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Please note that these reports are being updated as part of an ongoing programme of revision. Older reports sometimes refer to the old names of the Group. Between 2005 and 2012 also known as The Snowdonia Dendrochronology Project, then the N W Wales Dendrochronology Project and then the Dating Old Welsh Houses Group.

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North West Wales Dendrochronology Project
DATING OLD WELSH HOUSES

Bryn yr Odyn
Cwm Cynfal
Maentwrog
C16th 'Snowdonia' house



In partnership with
RCAHMW



*David Longley
for North West Wales Dendrochronology Project
September 2011*

David Longley, BA, FSA, MIFA
Historic Building Recording and Illustration

01248 715293
davidlongley@menaicottage.co.uk

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Very many thanks to Dafydd and Pegi for access
to Bryn yr Odyn and interest in the project

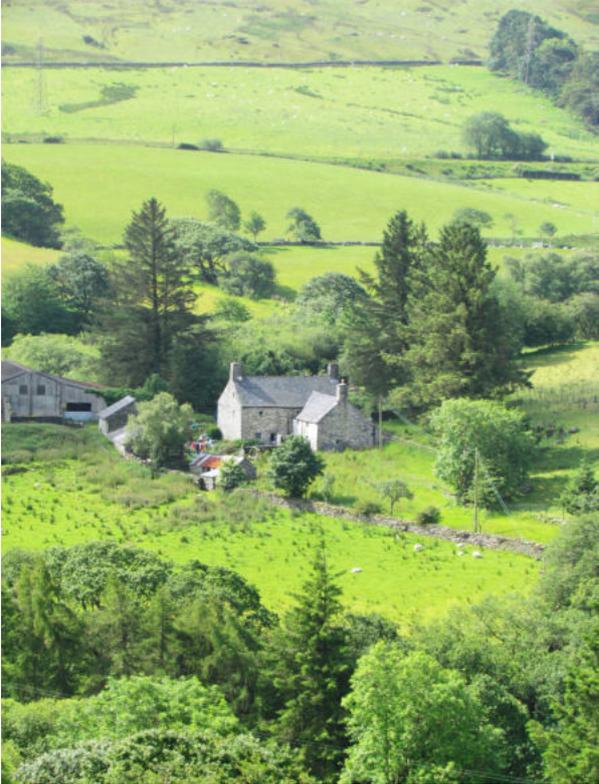


Location

Bryn yr Odyn, Cwm Cynfal, Maentwrog
Grid Reference: 270770 340850
HER PRN 6519
NPRN 28229



Bryn yr Odyn in the 1790s



Bryn yr odyn in 2011



Introduction

Bryn yr Odyn is a sub-medieval, two-unit, end-chimney storeyed house. Houses of this type are often described as 'Snowdonia' houses because of their proliferation in the old counties of Caernarvonshire and Merioneth in the later sixteenth and seventeenth centuries. Despite the small footprint these are substantial houses, the homes of prosperous freeholders and gentry farmers. Notwithstanding the wilder parts of the Snowdonia landscape, cattle would nevertheless thrive, contributing to regional prosperity.

In Peter Smith's words these houses 'established the existence of a class of gentry and substantial farmers who were the backbone of the country in the early modern period'.

The ground plan of these houses have a considerable affinity with smaller hall-houses. However, in contrast to halls open to the roof and only subsequently floored in the later Tudor period, a very significant distinction between hall-houses and the Snowdonia type is that these houses were meant to be provided with a first floor at the outset.

A cross passage gives entry and divides the ground floor into two components. The parlour, service and/or store rooms stand at one side of the passage, the lower end, and a large 'hall' occupies the upper end. At Bryn yr Odyn the cross-passage was defined by heavy oak partitions. A large ingle-nook fireplace and its chimney breast occupied the west gable providing a focus for the hall in use.

Other characteristics of many of these houses include a winding stone stair, near the fireplace (the stair may have been a later feature at Bryn yr Odyn) to access the first floor. The first floor would be partitioned and a heated parlour provided at the lower end, the opposite end to the hall fireplace below.

The present house has a floored attic but there are strong indications that the original design involved a first floor open to the roof with a central partition below the central roof truss. The truss beneath the collar was intended to be panelled with posts and filled with plaster on wattle and staves.

In time, additional structures might accrue. At Bryn yr Odyn, a two-storey kitchen wing was added to the north side of the hall.

Dendrochronology sampling, undertaken by Martin Bridge and Dan Miles, suggest that the timber for the roof trusses were felled sometime after the 1550s. Results from timber samples on the ground floor, from the entry passage and from the main lateral beam suggest a similar date, with the exception of the fireplace bressummer which might seem to be two generations earlier and probably re-used from another source. The date of the north kitchen wing is problematic. The date of the bressummer over the fireplace opening and the purlins in the first floor roof space seem broadly commensurate with the main house timbers. On the other hand the first floor truss and the central lateral beam in the kitchen wing were felled no earlier than around the first half of the seventeenth century. The beam and the truss could have been replacements - the first floor truss has certainly been modified - but neither is the mix-and-match of re-used purlins a convincing argument for an original component of the roof.

The dendrochronology results are indicated on the relevant drawings on pages 13, 21 and 24

Bryn yr Odyn is mapped prominently on John Evans' map in the 1790s. It was recorded in the tithe survey of 1840, holding 132 acres. Morris Griffiths was the tenant farmer. In 1891 David Jones farmed the land with his wife Elizabeth and his three children.

Bibliography

Brunskill, R W. 2000, *Houses and Cottages of Britain*, Gollancz, London

Smith, P. 1988, *Houses of the Welsh Countryside*, RCAHMW, HMSO

Smith, P. 2001, 'Houses, c.1415 - c.1642', *History of Merioneth*, vol. 2, The Middle Ages, 422-506.

Bridge, MC. and Miles, D. 2011 (updated) Tree-ring dating of timbers from Bryn yr Odyn, Cwm Cynfal.

Cadw Listing Survey: Bryn yr Odyn, Maentwrog

Dolgellau Record Office: Tithe Map and Schedule of the Parish of Maentwrog, 1840



Bryn yr Odyn, front and back

The main house, first floor

Bryn yr Odyn is a compact but substantial stone built two-unit, two-storey and attic, end-chimney sub-medieval house of the first half of the sixteenth century. A kitchen wing was added on the north side, a generation later.

The main house is rectangular, on a west-east axis. The external length of the house is 12.7 m and 7.4 m. wide. The thickness of the walls at ground level is, on average, 950 mm. Access to the ground floor is achieved from the outside into a passage defined by oak partitions on each side. There are doors at each end of the passage. The south door is slightly larger than the north door and the passage floor (1.5 m wide) slopes down towards the north, confirming that the south door is the main door. The arch above is formed by slate voussoirs.

