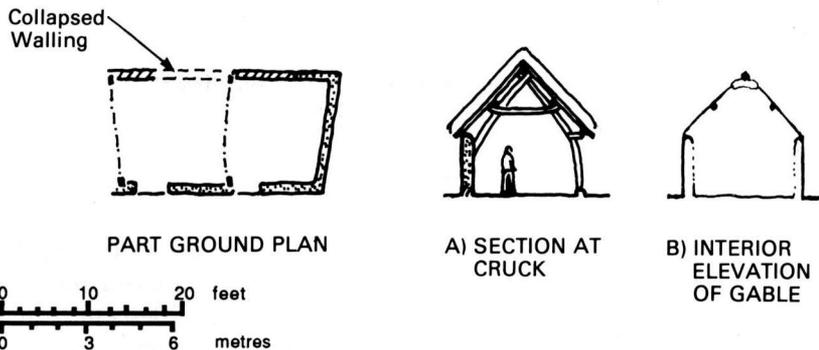


Fig. 9
Plan and section of the clay-built part of a house at Green Lanes, Dalston. Note the timber spreader plate at the top of the mud gable-wall, supporting the end of the ridge. A slender eaves-purlin, resting at one point on a cruck spur, supports the rafters over a section of collapsed walling

with a loft over are of clay construction. The living room is entered down a heck-passage opening off the cross-passage, the heck-screen supporting one end of an apparently intact wattle fire-hood rising from a heavy timber bressummer. The loft is reached not by a stair, but by ladder through a trap in the low ceiling of the parlour. It is a surprisingly comfortable space with side walls about 2'6" high, producing a rather low floor-to-ceiling height in the parlour below. A heavy cruck collar intrudes into the loft space about four feet above the floor, cutting it in two and forcing one to stoop when moving from the trap to the main loft area. The overall side-wall height of the house is about eight feet with the crucks probably grounded a foot or less above the floor on a low plinth with quite high mud-work. Two cruck trusses and a load-bearing clay 'fire-wall' to the cross-passage are set out at approximately fourteen-foot centres, wide purlin spans in comparison with those of many of the other buildings under examination here. There is a short bay to the parlour gable, an arrangement we shall return to later. The framing is heavy, and of high quality for the region,



Fig. 10 (*Above*)

Ratten Row, Durdar, clay house section to left, and stone section to right, of cross-passage. Chimney-stack positions confirm the use of crucks in both parts of the house. On the left is a two-storey barn, clay walled below, but raised in stone



Fig. 11 (*Left*)

View from house place into parlour, Ratten Row, 1988. Note the heavy timber ground-sill to the partition wall, the ogee door-head with the ceiling trap to the loft immediately behind it and behind that the lower part of the heavy cruck blade. The downstand at the junction between wall and ceiling in the parlour, almost certainly formed part of the timber support system for the loft floor.

Drawing based on a photograph by Paul Barker

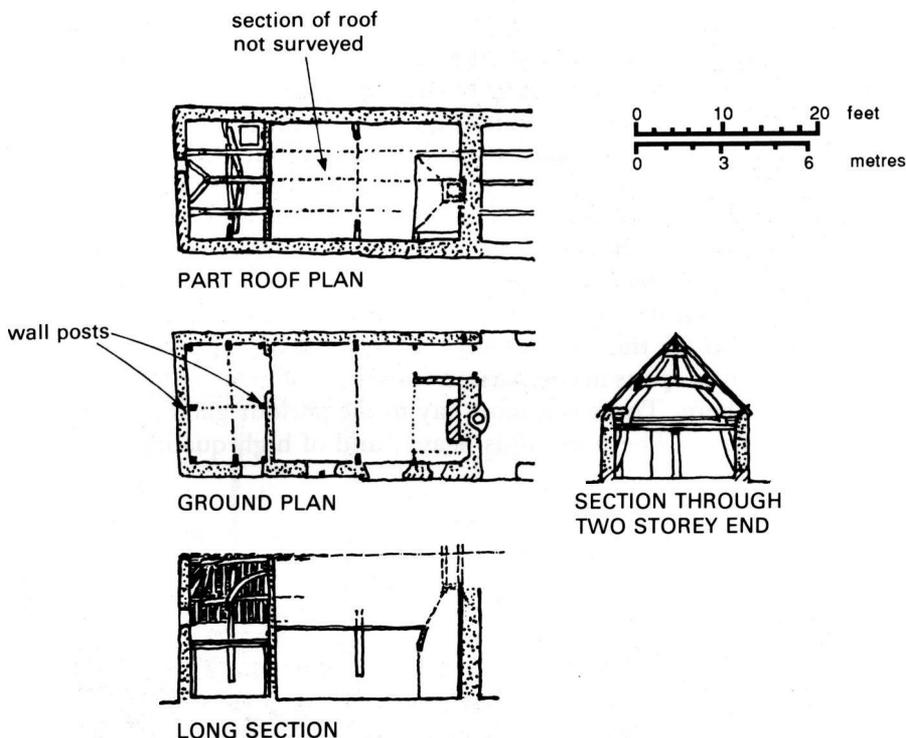


Fig. 12

Part plan and sections, Ratten Row, Durdar, based on survey drawings by Paul Barker (1988). The building shows classic features of the local tradition: single storey with gable-end loft (with access hatch), cruck-frame with part bay to gable, fire-window, cross-passage, fire-hood, split-oak raftering carrying sod underthatch (see Part I) overcoated with straw. Similar arrangements for the support of the loft floor have not so far been recorded elsewhere on the Plain

Fig. 13 (*Opposite*)

Three small houses all with apparently 'external' cross-passages and either built of, or probably formerly built of, clay. Internal inspection at Monkhill confirmed that the earlier building formerly extended over the cross-passage. The house is cruck-framed and carries an eighteenth-century date-stone. It will be lost within a few years. The upper of the two houses at Burgh-by-Sands is largely now of cobble and stone construction and possesses one very rustic, central, cruck frame. The other Burgh-by-Sands house was not inspected internally but must be, or have been, cruck-framed, as the chimneys lie in the usual position in relation to the ridge. Note the panel in the gable peak above the window: the horizontal line at window-head here must represent the top of the original gable structure, which has been infilled above. The ridge may have been supported by the type of gable crutch described in Part I, or it may have been set back and the end of the roof half-hipped. (The render finish to the walls of the last example is in no way traditional and is greatly to the detriment of the character of the building)

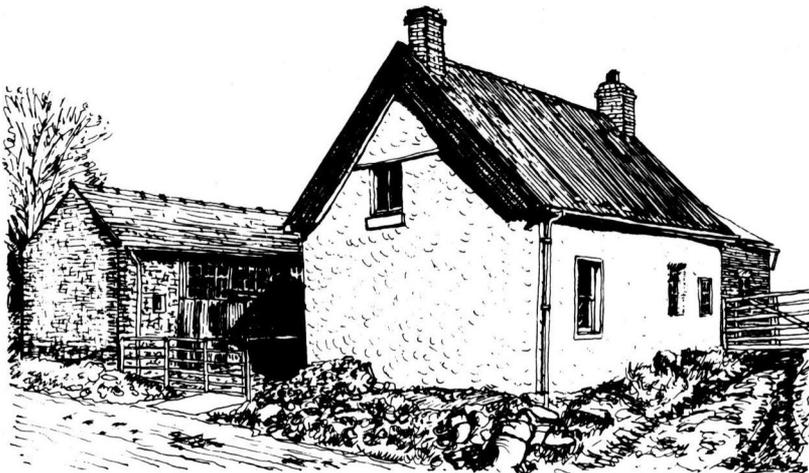
Drawings based on photographs by Paul Barker, 1988



Monkhill



Burgh-by-Sands



Burgh-by-Sands

some of it carrying evidence of re-use. The arrises of the cruck blades are roughly chamfered, an unusual feature in a clay dabbin. The main room is ceiled fairly low down; it was once open to the underside of the roof. Over the loft it remains so, and the usual split-oak rafters, pegged to purlin and ridge with their under-covering of tough grass sods, are visible, intact and in place, protected externally by galvanized corrugated iron. The extension range is also roofed in this way though, as was the case at Lamonby Farm cottage, the regionally-later straw-roped underthatch also occurs on one slope, under the corrugated iron.

The screen wall separating the parlour and loft from the living room will bear further investigation. Its lower portion, up almost as far as the side wall-head, seems to be of solid clay; the appearance of the material here, combined with its thinness and a lack of visible straw bedding layers, suggests shuttering. It does not bond with the outside walls. Above, the partition is formed of daub on both sides of vertical stud-work (not visible) wattled with hazel wands, all supported at base by a beam spanning between the side walls and by another linking the purlins higher up. The whole contrivance is unattached to the main frame of the building except at the purlins; arrangements identical in principle are found on a greater scale at Lamonby Farm, to be discussed below.

The parlour floor is supported by a stopped plain-chamfered spine-beam resting at each end, not in the clay-work of the gable and partition wall, but on elaborately stopped and plain-chamfered posts set against these walls. Similar floor-supports are probably also present at the corners of the room. The impression given is of reluctance directly to load the clay cross- and gable-walls, with later insertion of the loft floor. While the first proposition must be correct, the second is less secure. The floor and its support may be part of the original building. However the builders' uncertainty about first-floor loadings is confirmed and in turn the miss-match between clay wall and upper floor is established.

From the centre of the cruck collar a curved brace rises to disappear into the top of the wattle-and-daub partition (Fig. 12). The function of this brace will not be clear until the space above the living room is investigated. It may be intended to stiffen the top of the panel, or it may be a form of longitudinal wind-bracing. At the gable there is evidence, in ridge and rafter layout, of former half-hipping and *ad hoc* carpentry. The relationship of the main parts of the ridge and purlin ends offers the further possibility that there once was a full hip at this end of the building. As far as is known, these features have not yet been recorded in any other extant cruck-and-clay house on the Plain, though purlins and ridge failing to meet the gable without extension are found at Lamonby Farm. Photographs taken early this century do in fact confirm that some single-storey houses on the Plain possessed hips of a sort at that time.¹²

The clay-walled portion of Ratten Row is two and a half bays long and contains two cruck trusses. Other, probably even smaller, originally clay-built and thatched single-storey houses are to be found on the Plain, notably in Burgh-by-Sands. These may have been two-bay dwellings with central trusses and mud gables. The exteriors of three such houses, which have been subject to alteration, may be seen in figure 13. These buildings may originally have been free-standing; their extensions are quite modern though a stone lintel to the cross-passage at Monkhill is dated 1734.¹³ The

'cottage' at Lamonby Farm, though attached to the main house there, is effectively of this sort and is discussed later (see Fig. 14 for further illustrations of this type); the plan is not considered further here, and awaits investigation.

Figure 15 shows the plan and section of the earliest part of Lamonby Farm. This has four bays with five pairs of crucks and part-bays to each end. The contrast in scale, between this and the previous cases examined, results as much from plinth-height as from dwelling-width or length. As was shown earlier, six to seven feet was probably the convenient upper height limit to which local tradition contemplated building clay under the continuous, quick, process. The tall plinth (Fig. 16) allows the mud-work to remain around this height while pushing up overall side-wall height and hence potentially usable roof space. Relatively tall houses of this sort again initially had two main ground-floor spaces on the 'living' side of the cross-passage. As at Ratten Row one of these, the living room, would have been open to the rafters. The other, again as at Ratten Row, beyond the first room and reached through it, might comprise one or two rooms (the latter side by side, the parlour and buttery of Celia Fiennes' description) with an attic with low side-walls over. As suggested above, vertical space available within this first-floor chamber was considerably more than it would have been or was in the previous examples. Again as in previous cases, when first constructed, the only hearth in the buildings was that in the inglenook of the living room—the hearth backing on to the cross-passage.¹⁴

Figure 17 illustrates a survey of White Cottage at Longburgh, which still possesses its original high open main room. One enters this space from the heck-passage. Before rehabilitation it had a wattle fire-hood concealed behind Victorian match-boarding. The latter has recently been removed and the exceptionally fine and perfectly-preserved fire-hood, running up into the base of the external brick chimney-stack and set on a reused bressummer, has been exposed. As at Ratten Row a single cruck spans this miniature 'hall'. At the downhill end of the building advantage was taken of the fall in ground level to create a second storey. The first floor here is in fact early-Victorian 'raising', but almost certainly merely extends the original arrangement upward a little. At the opposite end of the house, beyond the cross-passage, is another original room showing further Victorian alteration and raising, with external access (now destroyed) to an upper floor—a bothy or grain store, perhaps. The earlier, no doubt sod and thatch, roofing over the 'hall' section may still be intact under the later slates. That the roof-line originally followed the slope could, when the building was surveyed in the early 1980s, be concluded from the existence of a clear former eaves-line along the elevation. The position of a former cruck, removed by the Victorians, was indicated by projecting boulders in the wall-face at the rear.¹⁵

Comparison of cross-passage plans from the Plain can give tentative indication of the development of structure away from its minimally-compartmented—and doubtless fully-framed—roots. Three 'statesman' plans from the Plain are shown in figure 18. One, Lamonby Farm, was later extended, another is a reconstruction of that at Longburgh, and yet a third is a reconstruction of Paddock Hole, Burgh-by-Sands, now destroyed. Known and assumed cruck positions are marked on the plans. Dixon, who recorded Paddock Hole, thought that at this farmhouse, with its three crucks, the gables had originally also been formed with crucks and that these had

LAMONBY
FARM
COTTAGE

upper floor

"compartment" wall

MONKHILL

BURGH B'
SANDS

brick

brick

GREAT ORTON
(Reconstruction)

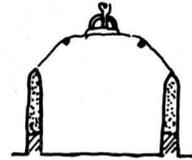
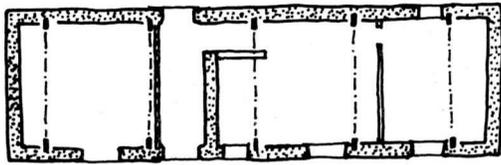
KIRKBRIDE

RATTEN ROW

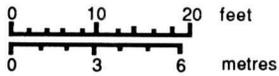
brick & stone

stone

Fig. 14
Sketches to illustrate a variety of relationships between house and 'down-house', found on the Solway Plain



GROUND PLAN



A) SECTION AT CRUCK

B) INTERIOR ELEVATION OF GABLE

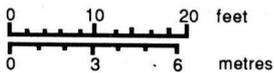
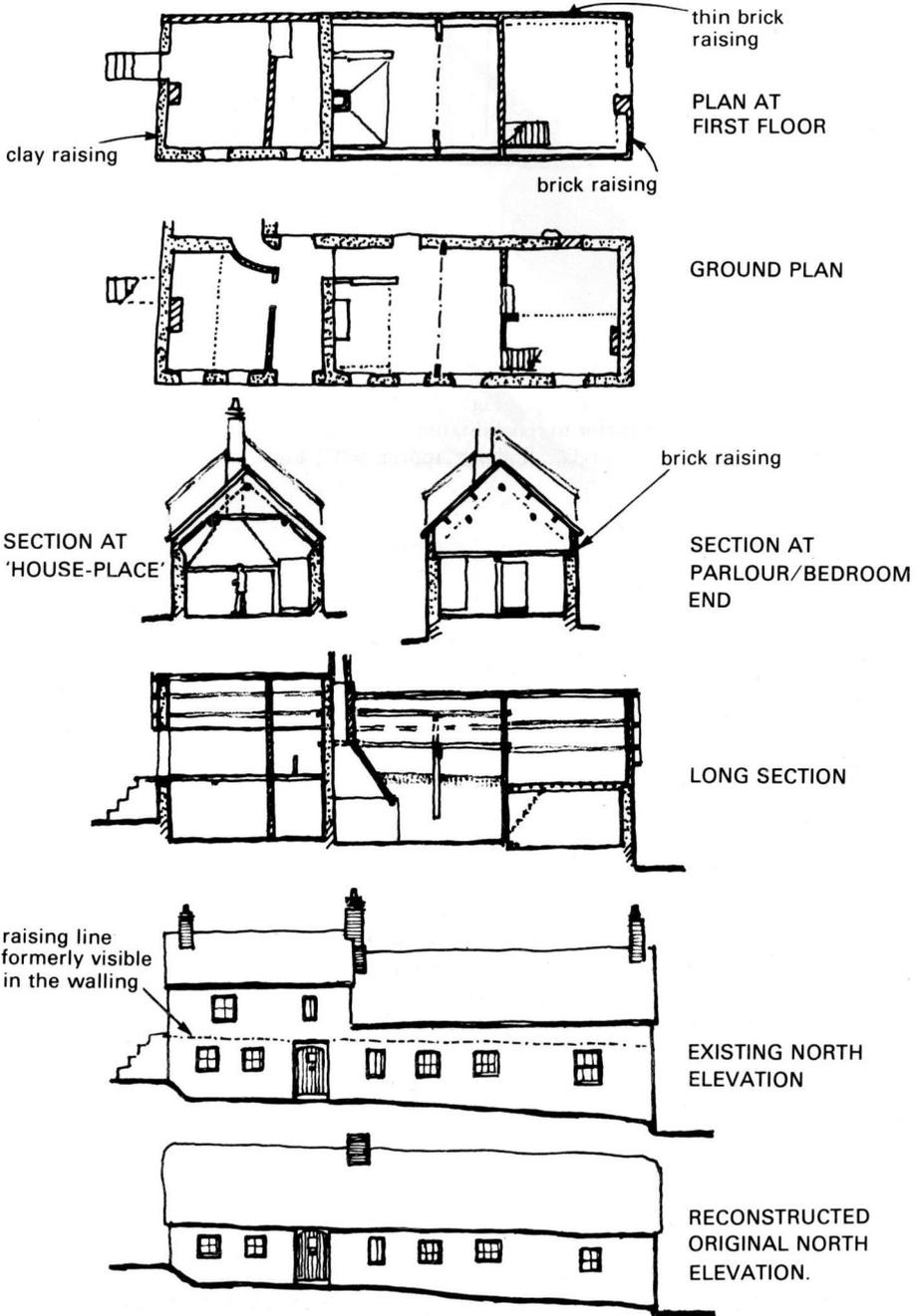
Fig. 15

Lamonby Farm, Burgh-by-Sands (prior to rehabilitation), an original 'statesman' plan. Plinth approx 3'0", and wall above approx 6'0", high



Fig. 16

Moorhouse Barn, 1988, (Grade II*). High plinth beneath cruck foot, exposed when the mud side-wall was allowed to collapse. The remainder of the plinth, between crucks, would have been built up to a similar height