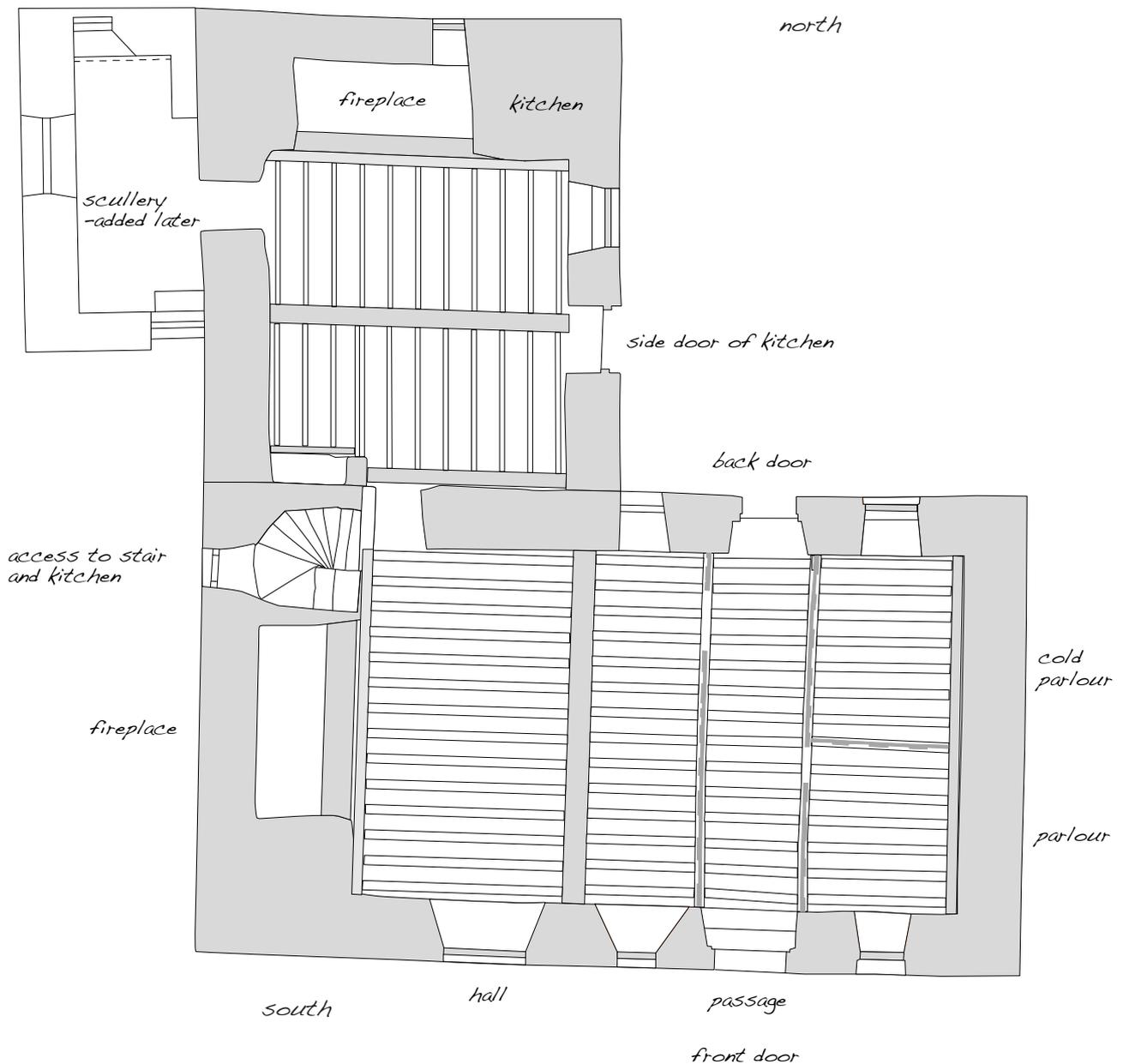


fig. 1 Bryn yr Odyn, ground floor
Scale: 1:100

0 1 2 3 4 5 6 7 8 9 10 M

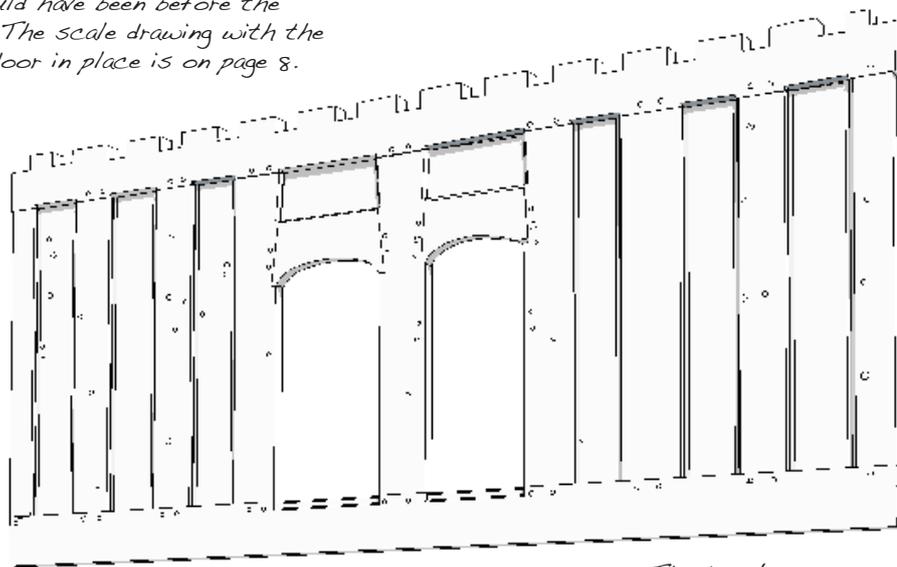
Cross-passage

The cross-passage at Bryn yr Odyn is an important example of complete muntin and plank partitions flanking both sides of the passage, notwithstanding replacement of decayed timber and the rearrangement of door positions.

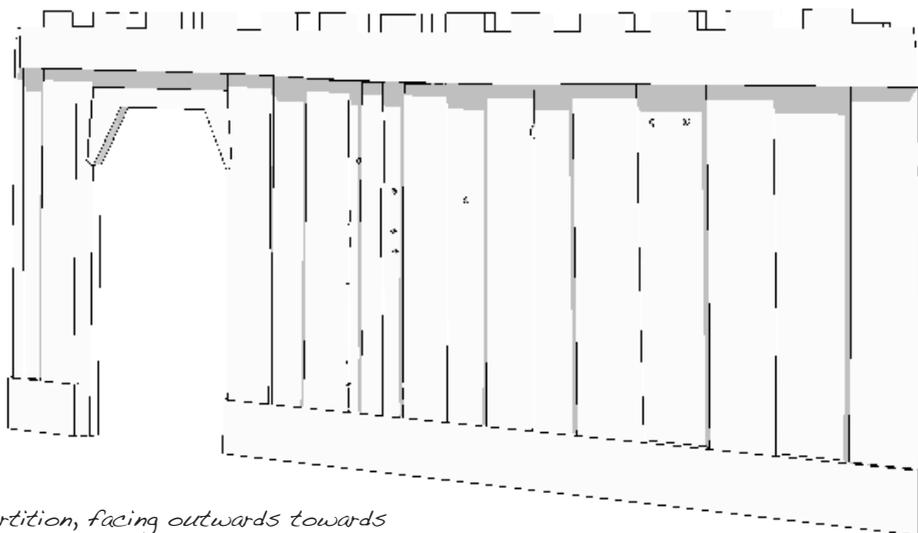
The top and sill-beams are roughly horizontal. The height of the muntins, grooved on their edges to receive chamfer-edged planks are, on average, 1.8 m. tall. The muntins are pegged (2 pegs) and tenoned into mortices on the top and sill-beams. The planks are not pegged. The depth of the sills vary as the ground slopes. The maximum and minimum heights of the partitions above the original passage floor are 2.5 m and 2.4 m. The top-beams are 112 mm. thick with 14 mortices trenched along the top to receive joists of 150 mm. x 100 mm. (approximately 6 in. x 4 in.).

There were two doorways in the eastern partition, leading to two rooms at the eastern end. One door is now blocked but the position of its former partner is identifiable by the distinctive remaining jambs. The remaining

East partition, facing in towards the passage. The left hand door is drawn as it would have been before the blocking. The scale drawing with the blocked door in place is on page 8.



The top beams carry trenched mortices for ceiling joists continuing the rows of joists across the passage and the rooms behind.



West partition, facing outwards towards the hall. The door is a modern pastiche. The central area had a wide opening before blocking.