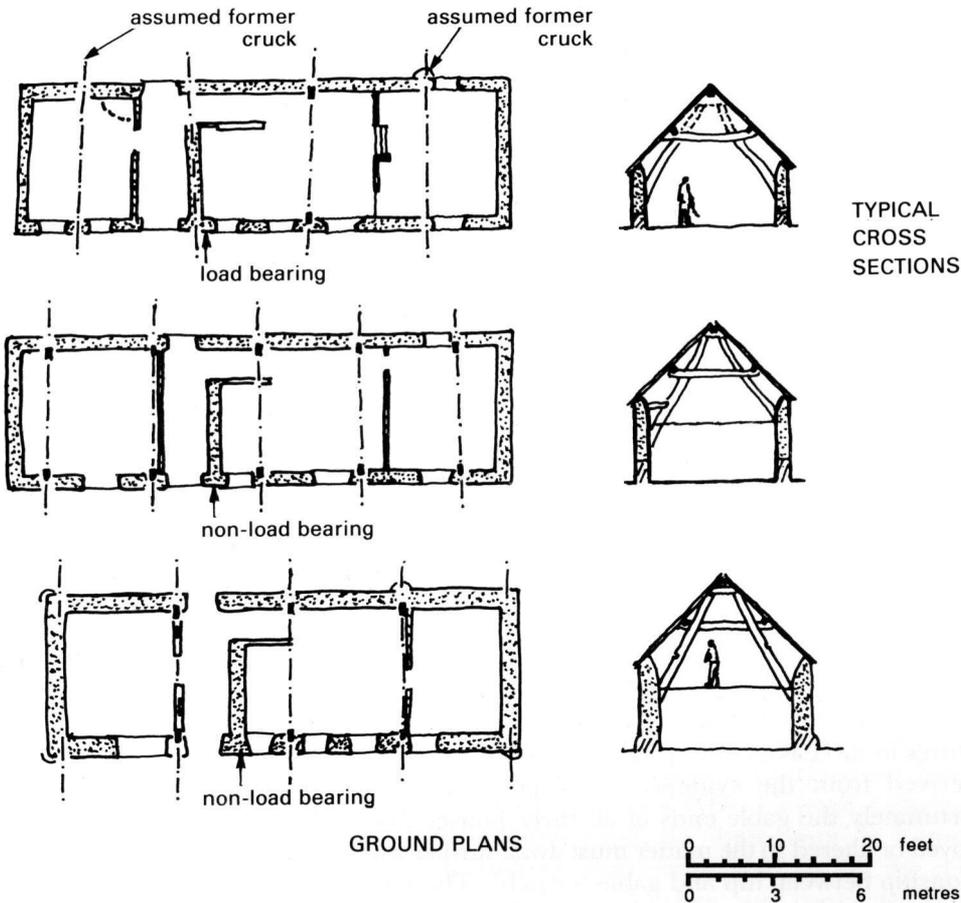


Fig. 18

Comparative structural setting-out; *Top*: White Cottage, large projecting boulder to rear of parlour confirms former cruck position. Ceiling-beam location in down-house confirms former cruck position. *Centre*: Lamonby Farm, all crucks extant, down-house gable reconstructed. *Bottom*: Paddock Hole; gable-walls were of masonry at demolition. Note the rear windows to the 'parlours' of White Cottage and Lamonby Farm.

Plan of Paddock Hole after that in Dixon, P., 'Paddock Hole: A Cumberland House with a lower-end parlour', *Trans. Cumberland and Westmorland antiq. archaeol. Soc.*, N.S., 62 (1971), 139-50

Fig. 17 (*Opposite*)

White Cottage, Longburgh, plans, sections and elevations measured prior to rehabilitation, 1982. A rather larger scale version of Ratten Row raised in brick in the nineteenth-century. Formerly thatched, now with a slacker-pitched, slated, roof, the cropped purlin and ridge-ends of the original roof are visible in the backs of the mud hearth- (compartment-)wall and the (now brick) screen between living room and parlour-end. The downhill (weather) gable, facing west, was cased in brick probably in the eighteenth century, and subsequently raised in brick by the Victorians. The line of the original (thatched) gable is clearly visible here. The 'lower end' down-house room, beyond the cross-passage, possesses a chamfered and stopped hardwood ceiling/first-floor support-beam

failed and been rebuilt in the stone extant at the time of demolition. Here they have been shown alternatively, as originally constructed in mud only. It is significant that there are full bays to each end in this particular case. At Lamonby Farm there were five original crucks with part-bays to each end. At Longburgh there were probably three crucks originally, with rather longer part-bays to each end. In the two lower cases illustrated the substantial mud hearth-wall is centred on a bay division. At Lamonby Farm this wall is not load-bearing (Fig. 19); at Longburgh, as at Ratten Row, it probably is so.

The fact that in the siting of the adjacent crucks at Lamonby Farm no advantage was taken of the potential of the hearth wall for loading, suggests that it was not part of an original structural concept. Again, mud gables pushed out slightly at each end to make part-bays, could be interpreted as tentative attempts to gain extra space by seeing if 'the mud can take it', this again indicating a developing, rather than an integrated, structural system. In fact the builders were correct to be cautious about the use of mud gables, which often fail at their junction with the side walling. Quite recently, during the Cumberland earthquake of the early 1980s, the mud gable of the Vicarage house in Burgh-by-Sands fell out, exposing a part-bay, as far as the first cruck. The walls of this house had been raised and a heavy stone-slab roof added (Fig. 20). Given potential instability in a part-bay, as here, it is likely that this would be very much more the case in a full bay, as at the gables of Paddock Hole. The builders may have been testing the system to its limit there with the result that the mud gables failed and had to be replaced in stone, but the theory cannot be proved.

An alternative genesis for the part-bay—a feature found in some stone-walled structures in the Lake District¹⁶ as well as in houses on the North York Moors¹⁷—can be derived from the evidence of hiping surviving at Ratten Row (Fig. 21). Unfortunately the gable ends of all three houses discussed above have either been destroyed or altered so the matter must await further investigation, as must any possible relationship between hip and gable 'crutch'. There can be little doubt however that in the contrasted structural setting-out arrangements of the three houses we see the builders feeling their way, trying to combine mud-work and frame in more lofty and perhaps substantial houses than those that had gone before.

Figure 22 shows Lamonby Farm in its final form. Crucks 1, 2 and 3 were added when the large barn was built on and cruck 9 when the cottage was added. The juxtaposition of earlier house and later barn can be seen in many places in Cumberland. The original byre, which seems only to have been big enough for, say, four or five cows, has been reduced still further in size recently.¹⁸ In the later barn the mud-work is poorly finished when compared to the earlier house walls. The builders had no compunction about making a full bay to their new barn gable and it is suggested that this, combined with the raising of the gable to a point where only a short timber spreader under the end of the ridge was required, indicates a late date, possibly in the early nineteenth century. The cottage may have been added a little earlier. It too has a full bay to the gable, which here supports a first floor as well as the roof.

One chimney of the house shows, in its siting on the centre-line of the building, the death of the ridge-beam tradition. It is a late insertion in what became the 'best room'. The double-hung sash window with its stone surround, lighting this room,

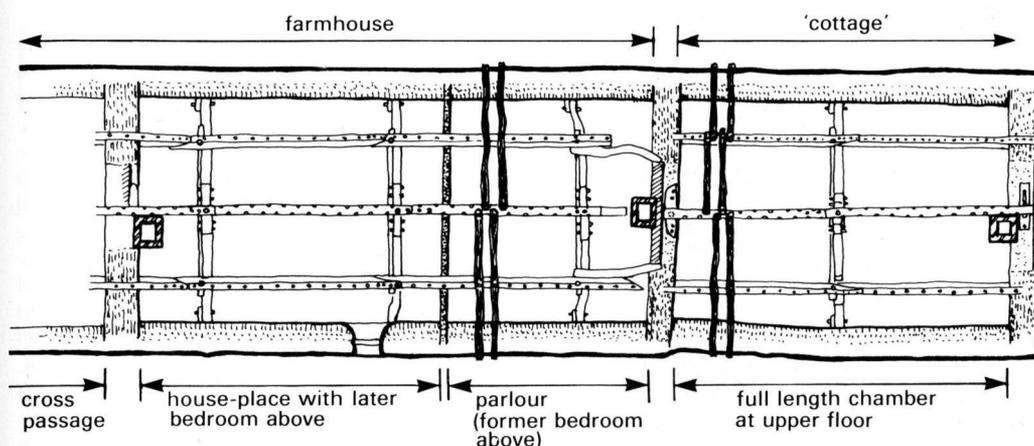


Fig. 19

Part plan (from cottage gable to cross-passage wall) of roof-structure of Lamonby Farm before rehabilitation. Purlin scarf-joint positions indicate the erection sequence of the frames

is inserted, replacing an earlier, probably squarer, window. In the back wall of this room there was originally another squarish window, now blocked. This was in all likelihood the only rear window in the whole house and suggests that the 'best room' may once have been divided into front and rear sections—Celia Fiennes' parlour and buttery. A similar blocked window exists in the rear of White Cottage, Longburgh, in a similar position. Before the recent rehabilitation, the 'best room' at Lamonby Farm was merely ceiled quite high up, with an inaccessible void above; the ceiling hangars were of slender oak. Above the living room/kitchen, and connected to it by a dog-leg stair in a corner, was a single large bedroom with a closet over the place where a fire-hood might once have been. The closet wall was formed in lath and thin stud, on the face of cruck number 6. All this is a reversal of the layout that we saw earlier at White Cottage, Longburgh.

Turning now to consider the original core of the building in more detail and referring to figure 22, the byre is open to the rafters. Its floor is at a lower level than that of the cross-passage. The cross-passage is ceiled above head height, with a void over. The cruck frame adjoining the cross-passage here has a tie-beam. It is partly hidden now and cannot be fully investigated. From floor to tie-beam level is a wall, mostly modern. Above the tie-beam the cruck is studded out and lathed and daubed so that the plain face of the daub faces the cross-passage. The cruck-tie provided a horizontal base for this thin daubed infill-panelling whose studs were nailed to the truss members above. The tie-beam may originally have clear-spanned with no panelling below it, or its underside may always have been closed off, with or without a connecting doorway from cross-passage to byre. Detailed investigation would be necessary to settle the matter. In this context it may be worth remembering that the present byre door seems to have a recent head-detail (see Part I, Fig. 26).



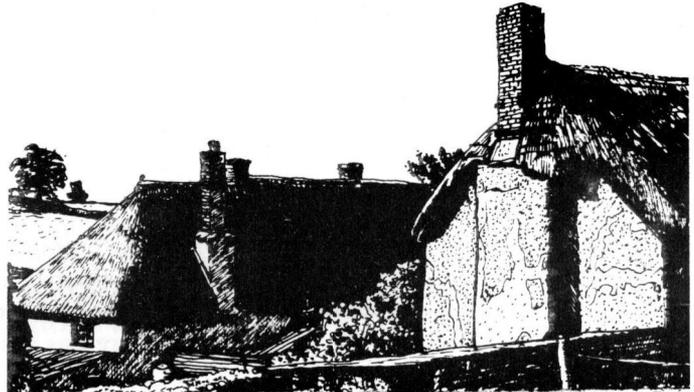
Fig. 20

Vicarage house, Burgh-by-Sands, following the earthquake of the early 1980s. The short bay to the gable is clearly visible, the cruck being between the sash window and the edge of the failed clay. The building has been raised to a slack pitch carrying slate and stone-slab, a very common practice. The *Carlisle Journal* of 14 January 1804 reported a similar, and fatal occurrence, 'On Tuesday evening last, a very shocking accident happened at Caldewcots, or Caldcots, one of the suburbs of this city.—The wife of one David Sinclair, a rope-maker, being unwell, retired to bed rather earlier than usual. The house . . . is built of clay, and divided in the middle by a thin partition wall. About nine o'clock that evening a dreadful noise was heard in the farther part of the dwelling . . . and . . . some of the inhabitants . . . found that the gable end of the cottage had given way, and the whole of that end of the roof had fallen in. Some of the heavy timbers falling upon the woman in bed, bruised her in a most shocking manner, so as to occasion her immediate death. It is supposed that the foundation of the wall had been much decayed, and probably being loosened by the breaking of the frost, the whole had given way . . . The suburb where this cottage is situated is a straggling street of great length, and leads

to the west of this city; in it are many mean buildings, perhaps as insecure as the one lately fallen'. The author is indebted to Margaret Hardy and Paul Barker for drawing his attention to this passage.

Fig. 21

Mud gables in Devon (cob). These examples exemplify southern tradition. On the left the full hip offers the cob waller the simplest approach to construction but it requires the carpenter to arrange quite complex support for ridge and purlin ends. One solution used here was that of the half-cruck in the centre of the gable wall, arching-in to meet the end of the ridge. On the right of the figure is the half-hip. Where a gable chimney-stack was required,



as here, this was often formed externally, in cob, and this helped to buttress the gable. The cob was stopped-off half-way up the peak—as in Cumberland—this allowing the purlins to rest in the mud work. The stack continued above in brick, where it was exposed to the elements, and the thatch was closed in around it to form a weathering. Some few chimneys entirely constructed in cob (other than the top coping), still survive in Devon. (Information from P. Beacham)

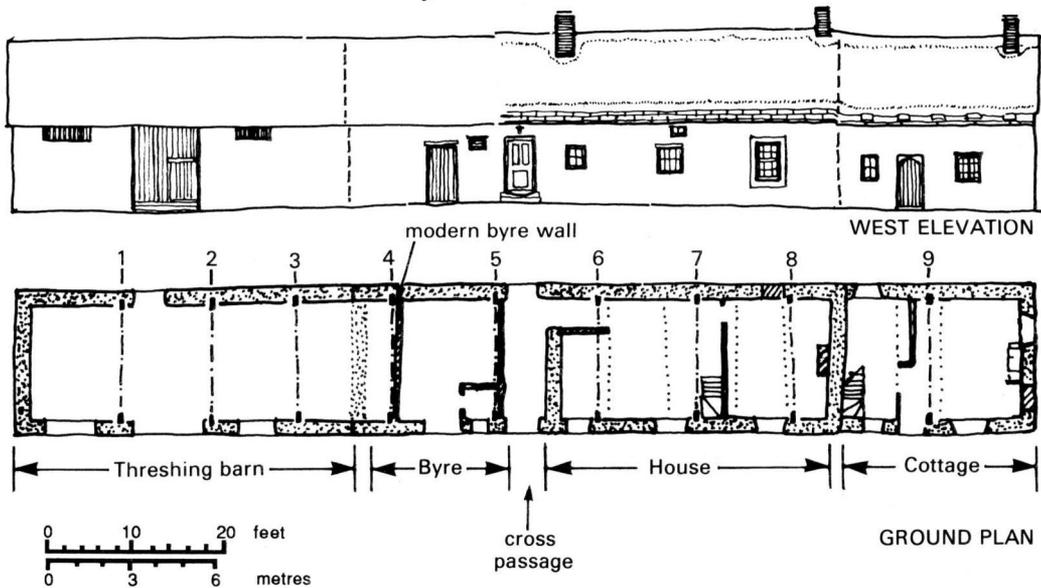


Fig. 22

Lamonby Farm, overall plan and front (west) elevation before rehabilitation, 1979. Recent amendments to the plan, such as a small brick rear lean-to with a doorway cut through into the house place, and alterations to the rear of the byre, have been omitted from the drawing. The whole structure is built into a bank, with the clay-work to the rear wall quite close to ground level. Along the front and back of the buildings levels fall away from each side of the cross-passage entry. The yard was in front of the house and barn and was enclosed at right angles, protected from the north, by the range of subsidiary farm buildings mentioned earlier. When the large threshing barn with its waggon entry and 'winnowing door' was added, the original down-house gable of the statesman house was left intact, but it has subsequently been demolished, its cobble footing remaining to confirm its siting. A licked-out area of clay walling between cruck 4 and the modern byre wall confirms earlier usage of the space to also have been as a byre. The siting of the modern lavatory in the byre-space formalizes more informal peasant practice

The hearth or cross-passage wall towards the centre of the building is similar in profile to the gables, being truncated above purlin level. As noted above, there is no fire-hood and it is hard to see any evidence that there once was one. The floor of the bedroom over the living room is supported on two plain hardwood beams spanning the width of the building. These do not relate structurally to anything else although one is at the point where the fire-hood would have required support—the bressummer position. The conventional view would be that the central beam, at least, is a later insertion and this can hardly be otherwise. The original open hall, of the type still extant at White Cottage, has been floored over.

The living room is separated from the parlour by a free-standing timber and daubed screen of light construction. The part section, figure 23 shows the parlour end with a reconstructed bedroom floor-level in place of the ceiling described earlier. The screen

wall, figure 24, is reminiscent of that at Ratten Row. It is daubed to a fair face only on the side facing the living room. The studs supporting the lath and daub were visible on the rear side, above the inserted ceiling. They do not connect to the main structure except via a short collar to the purlins. This collar is economically constructed from two scarfed timbers. The base of the upper section of vertical studding terminates on a square-section horizontal timber spanning the building and presumably bedded in the mud-work of the side walls. This beam was fixed just above head height in relation to the original ground floor level here and it once took the ends of a longitudinal floor support for the floor of an upper chamber, in the same position as the one at White Cottage, Longburgh (see figure 17).

The wall panel below the cross-beam appears also to be of lath and daub on studs and in a corner under the inserted stair in the living room the end of a large timber, probably a ground plate, was visible in 1980. Again, as at Ratten Row, the lack of coincidence between the screen and the nearby cruck truss is evidence of the development of the former within a system in which it did not originally feature.

A photograph of the screen is shown in figure 25. The studs are sawn, rather than riven, in order to give a regular face for daubing up to. High up the daubers had left their hand-prints in the mud between the timbers. In this and the screen to the byre we see the last remnants of daub technique in the area—a technique which, perhaps with a different type of armature, must once have been in use externally on the Plain.

To review the evidence, in its newly-built form the house had a living room open to the rafters with a two-storey end partitioned off from this, perhaps containing both a parlour and buttery on the ground floor as well as a ladder or steep stair to the room above. There must have been a fire-hood over the ingle. This would be in line with the surviving example of the 'type' at White Cottage, Longburgh (Fig. 26). The cruck collar at the storeyed end, though not giving clear head-room in the attic, was nevertheless high enough to pass under without too much difficulty. From a row of close-set holes along its lower arris it may be assumed that a curtain could be hung from pegs across the width of the room partitioning it into larger and smaller spaces. Subsequently the living room was floored over above, a stair to the new upper room added, the fire-hood presumably being removed at the same time and replaced by the present fire-surround, range and brick flue. The inserted fireplace surround and mantel shelf, of the slightly-corbelled head type, probably date from the late eighteenth or early nineteenth centuries and this may therefore be the date of the flooring over. Perhaps somewhat later the first floor of the original storeyed end was removed along with any partitioning in the room below, the rear window blocked, a higher ceiling introduced there and the front window 'modernized', all to improve the status of the farm by giving it a Victorian parlour complete with Victorian coal grate and new brick flue.

The south end of the house was contiguous with the cottage, or rather small house, referred to earlier. Originally this was entered through a door in the gable end, next to a gable fireplace.¹⁹ With an internal length of some twenty feet this was a dwelling of quite reasonable standing locally, a central cruck dividing it into two full bays. The building comprised a living room containing a cooking range and brick flue and

Fig. 23

Sketch to show location of empty sockets on interior of original gable wall to parlour/loft end of Lamonby Farm (gable now destroyed). These did not coincide in their levels, with the major cross beam (above head height) in the screen between parlour and living room. This raises the possibility of two successive, differing, former loft floor levels, and maybe also screen structures.

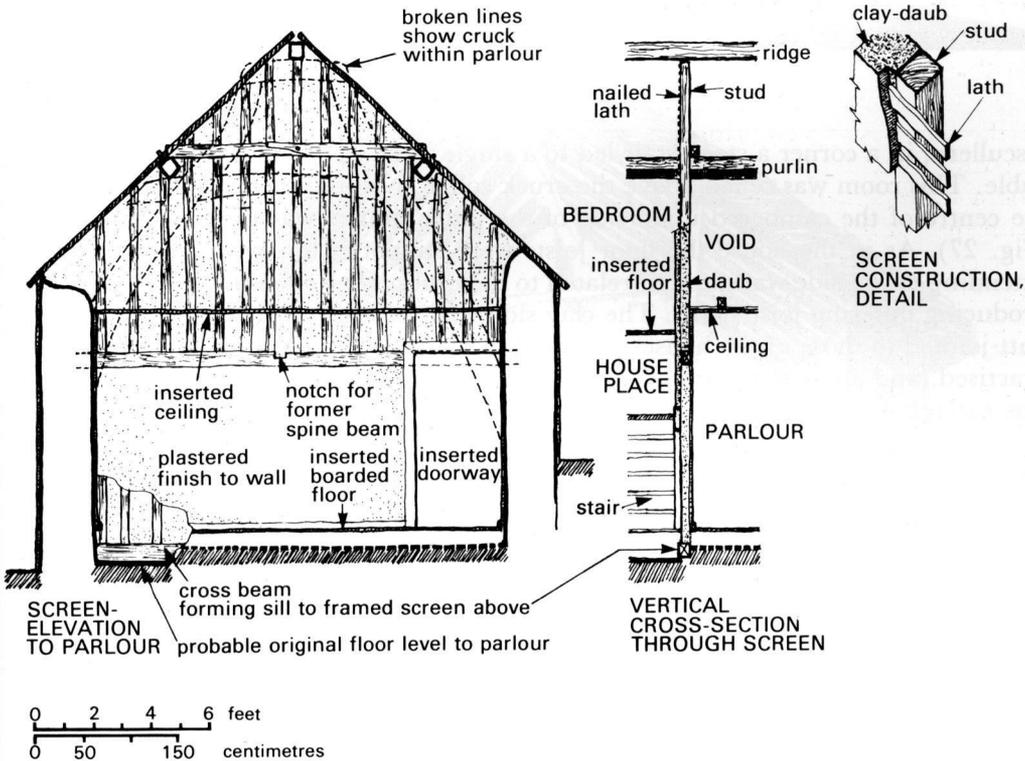
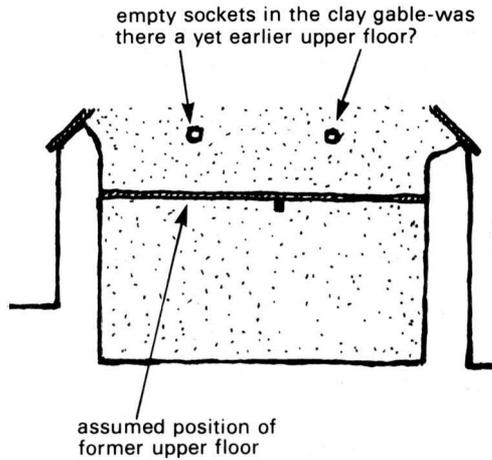


Fig. 24

Details of screen wall between living room and parlour/loft, Lamonby Farm. The use of lathing for the daub might be taken to suggest a relatively late date for the screen.

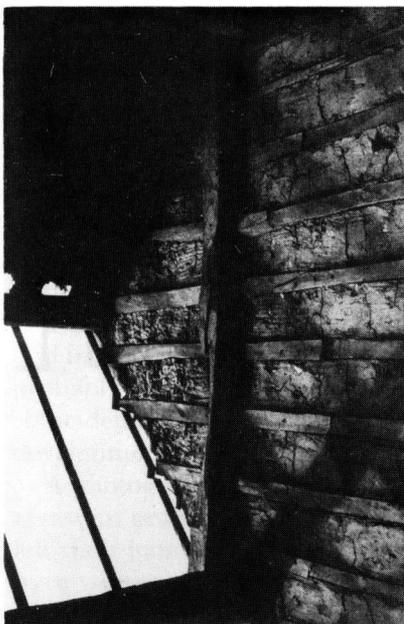


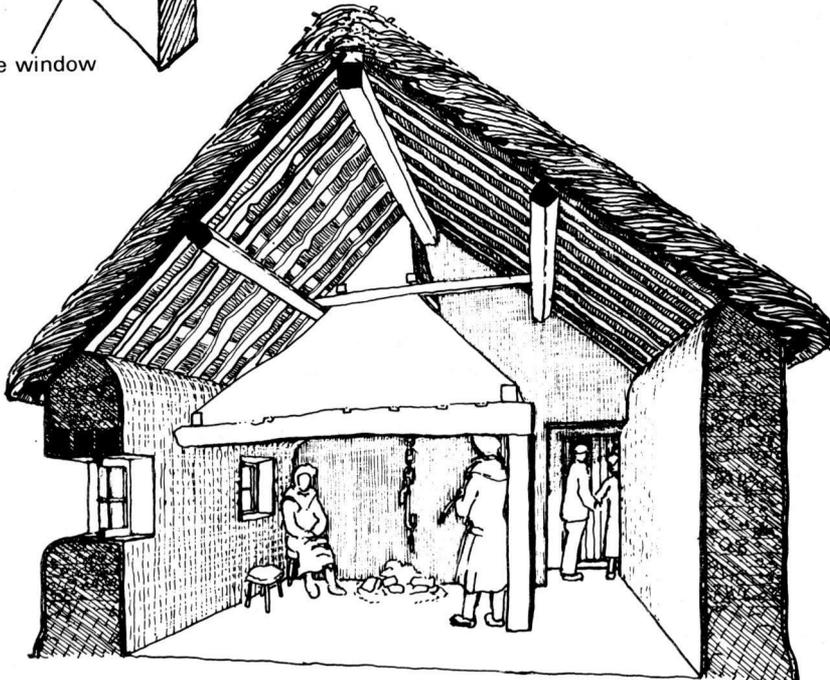
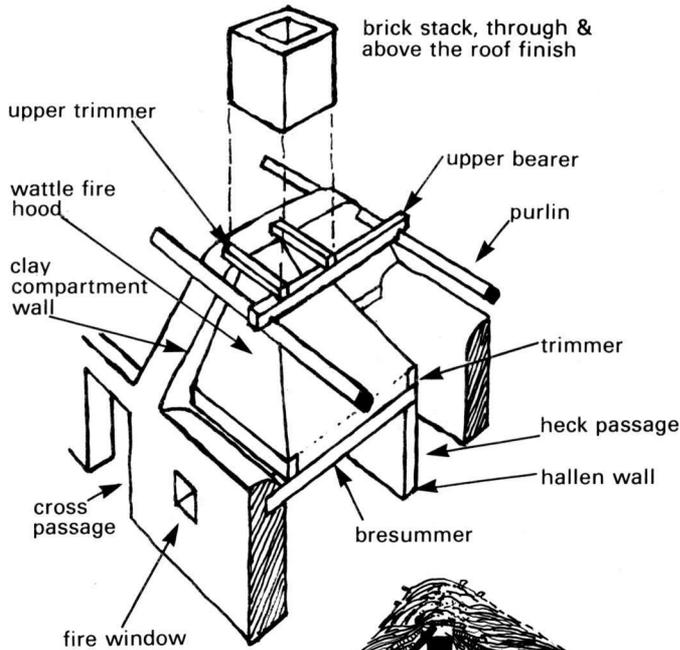
Fig. 25

Daubing between studs, viewed from within former loft-space, Lamonby Farm. Dauber's hand-prints are visible above the collar. Photograph taken during rehabilitation, original rafters already stripped on left-hand roof-slope, modern rafters in position there

a scullery; in a corner a steep stair led to a single large upper chamber lit from the gable. This room was ceiled above the cruck collar level and the clear headroom to the centre of the cambered underside of the latter timber was five feet six inches (Fig. 27). As in the house the floor joists were supported on two sets of timbers extending to the side walls and unrelated to the cruck; they were unequally spaced, producing differing joist-spans. The clay side-walls of the cottage had merely been butt-jointed to those of the house—a common method wherever mud building was practised, and a less structurally sound arrangement than that used when the byre was extended into a barn.²⁰

The cottage was in a dangerous state in 1980. The gable wall had failed. There were various reasons for this. The full bay-width may have been a contributory factor but equally if not more important was the position of the original front door, in the gable very close to a corner. This had weakened the junction between gable and side wall, the latter moving away from the former. An attempt to stave off collapse had been made by blocking the opening with cobbles and transferring it to the side, adjacent to the cruck. Unfortunately the cruck too began to fail, a very unusual occurrence, and the whole lot, side and gable wall, collapsed during rehabilitation, and was then rebuilt in part facsimile, using modern walling materials and another cruck that had been stored in a builder's yard.²¹

In their original state Lamonby Farm and White Cottage seem to represent the limit to which the local cruck-frame and clay-wall system could be pushed without resorting to larger scale, and therefore unavailable, timber-work, or the taller, and therefore more tricky to construct, clay side-walling (Fig. 28). Constrained as they



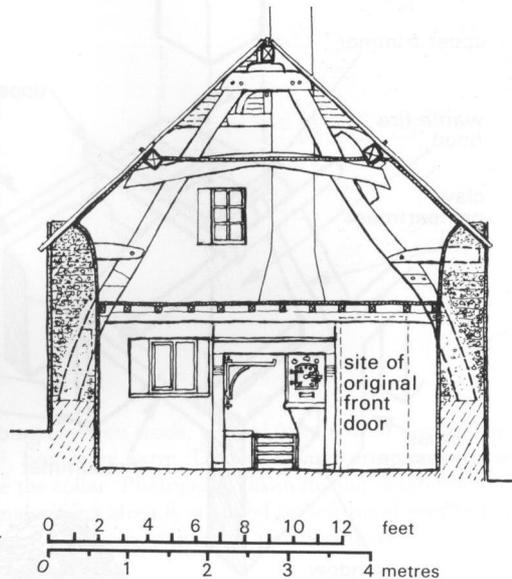
VIEW TO FIREPLACE & DOWN HECK PASSAGE
Roof detail & raftering reconstructed

Fig. 26

Sketch of interior of living room, based on extant arrangements at White Cottage, Longburgh. The manner in which the fire-hood is 'inserted' into the building system is very clear. The constructional sketch clarifies the hood and chimney support methods used

Fig. 27

Section through Lamonby Farm Cottage, looking towards the gable. As with the house, the upper floor of the cottage was unrelated structurally to the central cruck. The position of the original gable entry is shown dotted next to the fireplace. At one stage this doorway had possessed an external stone surround though this had been robbed when the opening was closed up. The rafters were underdrawn, and the upper room ceiled at collar level, by means of plaster on reed. The fireplace and flue were possibly of early nineteenth-century date, the fireplace surround having a slightly corbelled head. The overall scale of the fireplace is greatly reduced over what went before, with crane, oven and hearth all in very close association. The raised fire-basket is designed for coal rather than the local turf (peat) that would have burned in the middle of the earlier, wider, ingle-nooks of the region



were by long-established structural and constructional precedent, the buildings could only reach one-and-a-half and never two full storeys. To gain the extra height called for a different structural approach. The next part of this study deals briefly with such alternative developments.

PLAN AND SECTION—2

The description of a small house built in 1720-1 for Ann Benson, widow, by the (Holm Cultram) Manor Court under the custom of free bench or widow-right is given thus: 'Imprimis. Three pieces of timber 9s: For three dorments (roof timbers) 9s. It: for spears (spars) and finishing ye principals 10s. It: for dales and Jests (deals or planks and joists) for lofting, 3 yards and a half 18s. . . . It: for stairs 3s. It: for building ye walls and to make them 3 yards and a foot in height . . . and thatch ye house 21.

The three pieces of timber at the expensive sum of 9s were presumably the members of the intermediate truss and the three dorments the ridge and side purlins. . . .

R.W. Brunskill, quoting Grainger and Collingwood, p. 240, *The Register and Records of Holm Cultram*, page 79, footnote 16, in 'The Clay Houses of Cumberland', *Transactions of the Ancient Monuments Society*, 10 (1962).

Humble buildings . . . cannot be accurately ranged in chronological manner, but they have, rather, to be considered in the order of their development from the simple to the complex.

C.F. Innocent, *The Development of English Building Construction* (1916), p. 2.

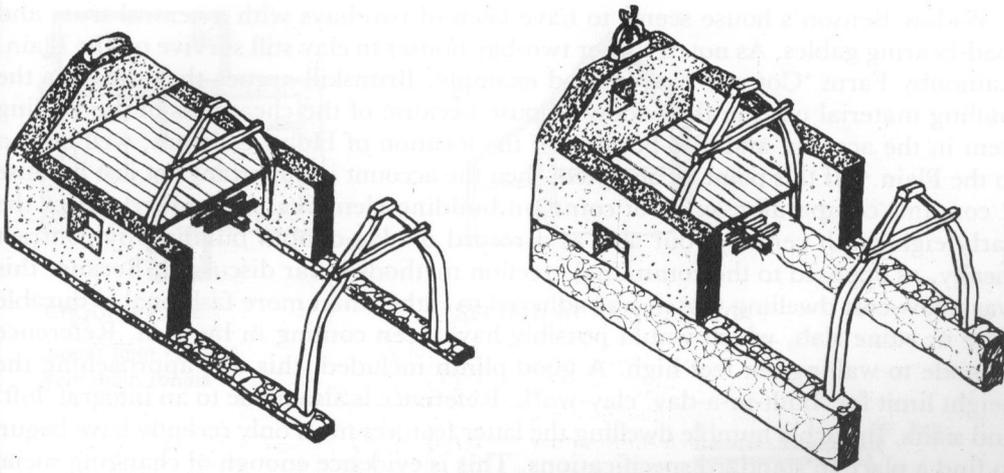


Fig. 28

Structural progression from crucks on low bases to crucks on higher bases, walls above comprising similar amounts of clay-work. Floor joists were supported on spine-beams spanning from gable walls to intermediate partitions. Floor structures were not structurally related to crucks. (Key examples: Ratten Row and White Cottage, Longburgh)

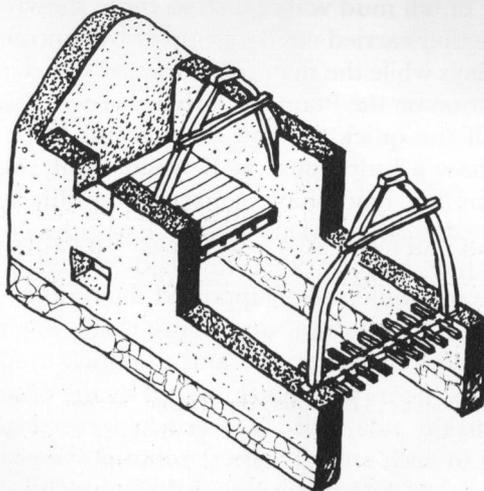


Fig. 29

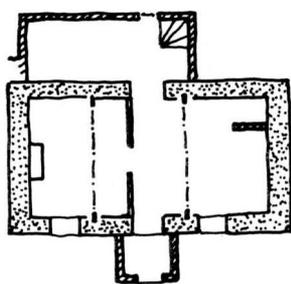
Further structural progression. Cruck bases are raised up into the clay wall itself and given cross ties at their feet. The cross-ties act also as floor-joist supports and the roof-support and floor-support structures are thus integrated. The clay wall is raised higher from the outset than in previous examples

Widow Benson's house seems to have been of two bays with a central truss and load-bearing gables. As noted earlier two-bay houses in clay still survive on the Plain. Lamonby Farm 'Cottage' was a good example. Brunskill argues that clay was the walling material used in the widow's house because of the cheapness of the walling item in the account and also because of the location of Holm Cultram, well out on to the Plain.²² If this point be accepted, then the account is important not just because it contains comparative costs of common building elements in Cumberland in the early eighteenth century, but also as a record of clay-dabbin building by contract locally, as opposed to the communal erection methods so far discussed. Because this was a low-cost dwelling thatch was adhered to rather than more fashionable durable slate or stone slab, which would possibly have been coming in by then. Reference is made to walling ten feet high. A good plinth included, this was approaching the height limit for 'built-in-a-day' clay-work. Reference is also made to an integral 'loft' and stairs. In such a humble dwelling the latter features must only recently have begun to find a place in standard specifications. This is evidence enough of changing social fashions in Cumberland in the first quarter of the eighteenth century.

Figures 29 and 30 show the move to a different structural approach under which the first floor was fully integrated into building structure by raising the crucks still higher up the wall. Sometimes, as in figure 30, this development was combined with a double-height, type-plan/section. Brunskill describes this as the 'two-unit' house and dates it in its two-storey form as far back in the region as the cross-passage type, from which it differs radically.²³

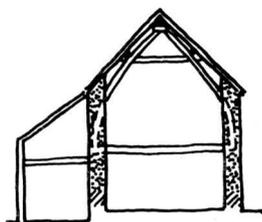
Continuous building of tall mud walls, such as those shown in figure 30, may not have been possible. Whether carried out by group or by contract, the erection process would have involved delays while the material hardened sufficiently to accept an upper 'lift'. Modern oral tradition on the Plain has it that clay-work was 'rested' at intervals during construction. Of the quick method there seems to be no memory.