Bryn yr Odyn, base plate and level/s, east side of passage
 Scale: 1:25

original door is a complete example - a low arched head, quasi four-centred, tenoned into morticed and pegged angled rebates in the sides of the jambs.

A perpendicular top rail, morticed for a muntin and plank division, but now removed, indicates the division of the two back rooms - probably a parlour and a store. There is a small fireplace in the south room behind the screen but it is not certain that it was original. The fireplace in the chamber above is certainly original.

A modern door has been inserted at the north end of the west partition and this is now the access to the hall. Nevertheless, there are clear indications of a former large central opening, now blocked, which originally would have made an impressive entrance.

Graffiti

There are four legible inscribed graffiti on the boards facing the passage on the western side. There may be others.



door rebates, pegs, chamfered edges



top rail dividing the two lower/back rooms

On the second board from the south, there is an inscribed date, 1615. On the third board there are the capital letters RI (not illustrated). On the fourth board there are two ligatured capital letters HH. On the fifth board there is the single capital letter R. On a slab of slate, part of a window sill, there is the legend R O Ellis. There are also carpenters' marks which are illustrated, among others, on page 17.

The hall

The hall is an open space on the west side of the cross passage 5.2 m from the partition to a large ingle-nook fireplace.



1615



HH



R



R O Ellis

A large transverse beam 350 mm wide and 335 mm deep extends across the room 3.2 m from the west wall and 1.6 m from the partition. The beam spans 5.46 m. and supports 14 trenched mortices either side for joists. The joists, 140 x 100 mm are chamfered with plain stops.

The joists in the hall rise above and rest on a flat beam above the fireplace. The bressummer above the fireplace opening is now masked behind plaster. It is 450 mm wide and 480 mm deep, chamfered on the lower front face

There are two windows on the south wall either side of the ceiling beam. Both have relatively wide displays. That closest to the partition has a recessed bowl shape in a deep slate slab, the purpose of the which is not clear.

The stair

A stone winding stair was inserted into the north-west corner of the main house immediately adjacent to the fireplace. The stair may be a secondary feature as the bressummer has been truncated to accommodate the stair and the beam



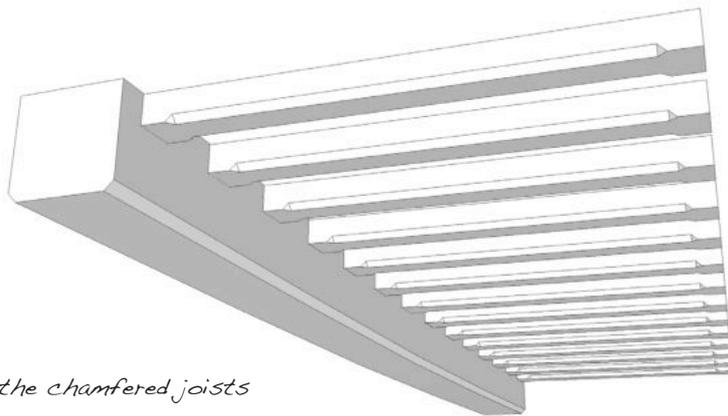
The hall fireplace

windows in the south wall



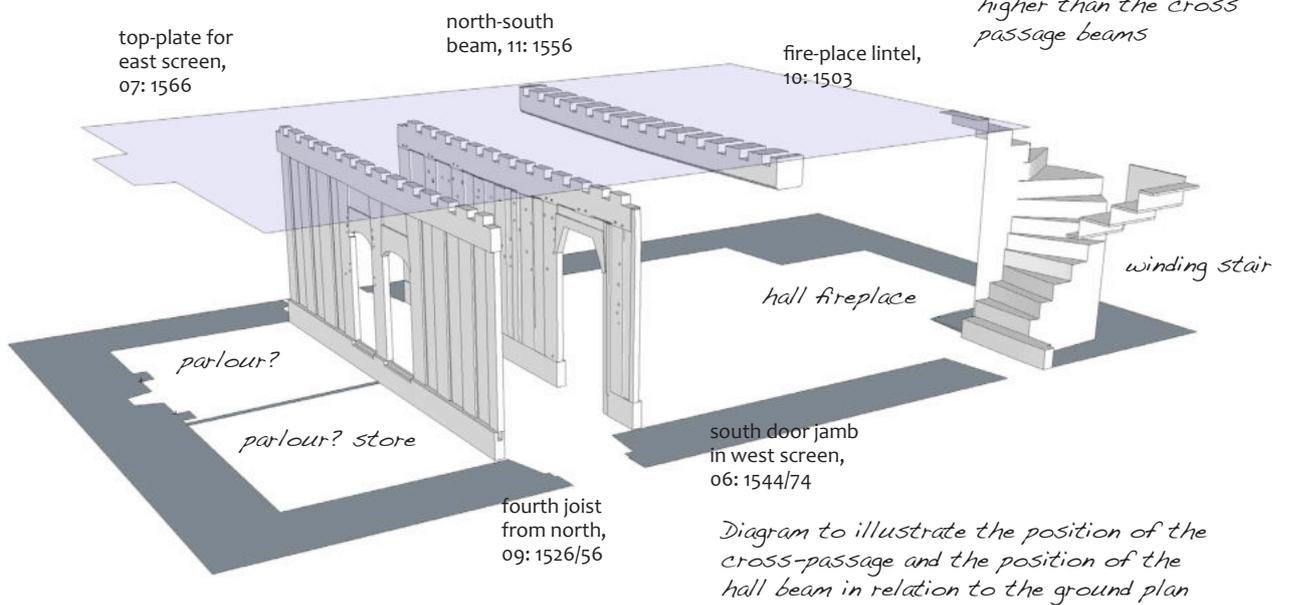


The western partition and the central hall beam and joists



The hall beam and the chamfered joists

The hall beam is slightly higher than the cross passage beams



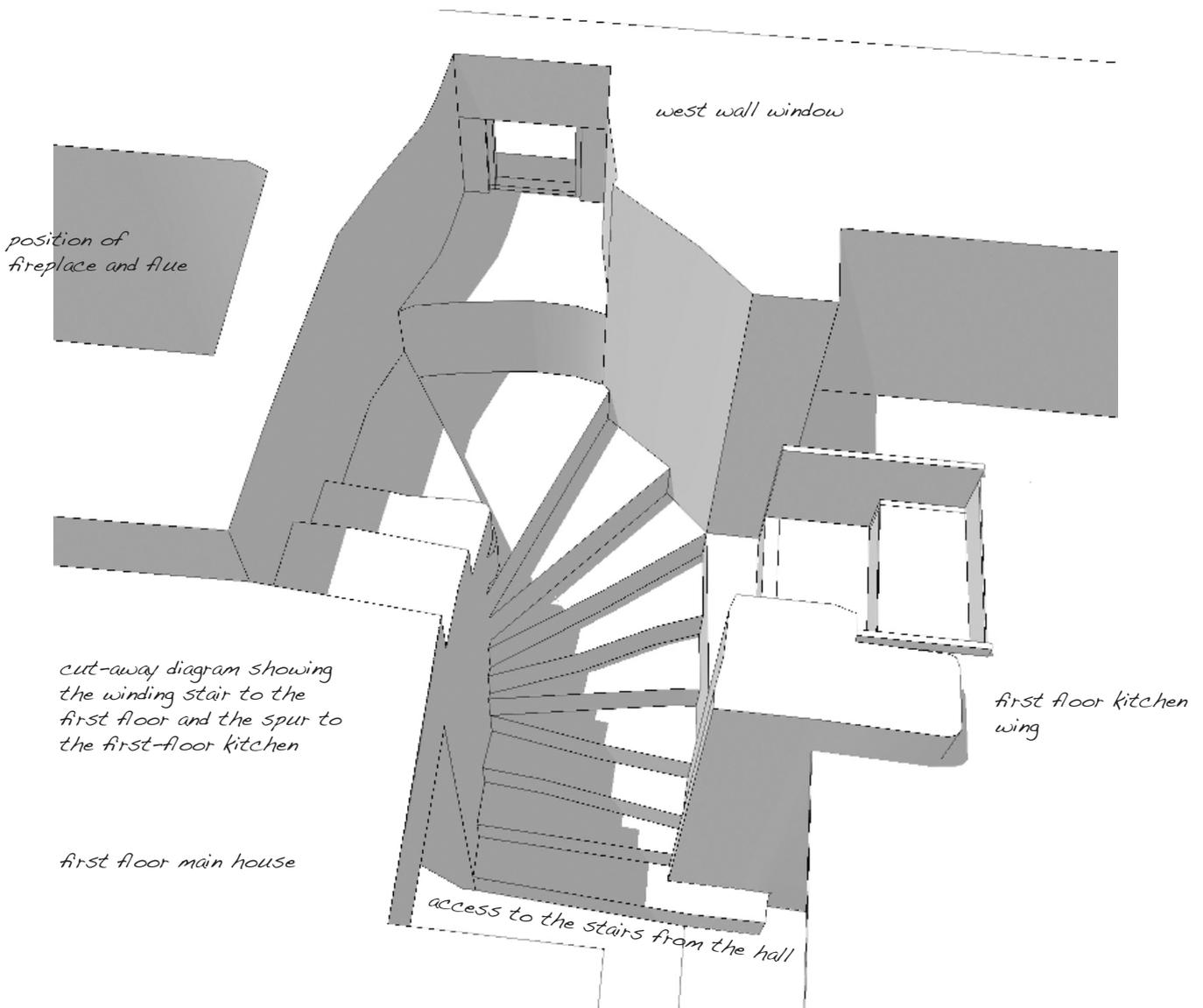
carrying the joists on the west gable has been compromised by the stair access. The stair may have been inserted at the time when a two-storey kitchen wing was added to the house, against the west wall at the west end. The stair provided access to both the first floor of the main house and the first floor of the kitchen.

There are thirteen stone steps rising to the main first floor and four modern wooden steps branching to the 1st floor of the kitchen. A small window in the west wall lit the arrangement at about the ninth step.

First floor

The first floor is very slightly wider than the dimensions on the ground floor, presumably to provide additional support for the 1st floor boards.

There are four lateral beams which support the attic floor above. An eastern beam is attached to the east gable. The dimensions and spacing between the beams are as follows:



- The east beam is has an irregular profile, 200 mm. wide, on average and 200 mm. deep.
- The second beam is more massive, 293 mm. wide and 306 mm. deep; 2.2 m. from the east gable beam.
- The third beam is roughly central to the 1st floor space but is considerably slighter at 115 mm thick and 200 mm deep; 1.8 m between the second beam and the third, over the partition.
- The fourth beam is 280 mm wide and 210 mm deep; 2.2 m. between the third beam and the fourth beam and 2.2 m. to the west gable.

The slighter third beam rests on a plank and muntin partition, very similar in style to those on the ground floor. The beam sags however and it has been necessary to provide an infill of fillets to retain contact with the beam and the partition. Nevertheless, the partition must have been detached from the beam at some stage.

All of the beams carry rows of 16 modern joists fixed in trenched mortices, with the exception of the fourth beam where the joists lie across the beam.

Partitions

There are two oak partitions on the first floor. One partition crosses the width of the floor space, 5.8m. in the centre. An additional partition stands perpendicular to the first and is a later and secondary feature. The first partition is a plank and muntin screen with pegged and grooved muntins. The boards carry carpenters' marks (Roman numerals) very similar to those on the screens on the ground floor. The ground and lateral first floor screens are probably contemporary.

There is one original opening immediately to the north of the junction with the secondary partition and another modern opening, adjacent. The secondary partition is also a muntin and plank design with tenoned muntins but not



*Second beam from east gable,
note: modern joists and base of
north truss projecting through
first floor ceiling*