Figures 30 and 31 show a little house at Kingside Hill, Abbeytown, brought to the author's attention by Mr Blackshaw, conservation officer for Allerdale District Council, in 1982. One gable adjoined an 'in line' barn, the other was free-standing. The walls were thicker than in many other, lower, dwellings. The crucks were raised up on the ends of tie-beams which also supported the timbers of the first floor. The internal partition between 'best room' and living room was non-load-bearing, the entire roof load being taken by the crucks and the thick mud gables. There was a disproportionately tall first floor, perhaps produced by the desire to use crucks giving good head-room close to the side walls. The crucks were at quite close, if unequal, centres with wide bays to each end. The best room possessed a bolection-moulded fireplace surround, an up-to-date feature in early eighteenth-century Cumberland. The kitchen, by contrast, must originally have been equipped with a fire-hood. A vestigial heck-screen wall, in a now inappropriate position, was thus required in order that the flue here would be set clear of the ridge. From its roof-pitch and single purlins it is clear that the building was originally intended for thatch, though it had subsequently been roofed with thin slates. It could thus be a relatively early example of its type, perhaps dating from before the introduction of the heavy stone roofing-slab in the region. Of this, however, we cannot be certain since thatch probably



GROUND PLAN

upper floor repeats
two main rooms



SECTION AT RAISED CRUCK

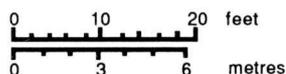


Fig. 30

Plan and section of a house at Kingside Hill, Abbeytown. Stair to upper floor contained in brick-built outshot (early 1980s, prior to refurbishment)



Fig. 31

Front elevation of house at Kingside Hill showing thin slate replacing thatch, with adjoining stone-slab roof to agricultural buildings 'in line'. (These latter buildings contained an unusual combined cruck and king-post structure where a hip was formed as the building turned through ninety degrees.)

N. Blackshaw

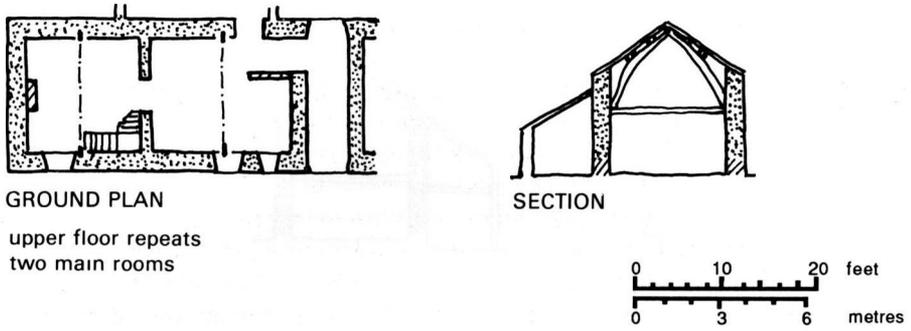


Fig. 32

Plan and section of cross-passage house at Aikhead Hall recorded by Dr R.W. Brunskill

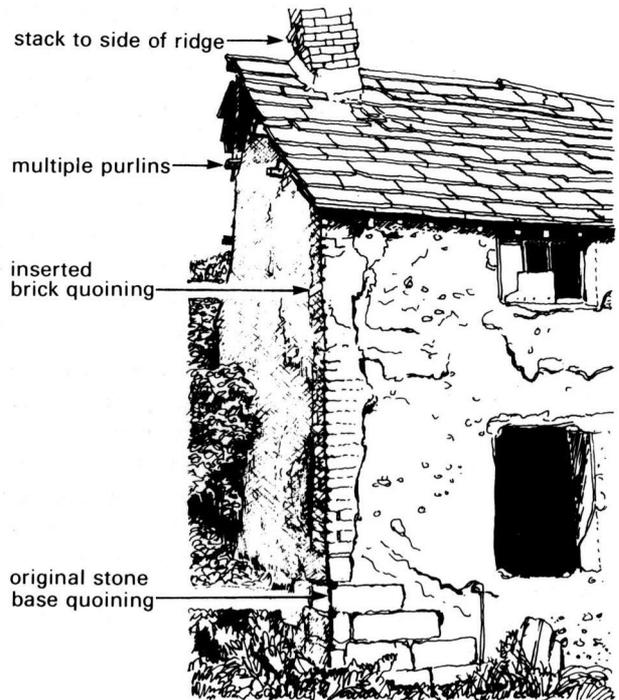


Fig. 33

Sketch after a photograph (early 1980s) of the house at Aikhead Hall illustrated in figure 32

continued in use in parallel with slabs for an indeterminate period, depending no doubt on the pocket of the owner.

Figure 32 shows a cross-passage plan house from near Wigton, recorded by Brunskill.²⁴ The house stood in a derelict state until a few years ago (Fig. 33) but is now destroyed. An aesthetically inferior bungalow occupies its place, a not unusual sequence of events on the Plain. The walls were very thick. Trusses are at quite close centres again and gable and compartment walls are load-bearing. The wall between living room and parlour (the equivalent of the lightweight daubed screen of Lamonby Farm) is now of heavyweight mud, and takes its place in a rationalized structural system, helping to support roof and floor-load. The raised truss and interconnected tie-beam is again employed but the cruck blades curve in from close to the first-floor level (Fig. 34) producing a slacker roof-pitch than that shown in figure 30. The roof structure seems expressly designed to take the heavy sandstone slabs, the extra weight of this over thatch being catered for by the introduction of a second purlin on each side. The purlins ride directly on the backs of the cruck blades rather than on the ends of the collars. Where one length of purlin meets another the joint is formed as an overlap rather than by scarfing, a sign of late decay in the carpentry tradition of the region.²⁵

Lastly, in a two-unit house at Kelsick (Fig. 35), now destroyed, the hybrid structure of cruck metamorphosing into triangulated frame (Figs 30 and 32) disappears altogether and is replaced by the simplest of trusses comprising two low-pitched and rough principal rafters connected at first-floor ceiling level by a tie. Mud walls raised to two full storeys support the roof timbers—the first occasion in any of the examples so far considered where this occurs (Fig. 36). As with the other two-unit cases described, this house was attached at one end to a range of farm buildings, one roof-truss being positioned quite close to the ‘freestanding’ mud gable. A series of floor-beams and a nine-inch thick load-bearing mud partition-wall supported the first floor. There were two chambers above, and the rear outshot, again for the first time in the examples considered, appeared to be of one build with the main house. Its walls were also of clay. Many features about it suggested a nineteenth-century building date and the generally skimpy nature of the timber used throughout was in contrast to the usually ‘adequate’ scantlings of the carpentry elsewhere on the Plain. An alternative interpretation of the evidence here is however possible. The ground floor of the house may have dated from an earlier period, the walls being subsequently raised, crucks removed and the outshot added. The existence in the front ground-floor elevation of a stone window-surround of considerable quality and a stone door-surround (see Part I, figure 17) with a colossal lintel, could be taken to lend weight to this view. Whatever the history of its development, the Kelsick house confirms the persistence of the ridge-beam theory—the ridge-beam remains, supported in the ‘V’ formed by the crossing of the ends of the truss principals.

This last point underlines the fact that while the builders were now sometimes prepared to put considerable load on to the clay wall, which was often thickened for the purpose, the old practice of roof-loading via purlins and ridge remained unbroken. At its end this tradition in the region as a whole merged with, or rather was overtaken by, the ‘scientifically’ designed, nineteenth-century equivalent—the purlin and cross-

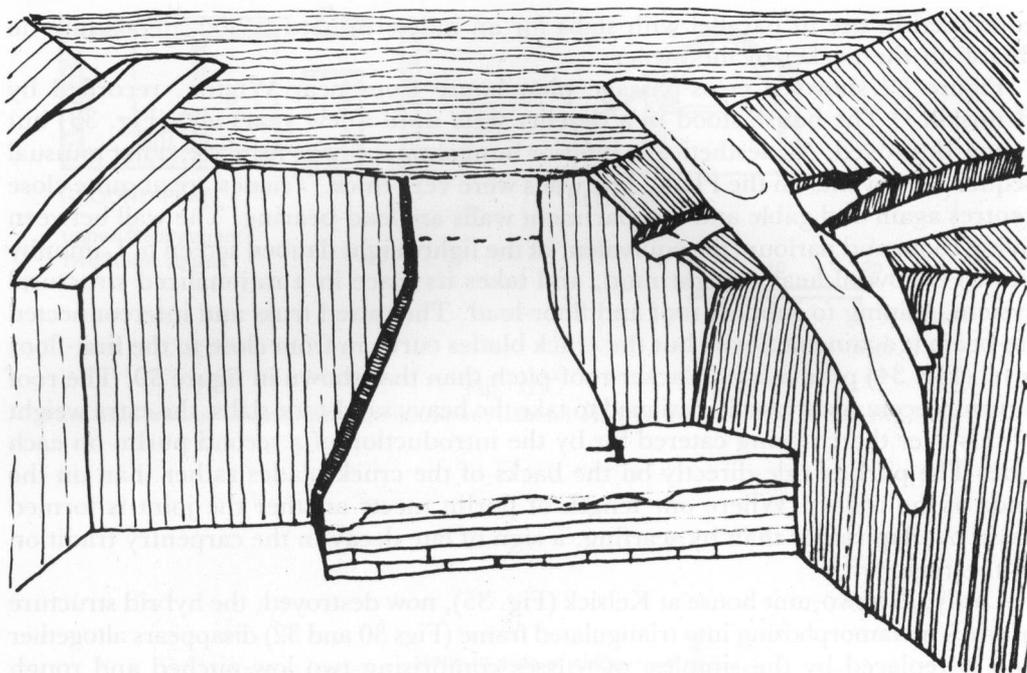
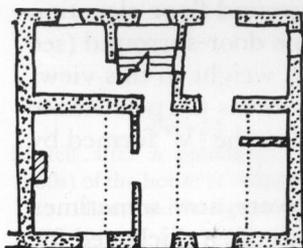


Fig. 34

Sketch based on a photograph of the interior of the upper-floor chamber of the house at Aikhead Hall (1963). Here the fire-hood arrangement shows a stage intermediate between that at White Cottage, Longburgh (Fig. 26), and Lamonby Farm Cottage (Fig. 27). Though the heck-passage persists on the ground floor, to the left of the building, and a wide ingle fireplace is formed below in the usual way, the flue is suddenly contracted a foot or two above the bedroom floor. The flat-topped section of flue, to the right of the illustration, formed a chamber presumably for smoking meat, occupying about one third to a half of the overall width of the ingle-nook and above head height for those seated within it. From bressummer upwards the whole assemblage was probably constructed of brick, though much of this was obscured by plaster. The flue structure, being masonry, is now entirely independent of the main frame of the building

Miss Alice Smith and the Ralph Cross Archive



GROUND PLAN

upper floor repeats
two main rooms.

for detailed
cross section
see figure 44

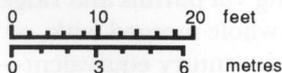


Fig. 35

Ground plan of a house at Kelsick, 1979, subsequently demolished. Outshot and house appeared of one build and at one end abutted a partly clay-built barn

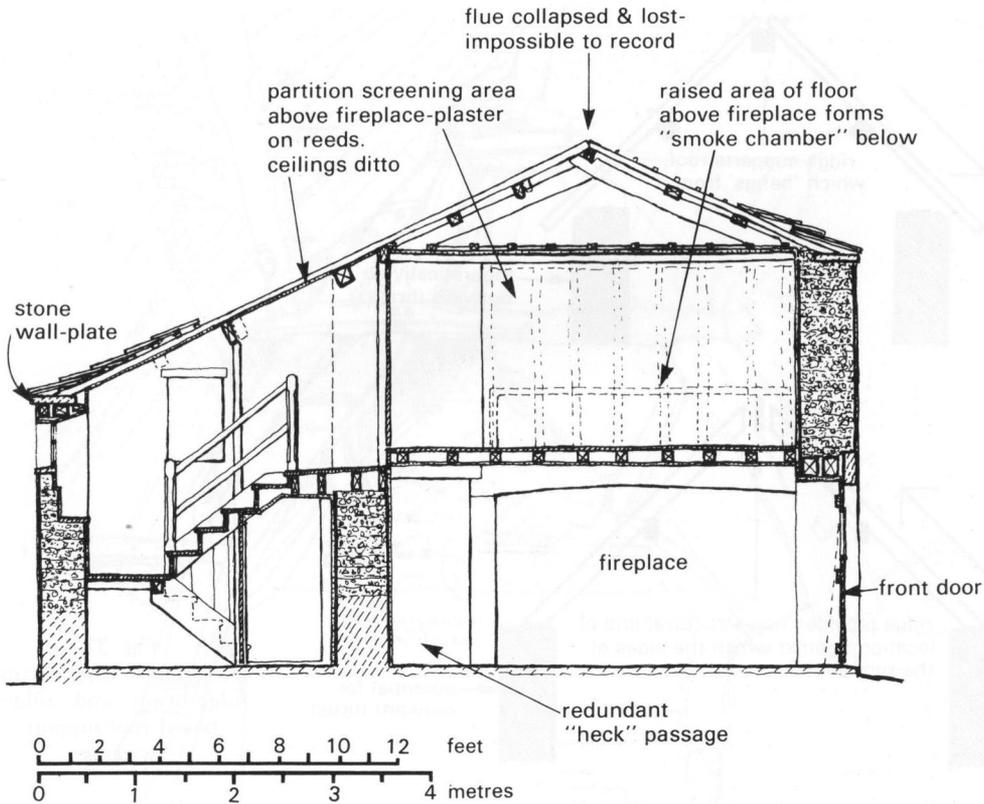


Fig. 36

Cross-section of house at Kelsick, shown in figure 35. The section is composite, being taken through the front door-way and the upper flight of the staircase. The flue had collapsed at the time of survey and it was not possible to interpret the original arrangement. However, the smoke chamber was again in evidence, in this case concealed behind a screen of plaster applied to reeds on split-sapling studs. The upper rooms were fully plastered and ceiled at tie-beam level. The staircase newel posts carried chamfered arrises suggestive of Victorian practice

wall system. But while in the one the rafters hung down from the ridge, over the purlin, to touch the eaves, in the other the rafters stretched upward from a wall-plate, over the purlin, to touch, via a light ridge-board, at the ridge (Fig. 37). The author has not so far come across any evidence to show that the ridge-board was put into use with mud walling on the Plain. When the cruck frame, and more specifically the ridge-beam system, died on the Plain, the mud wall died with it. In this respect the picture in Cumberland differs fundamentally from that in parts of the south of England where the mud wall continued in use in one form or another under the regime of the nineteenth-century improvers.

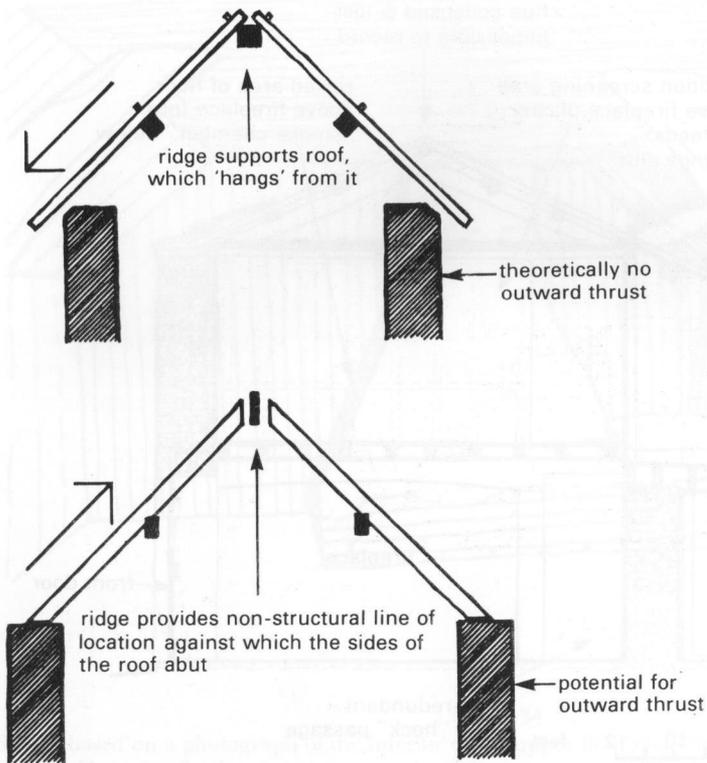


Fig. 37
Diagrams illustrating
ridge-beam and ridge-
board roof-support
systems

Figure 38 shows the interior of a small barn near Dalston-on-the-Plain, now roofless and derelict. In 1980 the roof was of sod underthatch with a straw overcoat in the usual way and there were two crucks, each spaced a full bay from the mud gables. The latter had survived though the usual failure at the corner was visible. This may have been a late building, judging by the wide end-bays, by the nature of the cruck trusses and the fact that there was worked sandstone in the plinth. The crucks had been cobbled together, from all sorts of bits and pieces of other trusses, to an unusual degree. The raftering was very variable in quality but of an identical system to that at Lamonby Farm. Plan and section of this barn are shown in figure 39. In its framing, such work represents the demise of the tradition.