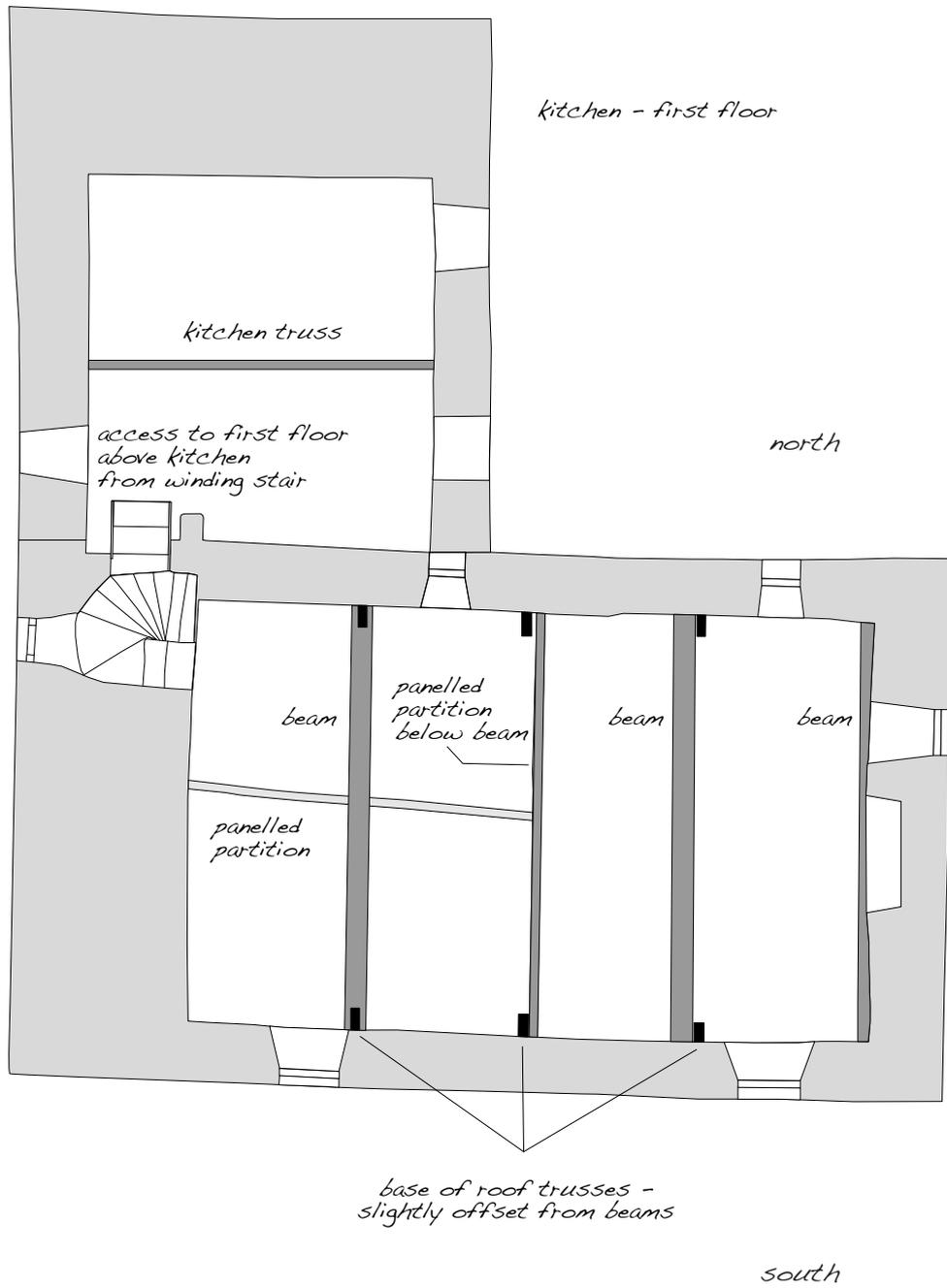
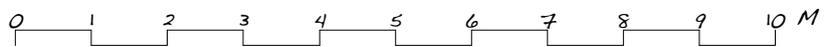
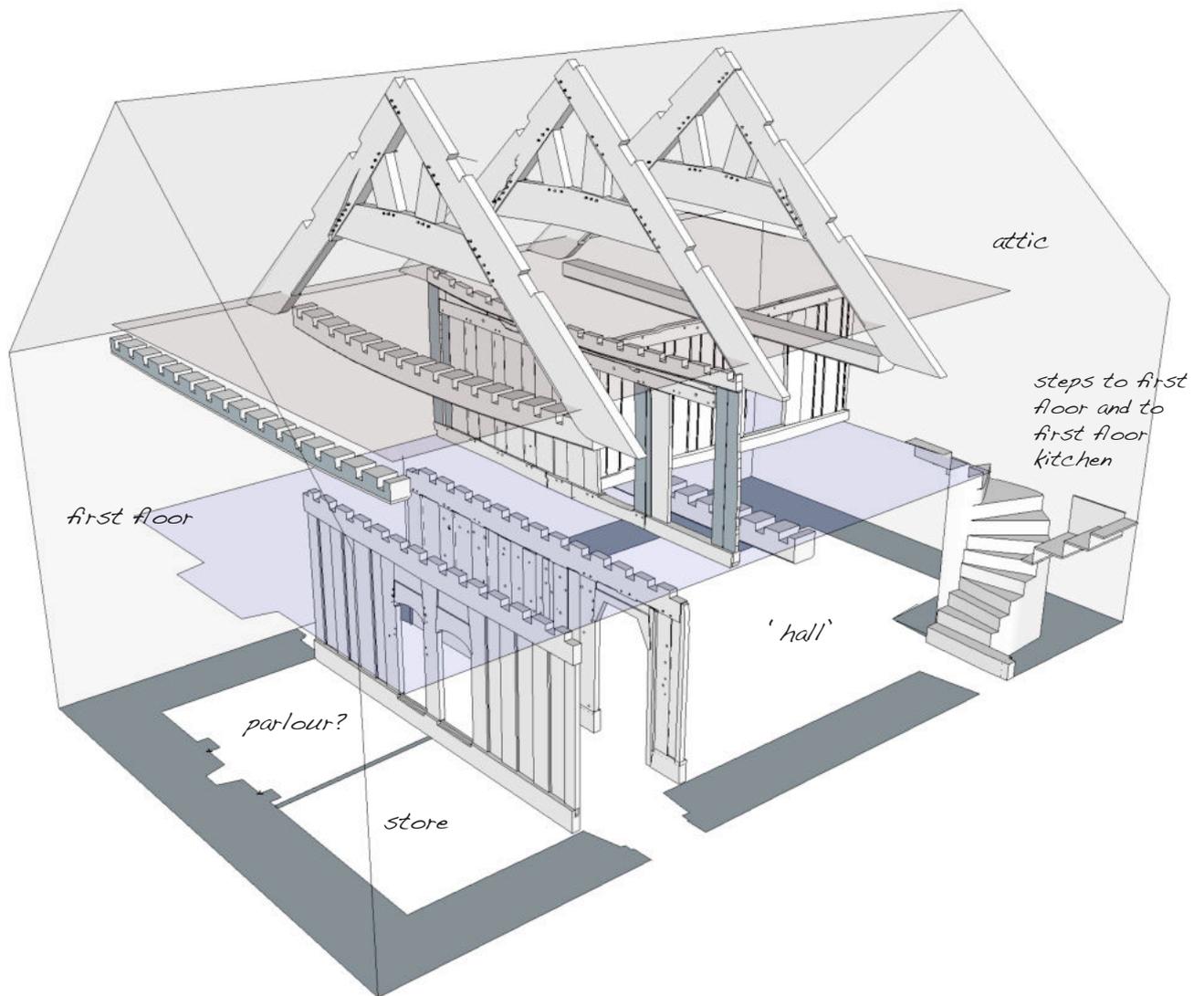


Fig. 3 *Bryn yr Odyn first floor*
1:100



This drawing illustrates the sequence through ground, first and attic floors, showing the position of the screens and trusses. It also shows the relationship of the trusses, first floor beams and the attic floors. See also p. 21 for a hypothetical alternative for the original arrangement of the first floor and the roof trusses

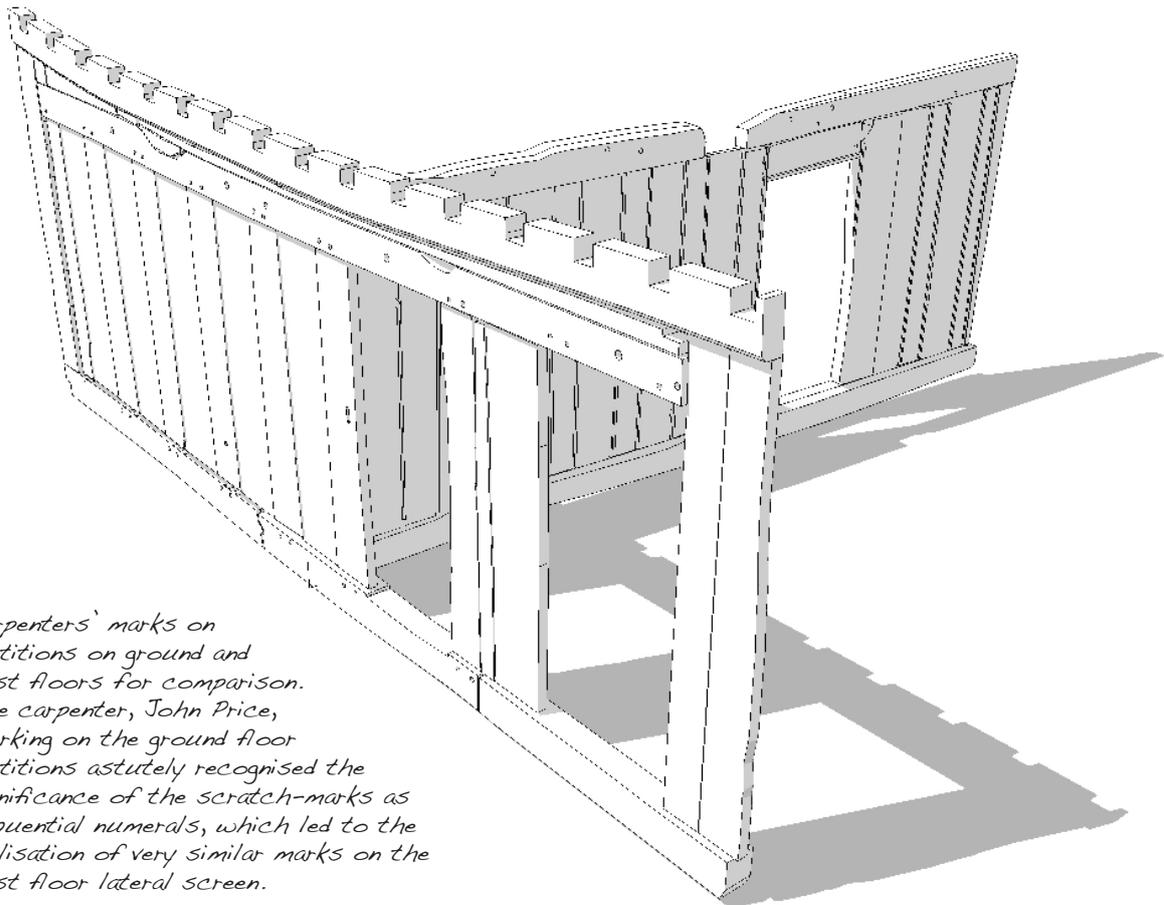


pegged. An exception is a tenon and pegged lintel on a doorway, close to the west end of the screen. The muntins have reeded embellishment at the edges.

There are two splayed windows in the south wall, now with modern casements. The eastern of the two windows carries a graffito on a slate ledge with the legend R O Ellis.

There is a fireplace at the east gable with a substantial lintel 2.4 m. across and original opening of 1.4 m, now reduced to 507 mm. A relief carved symbol (a heart shape, a bird or an initial or numeral) is present at the upper edge of the lintel. Its meaning is unclear.

There is an opening through the thickness of the east gable to the north of the fireplace. There is a clear indication in the masonry on the external wall face that the opening, now a window, was originally a door – perhaps, with an external stair, or less likely, a latrine chute.



Carpenters' marks on partitions on ground and first floors for comparison. The carpenter, John Price, working on the ground floor partitions astutely recognised the significance of the scratch-marks as sequential numerals, which led to the realisation of very similar marks on the first floor lateral screen.

lateral partition, first floor

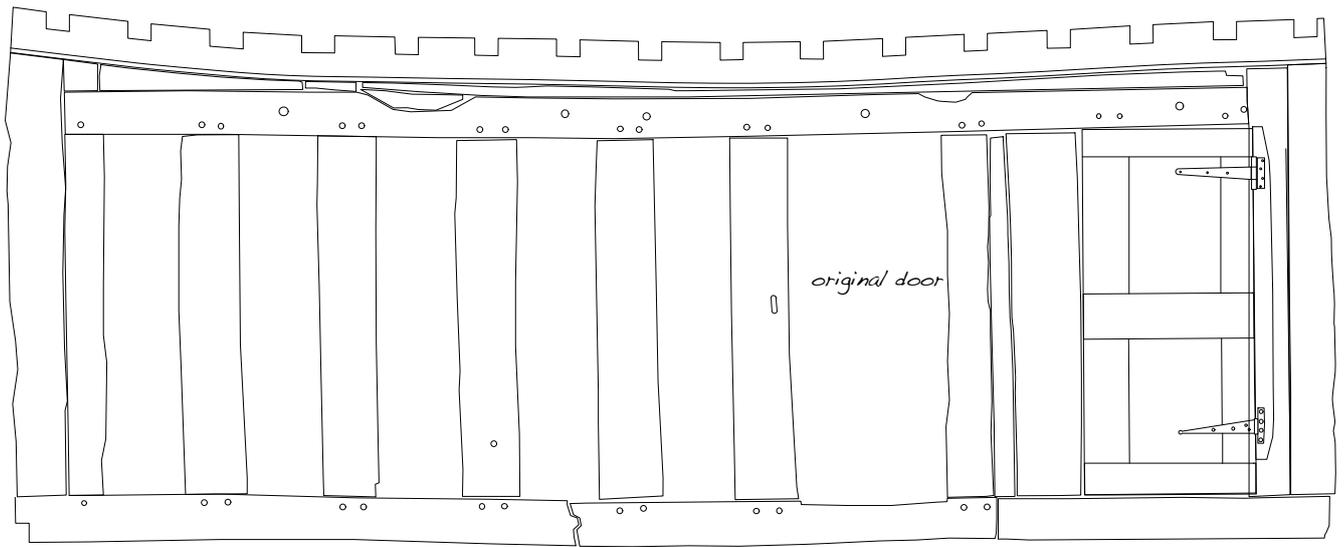


west partition, ground floor



east partition, ground floor





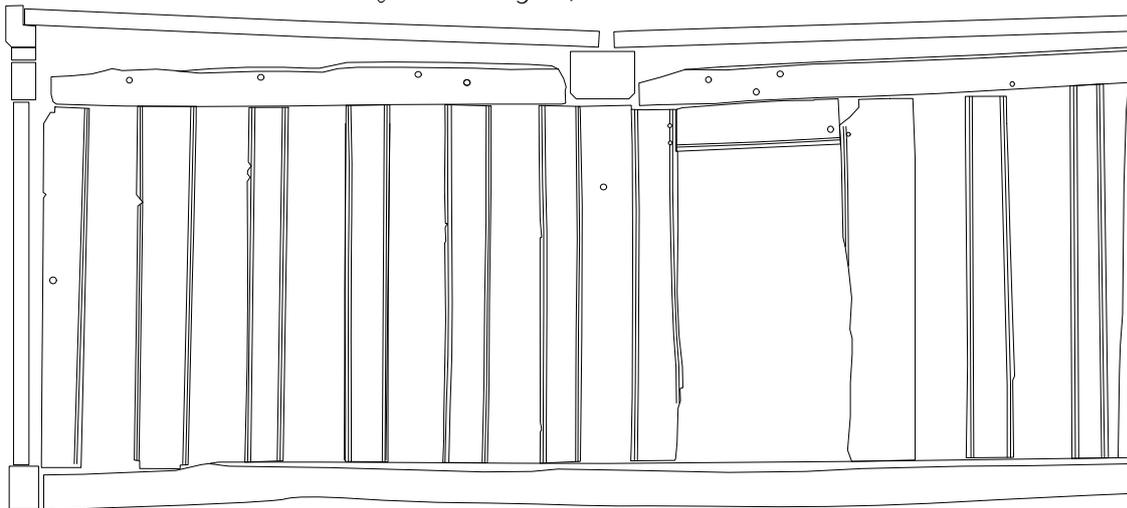
0 1 2 3 4 5 M

○ Bryn yr Odyn, first floor lateral partition

Scale drawings of the lateral partition and perpendicular partition on the first floor. The boards are not chamfered; the perpendicular partition has reeded embellishment on the edges

profile of lateral partition where it is joined by the perpendicular partition

joists resting on partition beam and fourth beam



0 1 2 3 4 5 M

○ Bryn yr Odyn, first floor, perpendicular partition

There are two small windows on the north wall, both with original thick jams and mullions. The westernmost of the two is partly blocked by the addition of the kitchen wing on the north wall.

The base of each attic truss is visible below the ceiling of the roof above.

The attic

The attic space is floored but not, perhaps initially. The beams and joists mortices on the first floor confirm an a first floor ceiling/attic floor at a relatively early date. However the row of three massive collar beam trusses which support the roof show certain anomalies which are difficult to reconcile.