The system faded away, then, in the opening years of the nineteenth century; it was probably finished before 1830. But many of the buildings were sufficiently well-constructed and the economic base of the region remained sufficiently 'underdeveloped', for them to survive through that period and on into the present. None remains today exactly as built, some have their clay-work replaced with cobble while others have been considerably adapted, in the earliest cases by the 'raising' of the side walls in clay in order to achieve a full-height first-floor, in others by raising in cobble or brick (Fig. 41). Paddock Hole, Burgh-by-Sands, was such a case. Projection

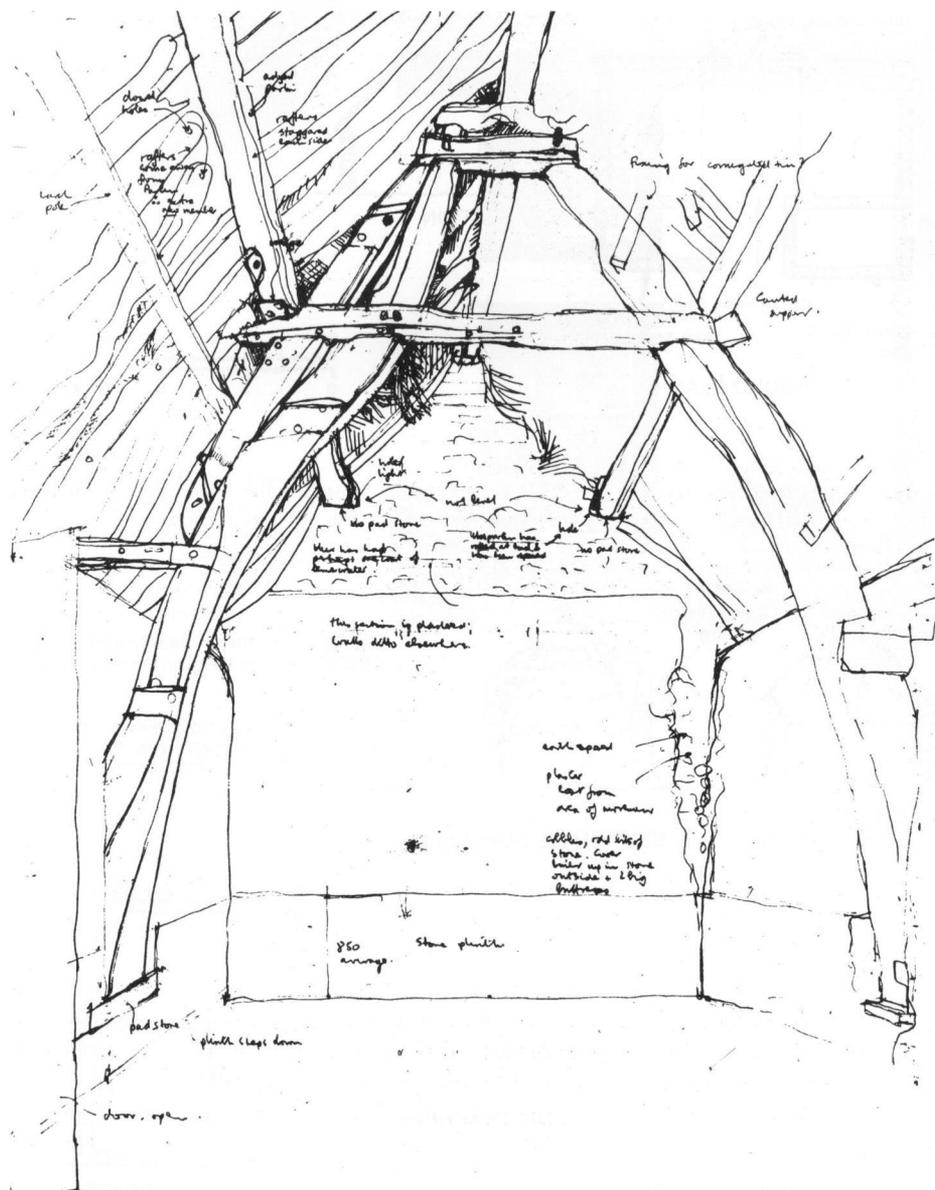


Fig. 38

Interior of a three-bay threshing barn, Green Lanes, Dalston, 1979. Probably the last building on the Plain with its 'thatch-over-sods' roofing exposed to the elements. The roof was intact and still shedding water satisfactorily at the time of survey although seeds were beginning to germinate in it. In the ten years since the survey, the thatch has been allowed to fail, and the building is now a roofless ruin (1988). The survival of this roof, fully staple-thatched in the traditional way, into the early 1980s is evidence of just how much longer an understanding of the thatching method persisted on the Plain, when compared to an understanding of the framing and walling methods

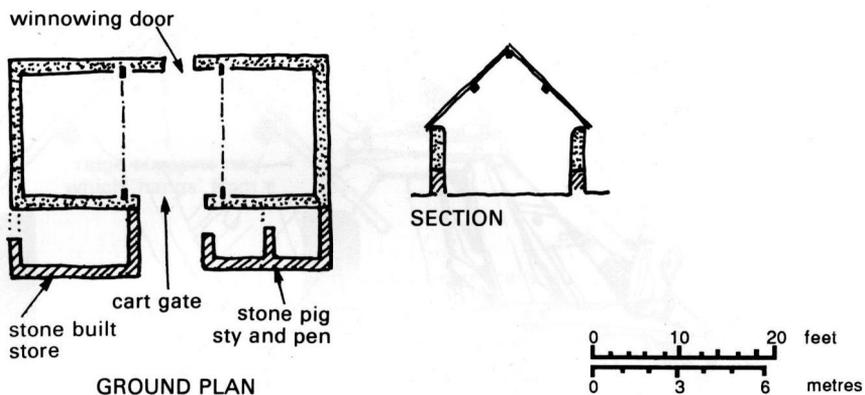


Fig. 39

Plan and section of threshing barn at Green Lanes, Dalston, now derelict. Note the attached pigsty and pen (as well as lean-to store), in stone, for obvious reasons

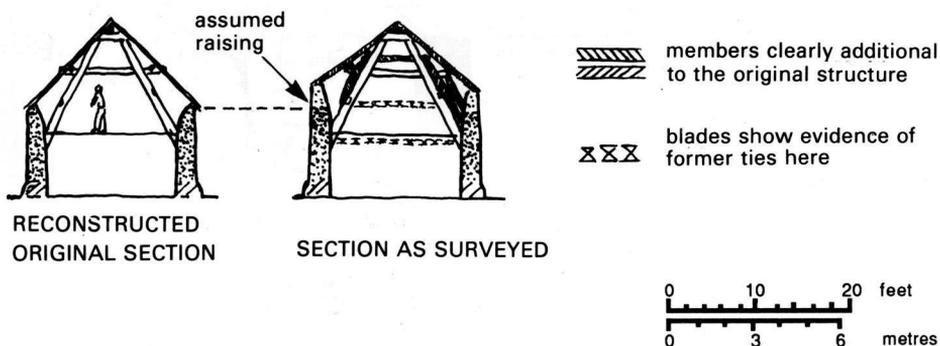


Fig. 40

Paddock Hole, Burgh-by-Sands, after Dixon, p. 62, 'Paddock Hole: a Cumberland house with a lower-end parlour', *Trans. Cumberland and Westmorland antiq. archaeol. Soc.*, N.S., 62 (1971), 139-50. Cross-section as surveyed compared with probable original arrangement

of a steeper, thatched, roof-pitch on to the section recorded by Dixon leaves no doubt that this was a raised structure—raised in clay—the replacement purlins needing the addition of successive props in order to bring them up to a pitch slack enough to take sandstone slabs. This house seems to have possessed a particularly lofty upper chamber from the start. Raising gave more side-wall height for windows, when the building was floored through, as well as accommodating the longer-lasting roofing material. The crucks, brought in from elsewhere at the outset, were thus subject to further *in situ* modification over time as shown in figure 40.



Fig. 41

Part of a house at Great Orton, 1988. The lower, original, clay section of wall shows as a bulge to the right of the drawing and is also reflected in the position of the cill of the upper window which rests on top of it

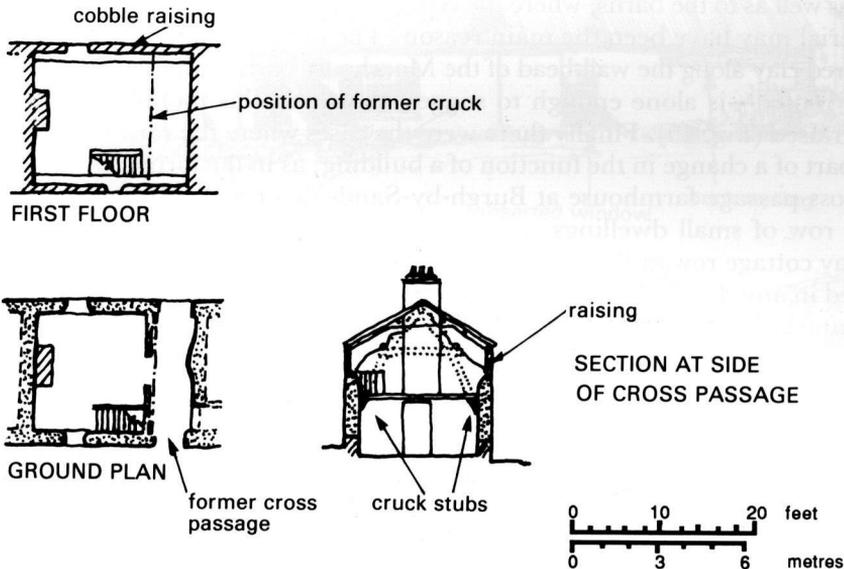


Fig. 42

One unit from the long terrace of small dwellings in Burgh-by-Sands shown in figure 43. On entering the former cross-passage from the street side, the stubs of the cruck blades are visible in the right-hand wall. Projection of a 'thatch' roof-pitch from the top of the existing clay-work to the existing ridge confirms the original roof arrangement

Figure 42 illustrates the plans and section of a classic case of a raised structure dating from details, to the 1830s or 1840s. The ground-floor plan shows a single living-room with a stair and fireplace, opening off a cross-passage. Above is another single bed-chamber. This little one-up, one-down dwelling is one of a number of similar units forming a long terrace in Burgh-by-Sands. Significant features here are the stub ends of the lower part of a cruck still embedded in the clay wall below the first floor, above which it has been shorn off, a raised clay gable in which are embedded the cropped purlin ends of the earlier structure, and the cross passage itself with, on one side, the entry to the tiny cottage and, on the other, the blocked entry to the hallen passage of a former 'statesman-plan' farmhouse, now also a separate dwelling. In the side of the cross-passage wall there is a bulge suggesting an oven at the back of the former farmhouse's ingle-nook. At the street front the raising is not apparent but it is highlighted inside, upstairs, where the newer, thinner, masonry is balanced precariously on the outer edge of the rounded top of the earlier heavy mud-work to form a substantial ledge within the room. The exterior of the building of which this dwelling is a part is shown in figure 43.

Examination of the rear of mud buildings on the Plain can sometimes confirm suspicions aroused by aspects of their front, more 'public', elevations. Thus the small cross-passage and barn house in Great Orton shown from the street in figure 44a can be seen to have had a storey added when viewed from the back (Fig. 44b).

From the cases reviewed it is clear that storeys were added to both large and small farmhouses—in order to improve the upstairs accommodation and to get rid of thatch—as well as to the barns, where the replacement of thatch by more maintenance-free material may have been the main reason. The presence of a deep bed of darker red-coloured clay along the wall-head of the Moorhouse barn—which was slack-pitched and slate roofed—is alone enough to suggest that even this monumental structure has been raised (Fig. 45). Finally there were the cases where the raising of walls took place as part of a change in the function of a building, as in the former hearth backing on the cross-passage farmhouse at Burgh-by-Sands described above, which became part of a row of small dwellings.

The clay cottage row at Burgh-by-Sands brings to our attention a type of plan not considered in any detail so far and which seems to have been quite common in recent times. Brunskill has recorded a clay-walled terrace of such tiny dwellings at Great Orton, now destroyed, part of the plan and elevation of which is shown in figure 46a. He provides other examples from Beaumont and Parsonby (Figs 46b and c). The Beaumont cottage is built against a cross passage as is the Burgh-by-Sands conversion, but the entry arrangement is different. At both Great Orton and Beaumont there is a chamber window with a sill almost at floor level, suggesting that the upper floor is an insertion. By contrast, at Parsonby thinner walls and taller proportions give the impression of a more purpose-made exercise. Dr Brunskill considers these dwellings to be the local successors of the seventeenth-century hovels of the poor described by Celia Fiennes.²⁶ In buildings of such low status the 'one-up, one-down' arrangement must be a late development. The length of these four dwellings ranges internally between twelve and fourteen feet with similar internal widths, dimensions approximating to those of a single bay of the larger buildings in the tradition. This



Fig. 43
Terrace of small dwellings in Burgh-by-Sands converted from a former clay statesman house and other attached outbuildings. The original statesman house is on left of the picture, the first door being that of the former cross-passage. The fire-window to the left of this door has been enlarged but the window on the far left, ground floor, belongs to the earlier phase. The raising of this building is visible externally at the rear throughout its length, confirming a former structure of considerable size (1980)

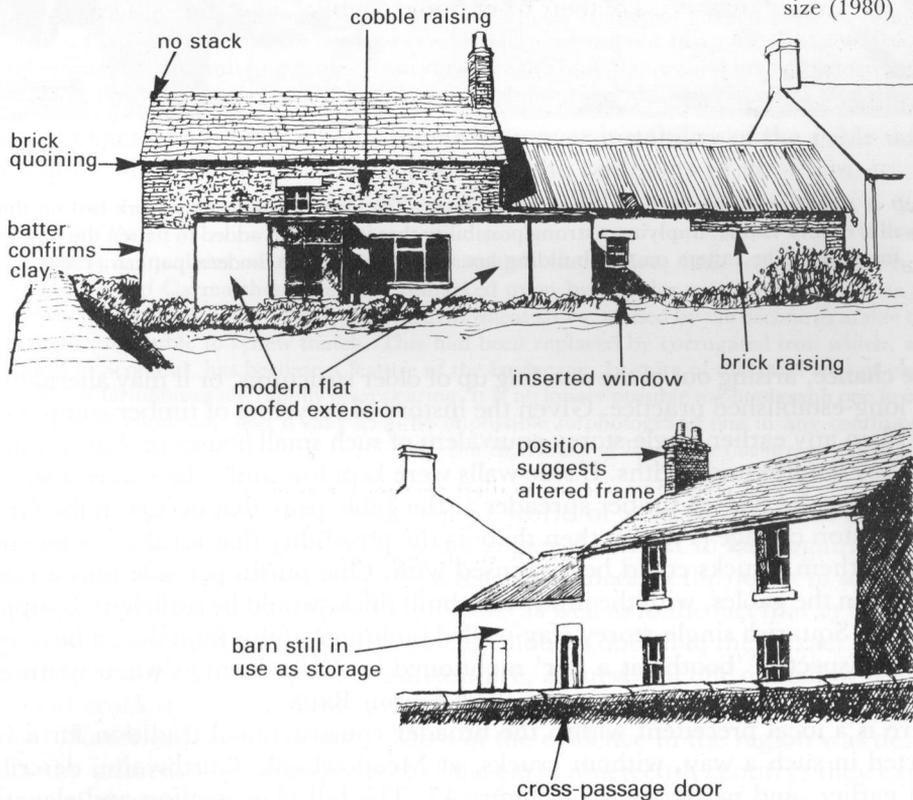


Fig. 44

Front and rear of a former statesman house with attached outbuilding, Great Orton. The 'parlour' end appears never to have been heated (1988)



Fig. 45

Close-up of a section of side walling, Moorhouse Barn. The darker colour clay-work bed on the top of the wall is clearly visible, implying a strong possibility that it has been added to flatten the roof-pitch, for slates. The rafters on this building are all of a relatively modern pattern (1988)

may be chance, arising out of the dividing up of older structures, or it may alternatively reflect long-established practice. Given the history of recycling of timber components on the Plain any earlier single-storey equivalent of such small houses probably utilized similar bay lengths and widths. If side walls were kept low and gables were also built of clay, using the type of timber spreader at the gable peak that occurs in the Green Lanes Dalston cottage (Fig. 9), then there is the possibility that for those who could not afford them, crucks could be dispensed with. One purlin per side plus a ridge, all loaded on the gables, with the mud-work built thick, would be sufficient to support the rafters. Squarish single-storey clay-walled buildings of this kind would have very much the aspect of 'booths at a fair' mentioned by Celia Fiennes when writing of the houses of the little market town called Adison Bank.

There is a local precedent within the broader constructional tradition for a roof supported in such a way, without crucks, at Meadowbank, Curthwaite, described in part earlier, and partly shown in figure 47. The full plan, section and elevation are shown in figure 48; the area of the plan in question is at the right-hand end. The two clay-walled rooms here, with their rather curious shape, may represent the conventional cross-passage house parlour and buttery, but turned through ninety

degrees. This is a difficult house to interpret having undergone considerable modification, and no further attempt is made here. Figure 49 shows the farmyard elevation of the building.

In Northern Ireland a whole sub-group of traditional houses employs the purlin and cross-wall support system. According to Dr Alan Gailey of the Ulster Folk and Transport Museum:

. . . the usual roofing technique observed in earth-walled houses in Ulster was the use of heavy purlins unsupported from below, across which were laid fairly closely-spaced common rafters, which carried lighter lathing of sticks to support the turf underthatch. A ridge purlin and one or sometimes two side purlins on each side of the roof was usual, but I have found houses with as many as five side purlins on each side.²⁷

An example of an Irish house with exposed purlin ends in the gable is shown in figure 51. In this house, rebuilt on the Museum site, the front and rear walls are of stone bedded in clay mortar while it is significant that the gables and two interior compartment walls supporting ridge and purlins, are of mud.²⁸ The exterior of the building is shown in figure 50. Dr Gailey comments, concerning the recreation of this building at the Museum:

Significant difficulty was encountered only with the upper, triangular shaped portions of the gables and cross walls. Before the roof timbering was set in place, we lost one in a gale, and there was damage caused to another by wandering cattle. However, once the roof timbers and the turf underthatch were set in place, the superimposed weight of the roof stabilized the walls (paradoxical, but true).

Modern experience thus confirms the anxiety over instability of the gable wall that is a feature of the structural development of the buildings of the Plain.

CONCLUSION

The picturesque qualities of the traditional thatched, clay-walled, and colour-washed houses of Cardiganshire and Carmarthenshire were remarked upon by popular travel-writers . . . as recently as the early years of this century. Alas, the dearth of wheat-straw, caused by the decline in arable farming, has made it impossible to renew thatch. This had been replaced by corrugated iron which, as in the Highlands of Scotland, has become a feature of the landscape. In spite of this brief stay of execution, the small clay farmhouses are rapidly disappearing. It is no longer possible to photograph one in anything like its original condition, and it may soon be impossible to photograph one in any condition at all.

P. Smith, *Houses of the Welsh Countryside* (1975), p. 280.

To conclude this descent into 'some under-world of strange materials and curious methods'²⁹ we will remain with the wider regional context to look again at the clay wall, the loft, the cruck and thatch. Reference was made at the outset to some former recent northern English mud-building regions as well as to the fact that in the material of their walls and in their basic structure the houses once had their exact equivalents immediately over the Border in Dumfriesshire. A survey of one of the few remaining mud-and-cruck structures of that area, a barn, is shown in Stell's paper on two cruck-framed Dumfriesshire buildings.³⁰ Most of the evidence in the region was destroyed under the influence of the improvers of the early nineteenth century; they exploited sources of quarried stone quite near at hand, made use of good mortar in their new stone walls and employed the scientific wall-head truss. In some other parts of Scotland, however, the clay wall can still be seen, often in association with 'improved' design, this showing that in the right circumstances even the early nineteenth-century landlord

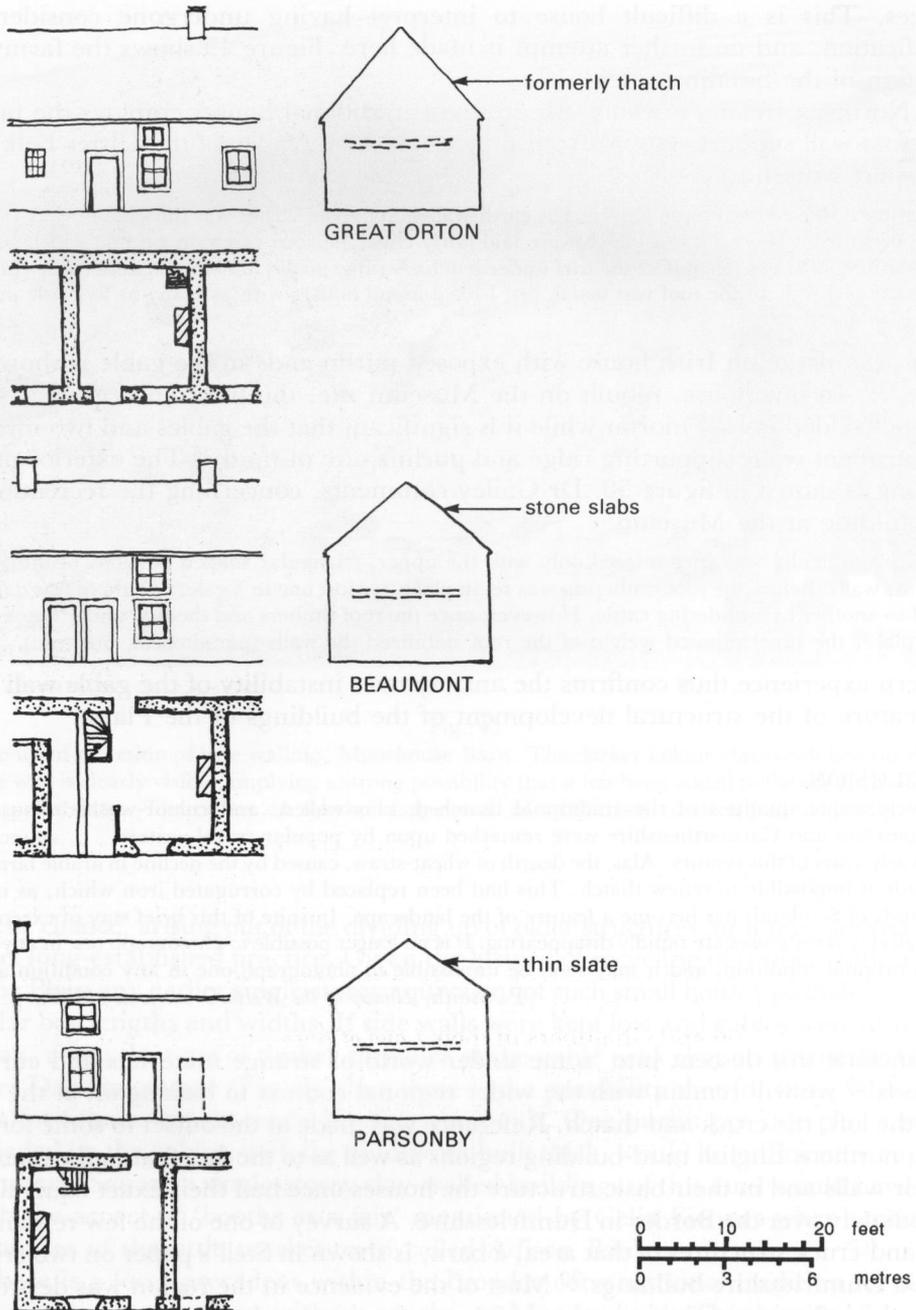


Fig. 46

Three examples of small units on the Plain, recorded by Dr Brunskill and reproduced with his permission. The cottage at Parsonby must have been stone-walled and rendered

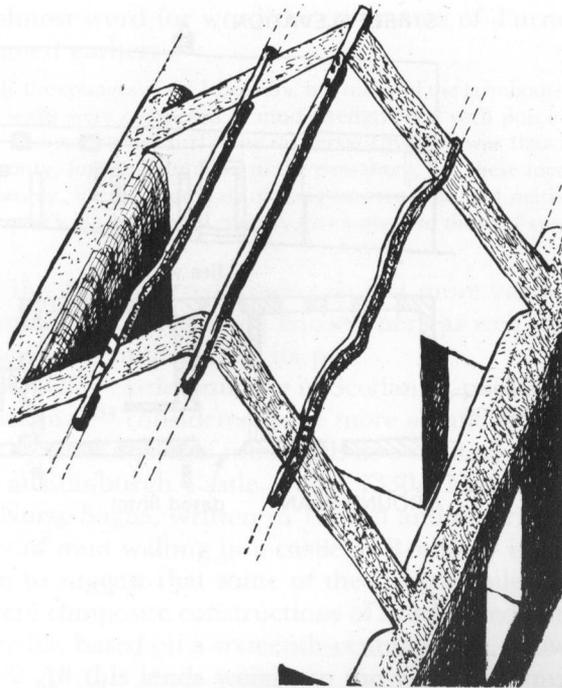


Fig. 47

Meadowbank Farm, Curthwaite.
Diagram of roof-support structure. For
rafter details see Part I, figures 53 and 54

might opt to build in the material. Evidence for the recent use of mud in north-eastern Scotland, both documentary evidence and fieldwork, has been well reviewed by Walker³¹ whose research builds on that of Fenton who covered a similar area and who also documented survivals in the Border immediately north of Berwick-on-Tweed.³² The red sub-soils used here appear superficially similar to those of the Solway Plain. Across the south of Scotland, from Galloway, where nothing now remains, comes further evidence in the form of an incident in the very early life of Robert Burns. Wilson and Chambers in their *Land of Burns*, page 98, quote the poet's brother Gilbert concerning the year of Burns' birth, 1759:

When my father built his 'clay biggin', he put in two stone-jambs, as they are called, and a lintel, carrying up a chimney in his clay-gable. The consequence was, that as the gable subsided, the jambs, remaining firm, threw it off its centre; and one very stormy morning, when my brother was nine or ten days old, a little before day-light, a part of the gable fell out, and the rest appeared so shattered, that my mother, with the young poet, had to be carried through the storm to a neighbour's house, where they remained a week till their own dwelling was adjusted.

Two points to note here are the persistence of self-building, a persistence found with mud-work in the late eighteenth century in other parts of Scotland—Burns' father was from the north-east of the country—and yet again problems with the gable. Presumably the stone-jambbed fireplace on the gable was still evolving locally. At the wider level the following extract from an 'Essay on the construction of cottages . . . for the dwellings of the labouring classes' that won the Premium of the Highland

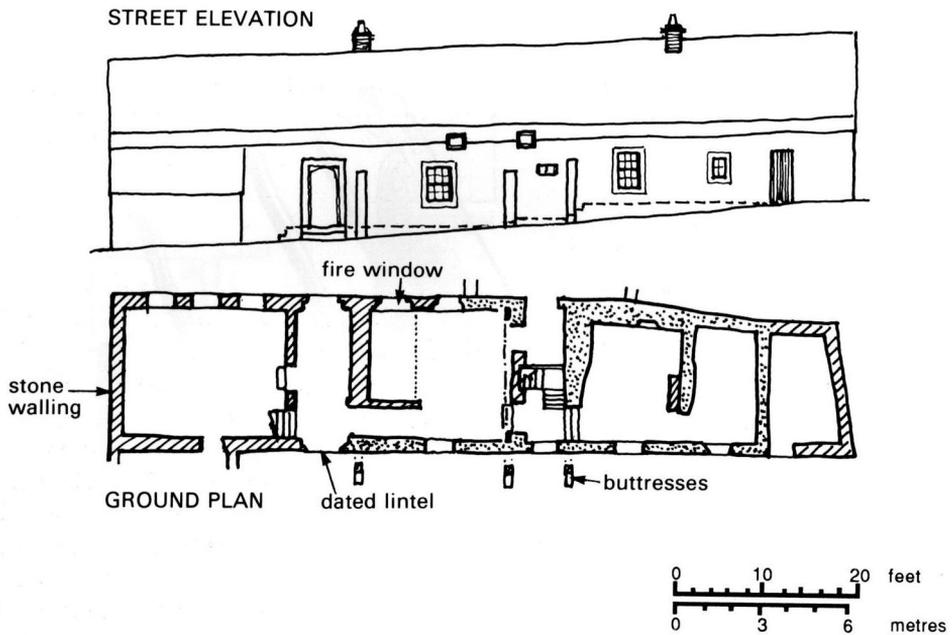


Fig. 48
Meadowbank Farm, Curthwaite, ground-floor plan and elevation to street.



Fig. 49
Meadowbank Farm, Curthwaite, viewed from former farmyard. All the walling up as far as the outshot is of stone. This was once the entrance side of the building since it possesses the (minute) fire-window. The late seventeenth-century date-stone has perhaps been re-sited as it is over the cross-passage door facing the street; alternatively it may commemorate the point at which the house was modernized

Society of Scotland in 1843 echoes almost word for word the comments of Turner and Parker on Northumberland, quoted earlier:

So late as the middle of the last century, not only the cottages of the labourers, but many of the farmhouses, were constructed without good mortar. The walls were composed of mud strengthened with posts or they were built of stone, laid in moist loam, and sometimes turf. The universal covering was thatch; nothing else was to be seen over the whole county, for the habitation of the peasantry, but these mean and frail hovels. These never exceeded one storey, for the materials of their construction had neither strength nor firmness to bear more. The old mud walls have now entirely given place to those of stone laid in mortar. . . .³³

Walling-types in the Highlands at the time referred to were in fact more various than are suggested here, daub on wattled armatures being known there as well, but there can be little doubt that, as elsewhere, mud played its part.

In a classic and wide-ranging article, 'Clay castle-building in Scotland', published before World War II, W. Macay Mackenzie³⁴ considered some more arcane aspects of the subject, including the building by the English of mud walls as a military tactic around the town of Perth, as well as at Edinburgh Castle, in the 1330s. Mackenzie argues that the record of one of the Norse Sagas, written in 1264-5 and describing events of 1230, suggests the existence of mud walling in a castle at Rothesay in the Isle of Bute at that date. He goes on to suggest that some of the Border 'piles' or 'peles' of the later, raiding, period were composite constructions of mud, laced with heavy timbers and brushwood. Figure 52, based on a sixteenth-century map, shows what may have been one such fort.³⁵ All this lends weight to the view that mud already had a long history of use in one form or another in southern Scotland before the first 'statesman' houses were built.

In Ireland there is an equally long documented history of mud building. In the Isle of Man equidistant between England and Ireland, Margaret Killip, writing of the traditional Manx house, presents us with the now familiar summary of environmental circumstances:

The chief factors determining the kind of house that was built were the availability of building materials, and the means of transport to obtain them. If these were lacking people had to use whatever material they could find immediately to hand. If timber for doors and roof was unobtainable, as it was until the late eighteenth and early nineteenth century since the Island had almost no woodland, they were compelled to make do with drift-wood found on the shore, with branches of sally willow or with the pieces of bog-oak 'darraghs' that their ploughs uncovered in the curragh lands. In such areas, chiefly the northern lowlands where the people lived at some distance from stone quarries, the house walls were built either of puddled clay mixed with chopped straw which when dry, set as hard as cement, or of sods of earth dug from round about the site where the house was to be erected. A few undertook the laborious task of gathering rounded sea-worn stones from the shore for the house-building, but this again required some kind of cart to carry them in—though a few hardy souls are said to have transported them in creels on their backs.³⁶

The two main types of building were known in Manx as 'thie voaid' and 'thie laagh'—house of sod and house of mud. Margaret Killip goes on to say that it is believed that sod houses and farm buildings were once very common throughout the Island, and traces of them are to be found in areas where good building stone was also available. They survived in the north of the Island, along with their mud-walled equivalents, until the end of the nineteenth century. The northern lowlands consist of boulder clay, gravels and sand. The first description of mud buildings in the Isle



Fig. 50

Mud and stone weaver's house, Ulster Folk and Transport Museum, Holywood, Co. Down
Ulster Folk and Transport Museum

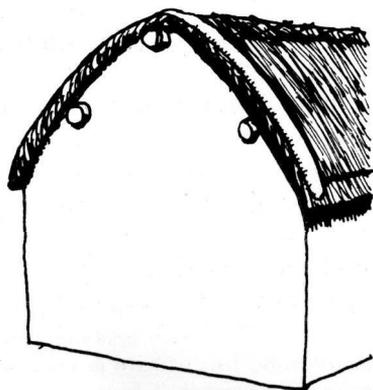


Fig. 51

Purlins and ridge at the gable of a mud-walled house,
Co. Armagh, Northern Ireland, after E.E. Evans, *Irish Folkways*, (p.47). Note the mud coping to the thatched roof

of Man dates from 1816 when it was said that '... the small native farmers and the labourer . . . resides contentedly in a cottage of mud, under a roof of straw, so low that a man of middling stature can hardly stand erect in any part of it,'³⁷ while a visitor of 1793 observed that the town of Douglas, '... about a century ago . . . was little more than a group of clay-built cottages.'³⁸ Because of the care needed in its preparation and the time required to build with it as well as its stability in the wall, mud here, as in northern Cumberland, would have been considered the 'better'

material, hence its use in preference to sod in the Island's main town in the seventeenth century.

The documentary history of the very small house in the Isle of Man has parallels with that of the houses of the Plain, but at an even less pretentious level. At the earliest stage of the record, in 1657, it was said that the house of the region usually contained one room only, 'very few have two rooms, have no upper rooms—such as in their towns they call lofts—nor any ceiling but the thatch itself, with the rafters.'³⁹ Again, a commentary of 1695 notes the single room in which '... the whole of the family lyes; and among the meaner sort, they are forced to place their cows in a corner of the room.'⁴⁰ Such dwellings were the ancestors of the single-bay, one up, one down, mud cottages of the Solway Plain described earlier. By 1812 things in the Island had improved a little, the typical house and its ground-plan being as follows:

The walls were about seven feet high, constructed of sods of earth; chimney there is none, but a perforation of the roof, a little elevated at one end, emits a great part of the smoke... A partition separates the cottage into two rooms; over the chamber end is sometimes a loft, to which the ascent is by a ladder from the keeping room... In the northern district, where quarries of stone are less accessible and lime more distant, the cottages continue to be built in the primitive manner.'⁴¹

Celia Fiennes was familiar enough with such dwellings more than a century earlier, along the Scots Border with Cumberland. With this form of house, possessing what in Wales was called a 'crog-loft', we arrive at the pattern of building section seen at Ratten Row, Durdar. Such was the dwelling destroyed as recently as the 1970s in the Manx parish of Malew. Margaret Killip notes that until the end of its days it had the ladder leading to the half-loft in daily use. The survival of the form and its continued use into the late twentieth century is remarkable but not unique, for apart from Ratten Row, Durdar, at least one other such house—Hitchens Onset at Scaleby, east of Carlisle—exists also in Cumberland (Fig. 53).⁴²

There is evidence from many parts of Scotland for the use of cruck types of structure in the homes of ordinary people in pre-Improvement times. Aspects of the tradition have been well explored by various authorities from Walton and Sinclair to Grant, Fenton and Walker.⁴³ It is only necessary to reiterate that this part of Cumbrian practice was but one thread in a formerly widespread north British usage for which the Border was merely a notional divide. A type of cruck—the 'Highland couple'—is known from Sutherland (Fig. 54). Rough 'peasant' crucks have been found at least as far south as Leicestershire. They have been found again in the Welsh borders and the western counties of Carmarthenshire and Cardiganshire, in conjunction there with stapple thatch (Fig. 55). It has been argued that any correspondence between such widely-separated examples must be purely a matter of chance. Such a view fails to take into account the broad continuity of the roofing systems carried, and of the structural principle underlying superficially differing versions, a principle that is displayed to perfection in the buildings of the Plain.

An Irish version of the stapple-thatch system, also called 'thrust thatch', was not so very long ago standard practice in the English-influenced province of Leinster and also in parts of east Ulster, where the term 'stapple' is found. Straw in bunches, some courses of which might be clay-mortared, was thrust into a foundation consisting either of an initial layer of straw bundles sewn to the roof timber, or more usually of sod-

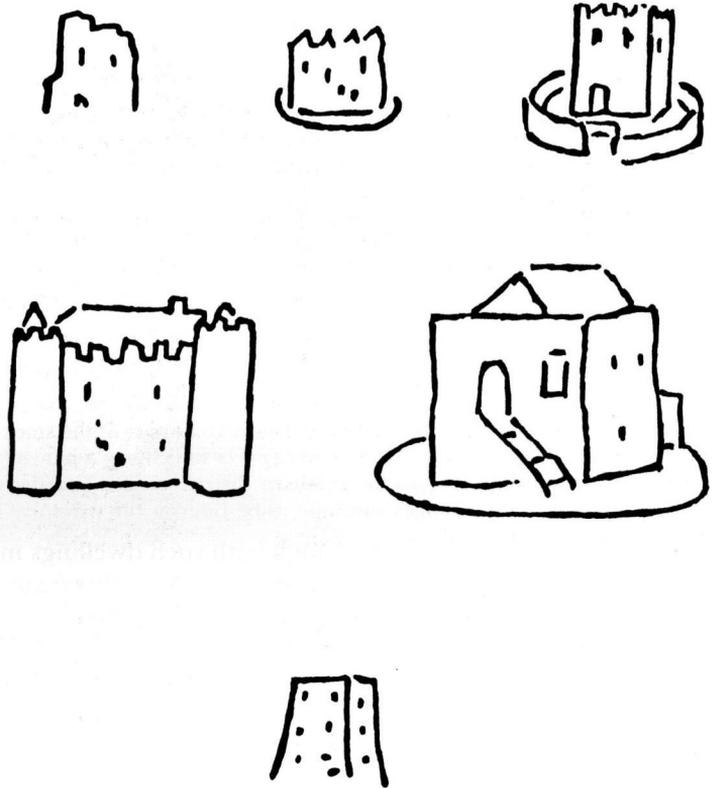


Fig. 52

Six fortresses based on drawings in a map of the Border north of the Solway Firth. The form of the lowest example differs markedly from that of the others. Note the pronounced batter to the corners and absence of evidence of masonry-related features. The author is grateful to Dr P. Dixon for bringing this illustration to his attention

sarking clad with a similar straw layer.⁴⁴ Parallel practices obtained in south-west Wales recently, with both sod and brushwood underthatches though with the sod laid grass-side up (Fig. 55).⁴⁵ Innocent noted what he called the 'wisp' method as a repair technique for conventionally thatched roofs from Derbyshire to Northamptonshire and west to Warwick.⁴⁶ As mentioned earlier this branch of the technique survived in use on the fringes of the North York Moors, until a few years ago. Innocent says that wisps were sometimes put in by hand. He recorded the combined stapple and divot, or sod, roof in use in the north of England in his time, commenting that the bunches sometimes had their ends pushed through, rather than between, the 'turf'.⁴⁷ A hint that the combination of materials has been more widely known in England comes from an observation made in the villages around Banbury after World War II. Here it was found that turf 'under-sodding' was used to secure thatch on the top of the large eighteenth-century oven projections of the stone houses of the area.⁴⁸