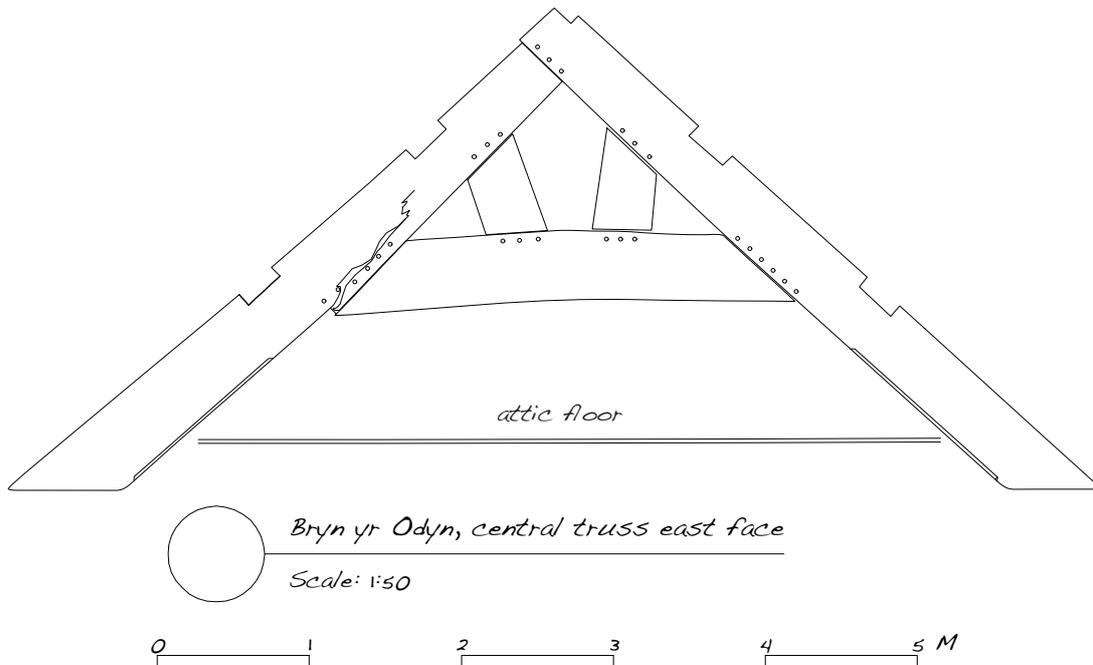
The trusses are each very similar. The principals are 120 mm. thick and on average 450 mm. wide at the base and about 400 mm. near the apex. The collars are 450 m. wide and the raking struts are between 380 and 400 mm.

The collars are pegged in rows of six; three pegs at each strut end and 3 pegs at the mortice and tenon joint of the principals. The trusses stand 7.4 m wide at the base and 3.2 m tall.

The central truss has mortices at the underside of the collar and at the underside of each principal below the collar. One each side of the mortices there are dowel or staff holes. This can only have been meant to attach studs to a beam below while the staves and wattle filled in the spaces.

The base of each truss rests on the wall plate. However, the beams above the first floor also rest on the same wall plate. It may be supposed that the original design would allow the trusses to sit on the beams, raising the trusses slightly, but this is unlikely.

An alternative possibility is that the first floor was open to the roof. A corollary might suggest that the central partition and its beam or top rail was surmounted directly by the central truss. The beam need not lie on the wall plate but the central truss would. The partition would be a divider of the first floor space into two rooms. The central truss and partition below were probably designed to work together.



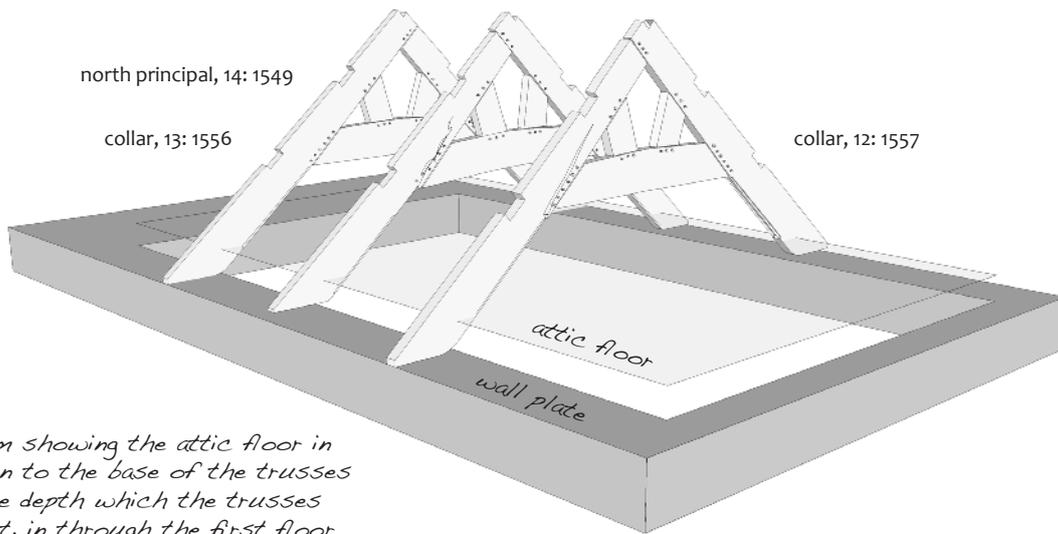
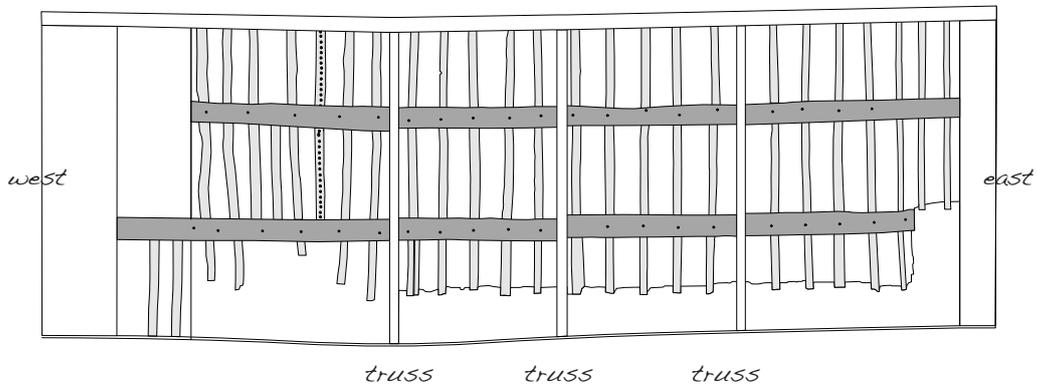
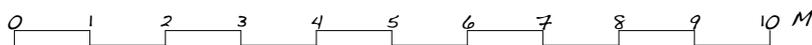
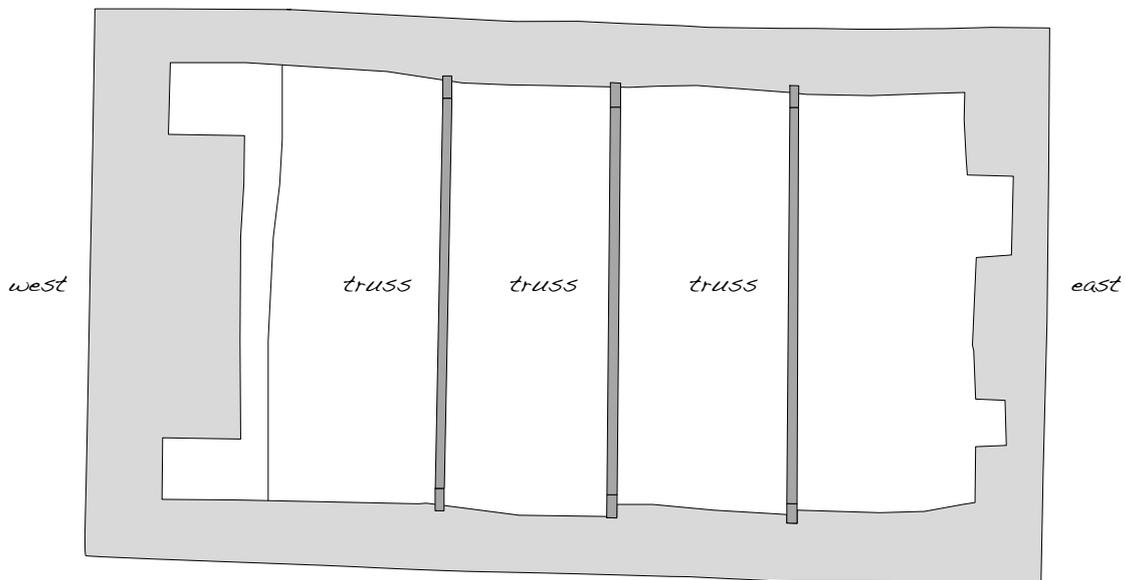


Diagram showing the attic floor in relation to the base of the trusses and the depth which the trusses project, in through the first floor ceiling. The distance between the attic floor and the wall plate is about 300 mm.