In Scotland in pre-Improvement times sod on the roof, and especially the sod 'divot' or tile, appears to have been an accepted part of rural building tradition everywhere, though as in northern England the long-sod was also known in places (Fig. 56). The

Fig. 53 (Right)

Interior of Hitchins Onset, Scaleby, looking from the living room with its central cruck (this unusually possessing a tie, face-fixed to the blades) towards the storied end with access ladder still in place, 1988

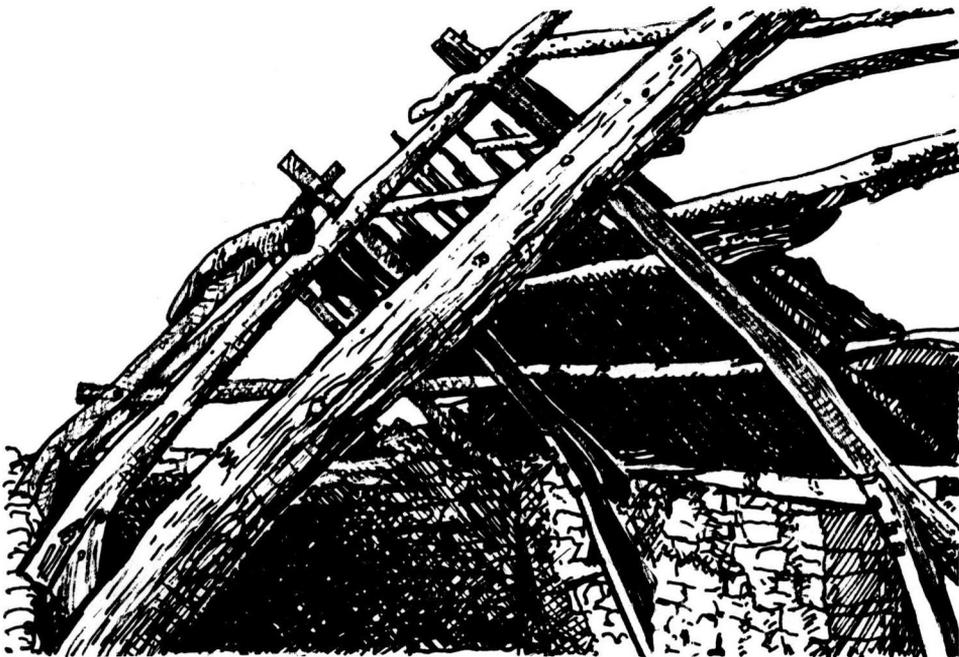
Sketch after a photograph by Paul Barker



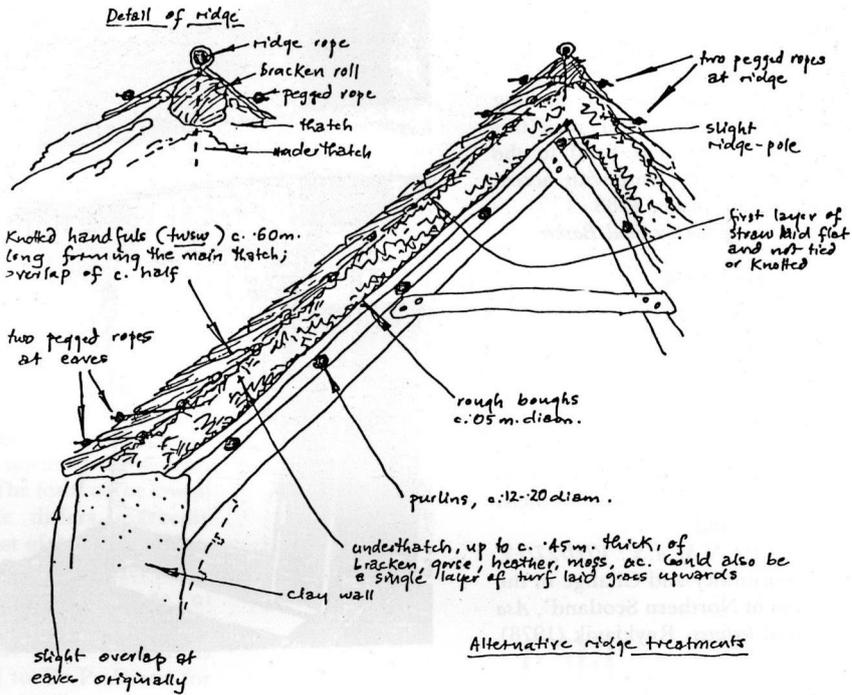
Fig. 54 (Below)

'Highland couples' at Cusig, Applecross, Ross-shire, 1971, crucks jointed at the elbows. The basic method was formerly known in Northumberland, is found in South Wales and in high quality Devon and Somerset work, as well as having been recorded in Northern Ireland.

Drawing after photograph N.M.A.S.: VIII/27/13, in Fenton A., 'Continuity and Change in the Building Tradition of Northern Scotland', Asa G. Wright Memorial lectures, Reykjavik (1978)



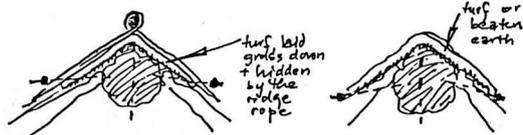
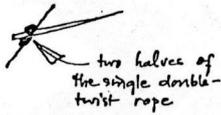
Cardiganshire Thatch: Sketch Sections



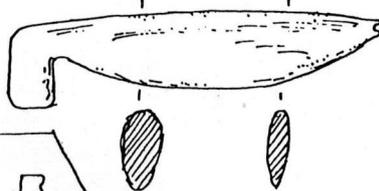
Alternative ridge treatments

GW 17-11-75.

Method of Pegging
recorded in Aberaeron area



Toubren: thatching implement



Gable treatments

Aberaeron

Bronant



Fig. 55

South Wales. Field-worker's notes of thatching over clay walls, Welsh Folk Museum, St Fagans, Cardiff. Note the numerous purlins, the pitching of the rafter from the inside face of the mud wall-top and the thick bed of underthatch laid over the purlins. Eaves and ridge are held down by pegged ropes, the ridge being finished with turf over 'bracken rolls'

Welsh Folk Museum



Fig. 56

Exposed turves on the roofs of fishermen's huts, Stenness, Shetland, after a photograph (National Museum of Antiquities of Scotland, iii/44/34) in Fenton and Walker, *The Rural Architecture of Scotland* (1981)

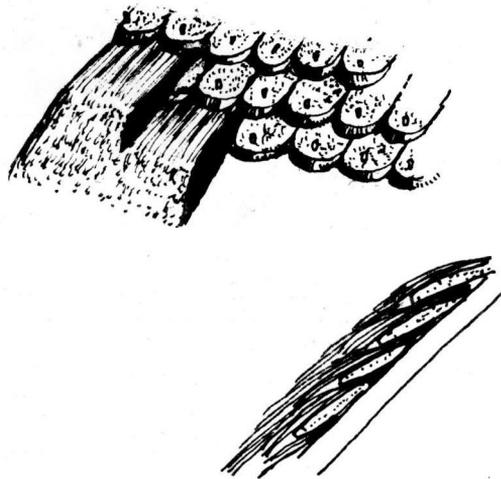


Fig. 57

Highland 'scalped' and pinned sod underthatch after Grant, *Highland Folkways*

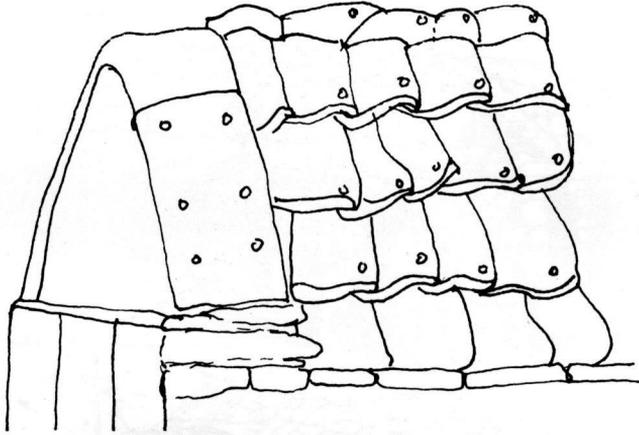


Fig. 58

Shetland. Pegged sods or divots, laid like pantiles, with pinned divot gable copings, based on illustration, from Roussel A, *Norse Building Construction in the Scottish Islands* (1934), p. 65



Fig. 59

High Furness Cumbria. Charcoal burner's hut after a photograph in Innocent, C.F. *Development of English Building Construction* (1916). Walls of earth rammed between permanent wattle shuttering. Roofing of sods held in place by sticks

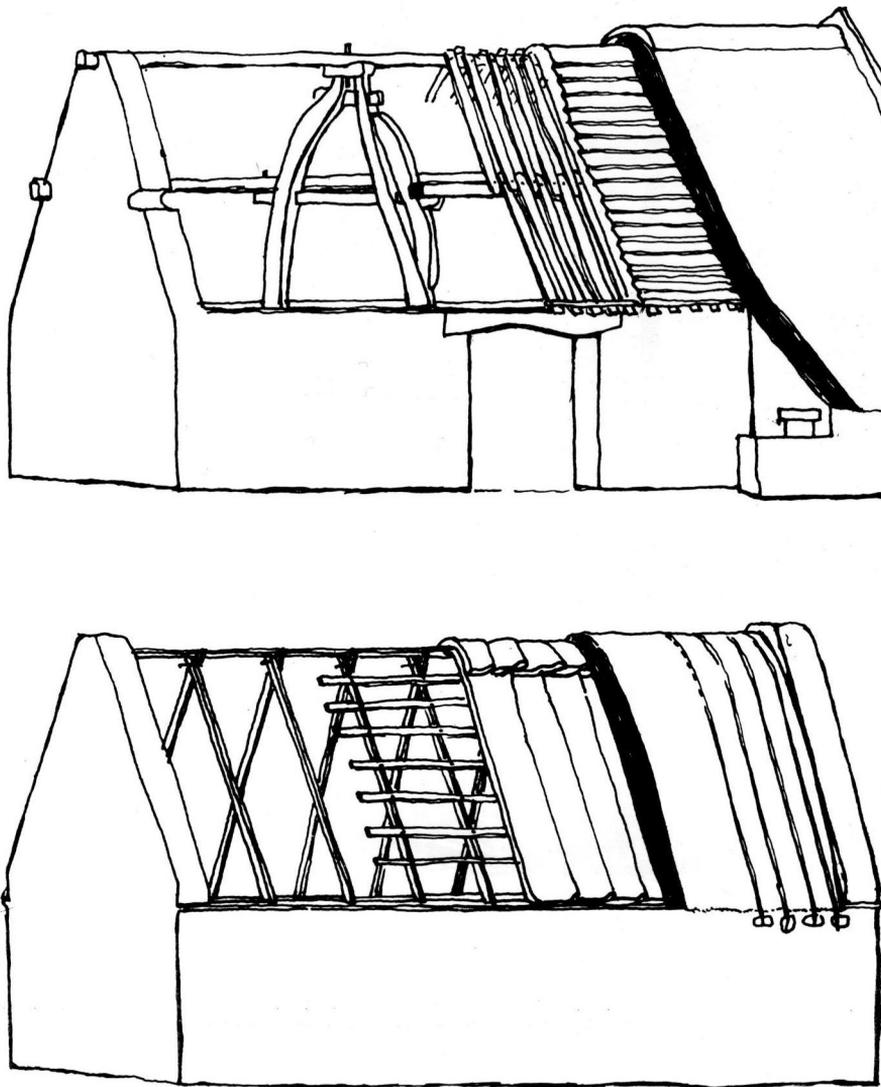


Fig. 60

Cumbrian and Irish thatch roofing systems. Cumberland—rafters support sods ('divot') laid like tiles beneath which the thatch is thrust. Ireland—laths/purlins support 'long sods' lapped at joints and at ridge, into which thatch is sewn and over which it may be held down with ropes. Sketch derived from various sources. Long sods were known recently in Britain also

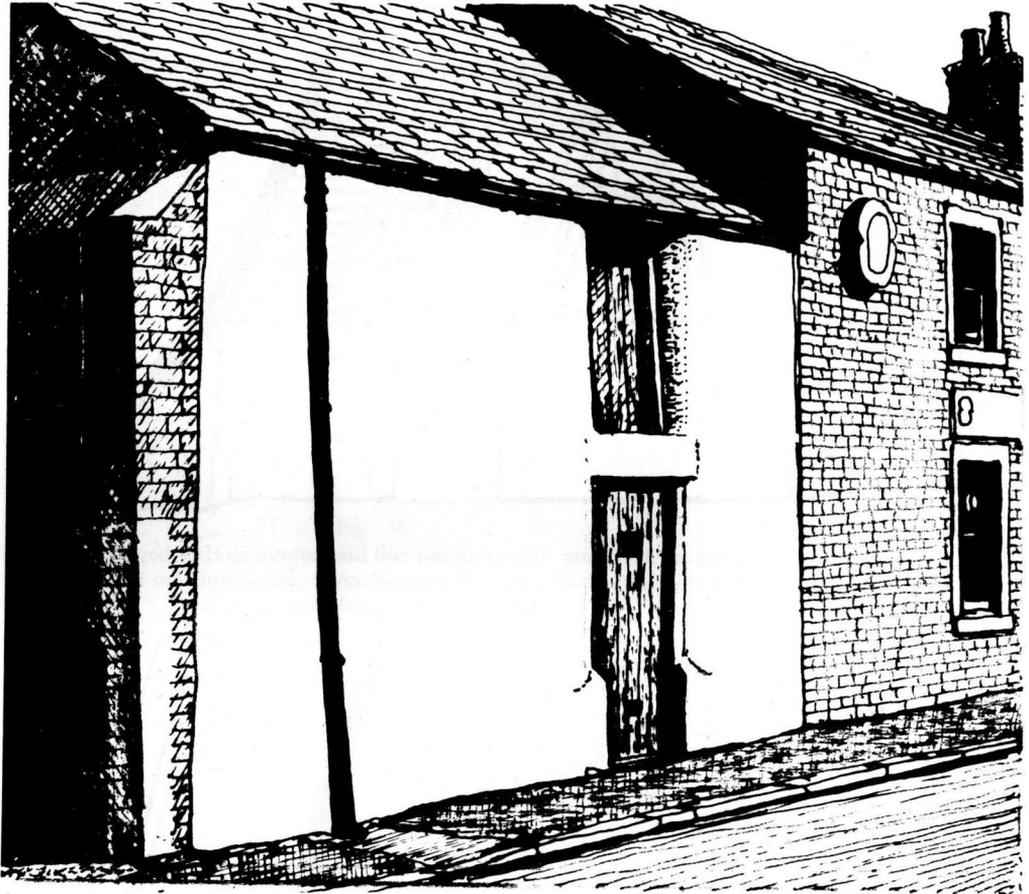


Fig. 61

Clay-built store attached to the village pub, Moorhouse, 1988. This store shares the details of its two-storey openings with many mud agricultural buildings in Devon; the material was relentless in the demands it put upon the builders. The front door to the apparently brick (English bond) pub itself has a dated stone lintel. Inside, the walls can be seen to be of heavy clay and the first floor is carried by heavy, chamfered, oak beams

rectangular divot was invariably used grass-side inwards, as on the Plain, and the builders seem to have sought to 'overcoat' it with fibre, wheat, rye or oat straw, heather, bracken, wherever they could (Fig. 57).

Before World War II the Danish folklorist Age Roussel was surprised to find that the divots on roofs in Shetland, in a situation where of necessity there could be no 'overcoat', were cut 'too thin', laid grass-side inward, their roots exposed.⁴⁹ This was the antithesis of rational practice, which called for roofing sods to be cut thick, as in Scandinavia; under this Norse technique the grass is helped to remain as a living covering. What Roussel's evidence seems to demonstrate, and what he was unaware of, was the existence in Shetland of the alternative, north British, tradition under

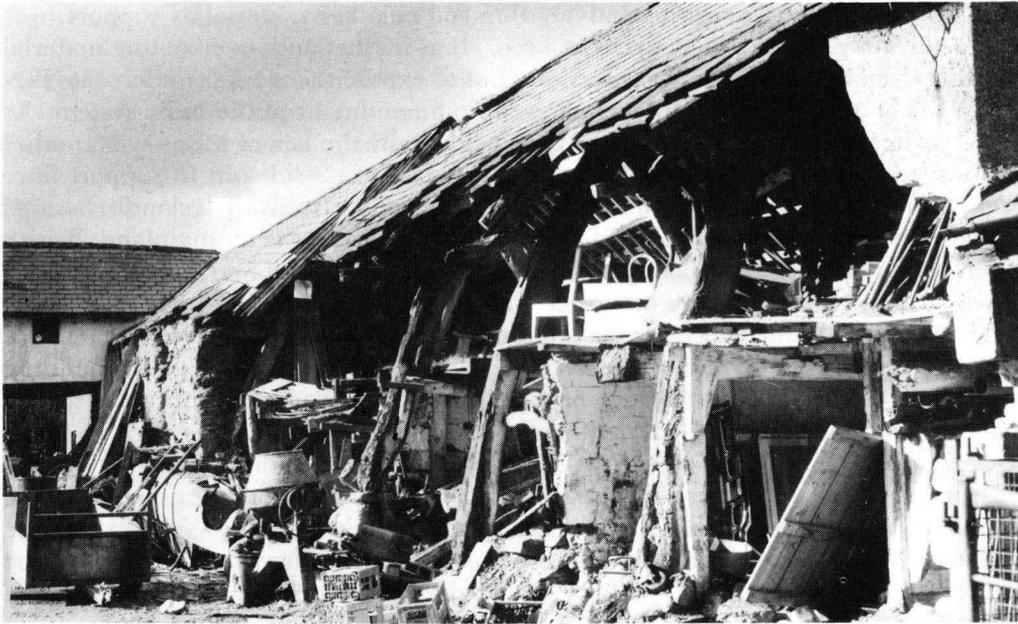


Fig. 62

Moorhouse barn, 1988, close-up of farmyard elevation. The substantial abutting clay farmhouse, a section of which is visible as a 'fly over' with passage beneath on the left of the photograph, was at that time pronounced unsafe and was to be demolished entirely. The frame of the barn may survive

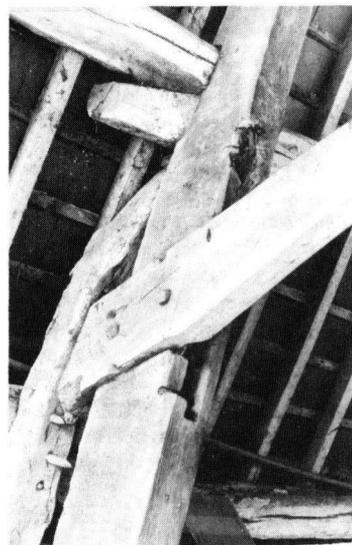


Fig. 63

Moorhouse barn, 1988. Reused cruck-blade with mortice for earlier collar; one of two crucks in the building to have been dated by dendrochronology to the fifteenth century (estimated felling date 1462). The dendrochronological analysis was commissioned from the Nottingham University Tree Ring Dating Laboratory in 1988 by the Royal Commission on the Historical Monuments of England, Threatened Buildings Section, as part of its survey of the building

which the fibre overcoat with relatively thin sod or other material as support, was seen as the only 'correct' way to cover a roof. If as in Shetland, overcoating material was unavailable, then there was no choice but to expose the weaker undercoat (Figs 58, 59). The minds of the builders allowed no amendment of the basic system. As noted earlier, over much of Ireland—and incidentally the Isle of Man—yet another established method ruled—the 'long-sod' base, laid grass-side out to support fibre over-coating. Exposed, living long-sod was used on the roofs of Icelandic houses, so here there is the possibility of a marriage between recent mainland British 'overcoating' and recent Scandinavian sod-roofing practice, a marriage at the back of which may also lie echoes of earlier transhumant practice (Fig. 60).⁵⁰

Thus in wall, frame and roof, the buildings of the Solway Plain were indeed once part of a continuum of parallel, as well as related, northern and western building practice (Fig. 61). The importance of these buildings lies in their survival—due as much as anything to the isolated nature of the English far north-west—where so much else from their particular strand of British traditional building construction has perished. The future of these historically priceless and fragile buildings hangs in the balance. If matters in Cumberland are not taken quickly in hand the Welsh experience will be repeated there. Buildings continue to be lost, and the rate of loss may be accelerating. It is greatly to be regretted that much of the clay walling and some of the structure of the Grade II* Moorhouse barn have recently been allowed to collapse (Fig. 62). The clay walls of this building are a key and irreplaceable part of its character and at the time of writing are threatened with perhaps a seventy per cent loss. Even if, in the end, the frame of the building is saved and repaired, the disappearance of the original clay-work remains—in conservation and archaeological terms—little short of a disaster. It is to be hoped that the tragedy of Moorhouse will in retrospect be seen as a turning point in our commitment to the buildings, rather than as their death knell.

ACKNOWLEDGEMENTS

The author wishes to express his thanks to the many individuals who have helped and encouraged him during the ten years it has taken this study to see the light of day. Particular thanks are due to Dr Ronald Brunskill, John Nichols, Richard and Susie Polley and Professor Gwyn Meirion-Jones. A special debt is owed to the generosity of Paul Barker, without whom important arguments in the paper could not have been developed.

CORRIGENDA TO PART I (*Transactions A.M.S.*, 33 (1989), 97-151)

- Figure 2 Key to map: the boulder clay should have been shown stippled, the silts, sands and gravels as white.
- Figure 20a View of Lamonby Farm. The photograph is reversed. The key letters referred to in the legend are missing from the illustration.

- Figure 25 Legend: 'Sill' and 'head' have been transposed.
- Figure 31 The view of farmhouse at Moorhouse, lower left, is reversed.
- Figure 37 The view of interior of barn, Lamonby Farm, is reversed.
- Figure 64a Legend—'bunches of hither' should read 'bunches of heather'.

NOTES AND REFERENCES

1. This seems to have been Westmorland nomenclature. In Cumberland the word is applied to the short passage into the 'house-place' or kitchen/living room. See 'A Supplement to the Glossary of the Dialect of Cumberland', Prevost, E.W., (1905) (quoted in Hodgson, Bouch and Bulmar, 'Lamonby Farm', *Transactions, Cumberland and Westmorland antiq. archaeol. Soc.*, N.S., 53 (1954), 55).
2. Turner, T.H. and Parker, J.H., *Domestic Architecture in England*, 11 (1853), 200-1.
3. Atkinson, A. and M., *History of Cleveland* (1874), vol. 1, 25.
4. Fiennes, C., *The Journeys of Celia Fiennes*, Morris, C. (Ed.), London (1947), 204.
5. Fiennes, op. cit., 207.
6. Hutchinson, W., 'The History of the County of Cumberland', 1794, p. 515, quoted by Dr R.W. Brunskill, 'The clay houses of Cumberland', *Transactions of the Ancient Monuments Society*, 10 (1962), 66. The results of excavations at Cockermouth, undertaken by the Cumbria and Lancashire Archaeological Unit in 1980, bear out the point. Three adjacent burgage plots in Main Street were investigated. It was found that from the later twelfth century to c.1400 each plot was occupied by a house initially one room deep and lying parallel to the street, with a main structure of timber, the principal posts set in post-holes. Partitions were of wattle and daub, one house had a rear-wall chimney-stack, and the roofs were slated. Around 1400 major rebuilding took place, the new houses being clay-walled with, it is said, cruck frames. A third cycle of rebuilding occurred from about 1700 when the clay-walled structures were replaced by buildings with mortared stone walls, higher, and providing a greater amount of space. The excavators comment that 'The absence of open hearths in even the earliest medieval phases, the introduction of cruck roofs c.1400, urban plan forms which include domestic and agricultural-type buildings, are all aspects which deserve further study'. Of particular interest in the context of this paper is confirmation that the one-room deep dwelling so characteristic of the vernacular architecture of the Plain, remained in constant use in the region for at least 600 years. In the case of the early absence of open hearths, it will be remembered that definite examples of smoke-blackened roof-timbers have yet to be positively identified in the surviving buildings—see Part I, page 127. The development sequence, over a similar period, in which frame is superseded by heavy wall is seen also in Ireland. Waterman, *An Archaeological Survey of County Down* (1966), found that 'Up to the thirteenth century domestic building was evidently of timber or clay and wattles or turf, sometimes on dry stone footings' whereas today the majority of surviving vernacular houses in that region have mass, load-bearing, walls.
7. Dickinson, W. 'The Farming of Cumberland', *Journal of the Royal Agricultural Society of England*, XIII, part II (1852), quoted by Dr R.W. Brunskill, op. cit., page 67: 'The clay walls, tempered and mixed with straw, were begun upon the surface of the soil, and carried up to man height, that is six or seven feet, and then roofed with split oak rafters and thatch'.
8. Brunskill, R.W., 'The clay houses of Cumberland', *Transactions of the Ancient Monuments Society*, 10 (1962).
9. This is the view of Paul Barker who recorded the graphic material which forms the basis of figure 12 and who carried out documentary research on the building.

10. If the interpretation that the clay-work is earlier than the date-stone is accepted, then Ratten Row, presently listed Grade II, deserves Grade II* status, for its completeness, on rarity grounds, on confirmatory evidence of relatively early use of clay regionally, on its evidence for the switch out of clay and into stone, and as an example of the continuing use of the basically single-storey approach (at extension in 1689) in a dwelling of high enough status to allow the use then of expensive applied cosmetic detail—the label moulds and date lintel.
11. R.C.H.M.E., *Rural houses of the Lancashire Pennines 1560–1760* (1985), plate 90, p. 101.
12. At a conference on the problem of clay buildings on the Plain, organized by Carlisle City Council Planning Department in 1988, early picture-postcards showing such cottages were circulated.
13. This house, in a dangerously derelict state, appears to have been missed under the recent D.O.E. list re-survey of the area. The dated lintel alone ought to have rendered it listable.
14. Though later examples may have sometimes possessed a hearth in the ‘down-house’ from the start. See Dixon, P., ‘Paddock Hole: A Cumberland House with a Lower End Parlour’, *Trans. Cumberland Westmorland antiq. archaeol. Soc.*, N.S., 62 (1971), 139-50.
15. The author put forward the house for statutory listing in 1982; at that time so great was the ignorance of north-western vernacular building history, that after due delay it was refused by the D.O.E. It has subsequently been listed (during the recent re-survey). During rehabilitation the whole exterior face of the mud walls was clad over in heavy polythene sheet, now hidden by external render. This is dangerous where clay is concerned as the sheeting will not allow water vapour to pass. Clay-work is full of minute air channels formed by drying shrinkage and under-compaction. The foolhardiness of the adoption of an impervious external skin is apparent.
16. Information from S. Denyer.
17. See, for example, the half bay to the former parlour end at Oak Crag, Farndale East. Figure 99 in *Houses of the North York Moors*, Royal Commission on the Historical Monuments of England (1987), 67.
18. The size of byre at Lamonby Farm (and of the down-houses at White Cottage and, incidentally, Paddock Hole) coincides with what is recorded about the livestock a ‘statesman’ might carry. According to R.W McDowall, ‘The system of land tenure in Westmorland, and also in Cumberland, produced small independent farmers with more than a life interest in their land . . . In Troutbeck the normal holding was a Five Chattel (cattle) holding . . . The statesman was thus a very free smallholder, whose stock was reckoned at five cattle, and who, for the protection of timber no doubt, was not expected to have in his house more than one fireplace. Additional rent might be charged for those who had more fireplaces than they held Five Chattel Holdings’ in ‘The Westmorland Vernacular’ in Singleton, W.A. (ed.), *Studies in Architectural History*, vol. II (1956), 131. Study of the plans in this paper will confirm that most began life with only one fireplace—that in the living room.
19. The existence of the original door opening became apparent during the progressive failure of the clay gable of the cottage.
20. The builders of the extended, threshing, barn had secured stability at the junction between new and old work by reducing the wall height of the existing structure by a few feet, and running their new, more crudely-finished, work over the top to form a new wall-head. The overlapping of old with new clay extended for some feet towards the cross-passage. At the same time the ridge level was adjusted, in a very rough fashion.
21. With the collapse of the cottage walls, the original gable of Lamonby Farm house was exposed to view. However, this state of affairs did not last long since it was left briefly exposed to inclement weather and fell out overnight. The gable too was therefore rebuilt in modern materials. This train of events confirms the difficulty that modern conventional building practice has when faced with clay-work in less than perfect condition.
22. Brunskill R.W., ‘The Clay Houses of Cumberland’, *Transactions of the Ancient Monuments Society*, 10 (1962), 79, footnote 16.
23. See Brunskill, R.W., *Vernacular architecture of the Lake Counties* (1974), 51–56.
24. Brunskill, R.W., ‘The Clay Houses of Cumberland’, op. cit.
25. I am grateful to Dr Brunskill for pointing out to me the relationship between methods of joint forming and the state of the tradition on the Plain.

26. Fiennes, op. cit., p. 204.
27. Personal communication from the author.
28. Evidence for a once widespread suspicion of stone as a reliable building material lingered in the old Welsh adage 'Hard upon hard, never makes a firm wall' still in current use among the rural populace there in the early years of the nineteenth century. See the section on wall construction in Davies, *Report to the Commissioners of the Board of Agriculture, South Wales* (1815).
29. Innocent, C.F., *The Development of English Building Construction* (1916), Preface.
30. Stell, G., 'Two cruck-framed buildings in Dumfriesshire', *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, XLIX (1972), 39-48.
31. Walker, B., *Clay buildings in north-east Scotland*, Scottish Vernacular Buildings Working Group (1977)
32. Fenton, A., 'Clay Building and Clay Thatch in Scotland' in McCourt, D., and Gailey, A. (Eds), *Studies in Folk Life*, Ulster Folk Museum (1970), 28-51.
33. Smith, G., 'Essay on the Construction of Cottages . . . for the dwellings of the labouring classes' *Premium of the Highland Society of Scotland*, Glasgow (1843), 32.
34. Mackenzie, W. Mackay, 'Clay castle-building in Scotland' *Proceedings of the Society of Antiquaries of Scotland*, LXVIII, (1934) 68, 117-27, where Bishop Leslie (late sixteenth century) is quoted (p. 122) on the Borderers: 'The more important men build for themselves square towers, which they call piles, from clay alone, which cannot be burned, nor, except by a great number of soldiers and much labour, he cast down'. Leslie actually uses the word 'pyramidales' to describe the towers and Mackenzie footnotes this as follows, 'the word is also used by an early eighteenth-century writer to describe the brochs, which, he says, are 'of Pyramidal Form . . . broad below and drawing narrower to the top'. Mackenzie closes his comment: 'The Border piles of clay may thus have had a slight inward inclination'. The correspondence between this interpretation and the illustration in figure 52 is remarkable.
35. Merriman, M., 'The Platte of Castlemilk, 1547', *Trans. Dumfries and Galloway Natural History and Antiquarian Society*, 44 (1967), 174-7. The map is in the possession of the Marquess of Salisbury. It was drawn by an English surveyor during the Anglo-Scottish war of 1543-50.
36. Killip, M., 'Manx Traditional Houses, Furnishings and Household Goods', *Scottish Society for Northern Studies*, 10 (1977), 6.
37. Bullock, *History of the Isle of Man* (1816), 350 quoted in Moore, A.W., *The Folklore of the Isle of Man* (1891). Moore notes elsewhere (p. iv), 'From other sources we gather the following facts about the Manx people of by-gone times: A fireplace or chimney in their houses was quite a modern luxury. The 'chiollagh', or hearth, was made of a few stones laid on the floor, and the smoke found its way out either through the door or a hole in the roof. Frequently, from the scarcity of wood on the Island, they were too poor to afford a door, and used a bundle of gorse in its place. For burning they used turf, or even dried seaweed, from which latter they also got kelp for washing'.
38. David Robertson quoted by Killip, op. cit., p. 5.
39. Blundell c.1657, *Manx Soc.*, xxv, 57, quoted in Bullock, op. cit., ii and iii. He continues, 'yet in this smoking hut . . . doth the man, his wife, and children cohabit, and in many places with ye geese and ducks under ye bed, the cocks and hens over his head, the cow and calf at the bed's foot.'
40. Bishop Gibson, quoted by Killip, op. cit., p. 3.
41. Quayle, T., *General View of the Agriculture of the Isle of Man* (1812), 22.
42. In early 1988 the author was taken to visit this house by Paul Barker. Once more it possesses all the typical local features—open living room, cross-passage, attached in-line extensions, split-oak rafters, undersodding and thatch, but the general quality is less impressive than Ratten Row. The partition between living room and parlour is partly at least of brick suggesting late insertion or replacement. A fixed timber seat with end arm rest is attached to the hallen wall, which is itself of timber. The firehood is in place. When visited the property was derelict and it was hard to see a future for it. Its siting, well to the east of Carlisle, makes it important as a surviving outlier, confirming the shrinking back to a 'heartland', of the building methods of the Plain.
43. Sinclair, C., *Thatched Houses of the Old Highlands* (1953). Walton, J., 'Cruck framed buildings in Scotland' *Gwerin*, 1. (1957), 110-21. Grant, I.F., *Highland Folk Ways*, (1961). Fenton, A., 'Alternating Stone and Turf—an Obsolete Building Practice', *Folklife*, 6 (1968), also 'Clay Building and Clay Thatch in Scotland' in McCourt, D., and Gailey, A. (ed.), *Studies in Folklife*, presented

- to E.E. Evans, Ulster Folk Museum (1970). Walker, B., *Clay buildings in north-east Scotland* Scottish Vernacular Buildings Working Group (1977). Also Walker, B., 'The vernacular buildings of north-east Scotland: an exploration', *Scottish Geographical Magazine* (1979); Fenton, A., and Walker, B., *The Rural Architecture of Scotland* (1981).
44. See O'Danachair, C., 'The Questionnaire System', *Béaloideas, Journal of the Folklore of Ireland Society* 15 (1945), 213, in a section headed 'Thrust Thatch', 'This method is used in most of Leinster and in parts of East Ulster . . . A layer of thatch is sewn to the roof timbers, either directly, or over a sod layer, according to local usage. Then the thatcher takes a handful of straw, twists the ear end into a knot and thrusts it into the straw layer already on the roof with a small iron or wooden fork, so that the knot catches in the straw of the roof and is firmly held. He thrusts in other knotted wisps beside the first, making sure they lie tightly together. When he has covered a strip about two feet wide, he thrusts in another similar strip above it, lapping over the first strip, and so on until the ridge is reached. The straw is well damped and beaten down to make it lie flat. . . .' See also, Buchanan, R.H., 'Thatch and thatching in north-east Ireland', *Gwerin*, 1 (1957), 3, 123-42. Buchanan defines stapple-thatch differently from 'thrust' thatch. In Ulster it was related to a system of mud-mortaring down 'tightly-knotted bundles' to form a thatch. (Mud-mortared thatch roofs are still found now and again in England, and the method is surely ancient.) Following Innocent, the term stapple has been used throughout this paper as an alternative to 'thrust thatch' since it nicely describes the twisted bundle of straw involved. Wetting and beating down in position are again described as part of the process by Buchanan.
 45. The record drawing by Dr E. Wiliam reproduced in figure 55 is accompanied by a detailed description of the thatching method used in South Wales; this follows those already given but makes it clear that the stapples were put in at very close centres. The tool recorded from Wales is a flat wooden blade (see Part I, figure 62) unlike any others known. However, Innocent's recording of the term 'battledore' in the Midlands suggests it had been more widely employed at one time.
 46. Innocent, C.F., *The Development of English Building Construction* (1916), 208.
 47. Innocent, C.F., op. cit., 201. 'The third method of securing thatch is by means of sods, called 'scraws' in the north, which also provide a foundation for the thatch. In one variety a small quantity of straw is pulled out at one end of the 'yealm', turned down, and wound round the top of the 'yealm', forming what is known as a 'staple'. (See Part I, figures 63 and 64) 'with a thatching iron, an instrument slightly forked at the apex, the twisted head of the staple is pushed through the turf, and is prevented from coming out again by the 'head' of wound straw'.
 48. Wood-Jones, R.B., *Traditional Domestic Architecture of the Banbury Region* (1963), 248. 'The use of turf, to which thatch can be secured, has been noted in the thatching of the large oven projections of the eighteenth century, where turf is laid on the top of the stonework.'
 49. Roussel, A., *Norse Building Construction in the Scottish Islands* (1934), pp. 64 and 65. Referring to the building shown in figure 58 he notes 'The turfs on the roof have been laid with great care; the pegs have been driven through the right hand corner of each turf, so that it passes through the turf from the lower course and through the neighbouring turf which it overlaps . . . It all looks extremely neat and orderly, but it would certainly have had a better appearance if the turf had been cut so thick that the grass could have grown'.
 50. See Evans, E.E., 'Sod and turf houses in Ireland' in *Studies in Folklife*, Jenkins, J.G. (ed.), (1969) 80-90, and *Irish Folkways* (1957), chapter IV and especially pages 50-1.