Exploded view of the north side of the roof showing pegged purlins and rafters. The grouping of the rafters in the western bay, out of line with the purlin peg-holes and the introduction of a dowelled rail is a product of the attachment of the roof of the kitchen wing

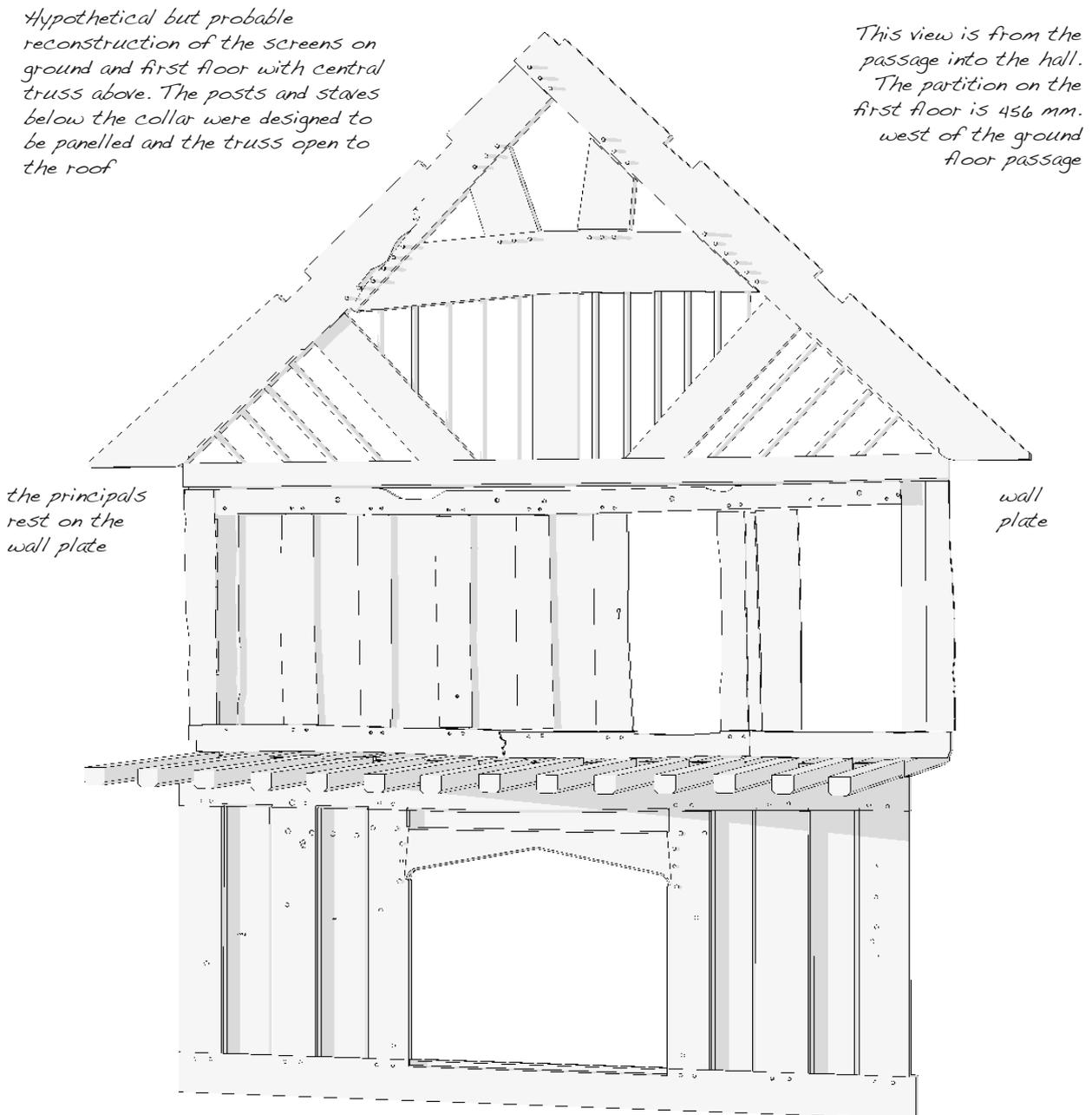
An alteration of the design arrangements may have been to raise the first floor ceiling beams which would need to be placed on the wall plates (which is, in fact what happened). The present problem of the central beam sagging above the partition is a probable product of it being raised to the wall plate and above the partition.

The westernmost beam is not morticed - the joists sail over it; the beam does not sit on the wall plate but because the beam is set lower than the wall plate the truss above is able to sit directly on the beam.

The trusses, at present, project 330 mm. below the attic surface, approximately the depth of the ceiling beams.

The kitchen wing

The kitchen wing was added later. It is nevertheless a substantial addition to the house, almost 5 m. square internally,



The wide door from the ground floor passage (now blocked) is based on the long central chamfer and the absence of peg holes

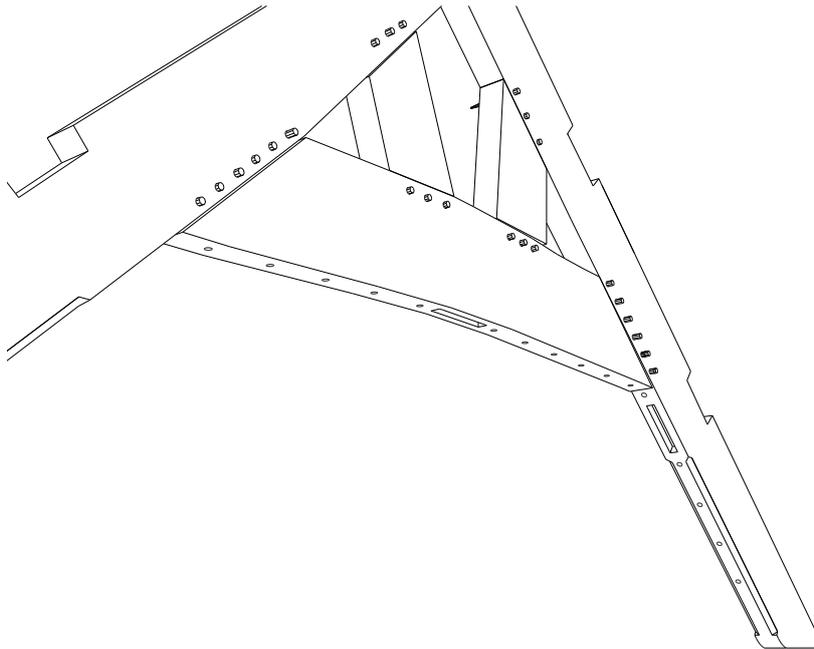
with walls 1 m. wide on the west side and 900 mm. on the east side, on 2 storeys.

There is an ingle-nook fireplace at the north end, 1.3 m deep.

There is a door and a splayed window in the east side to the yard and another door towards the end of the north wall leading to a modern scullery.

The kitchen wing is entered from the main house through a door in the north-west corner. The first floor is accessed by a spur from the winding stair in that position. The fireplace is 2.7 m. wide; 300 mm. thick and 365 mm. deep with a bressummer over the opening.

A beam, 258 m. deep and 164 mm. thick has been placed against the face of the chimney breast with trenched



Mortices and staff holes beneath the collar of the central truss. They were intended to be blocked with wattle and plastered but arrangement may not have been implemented.

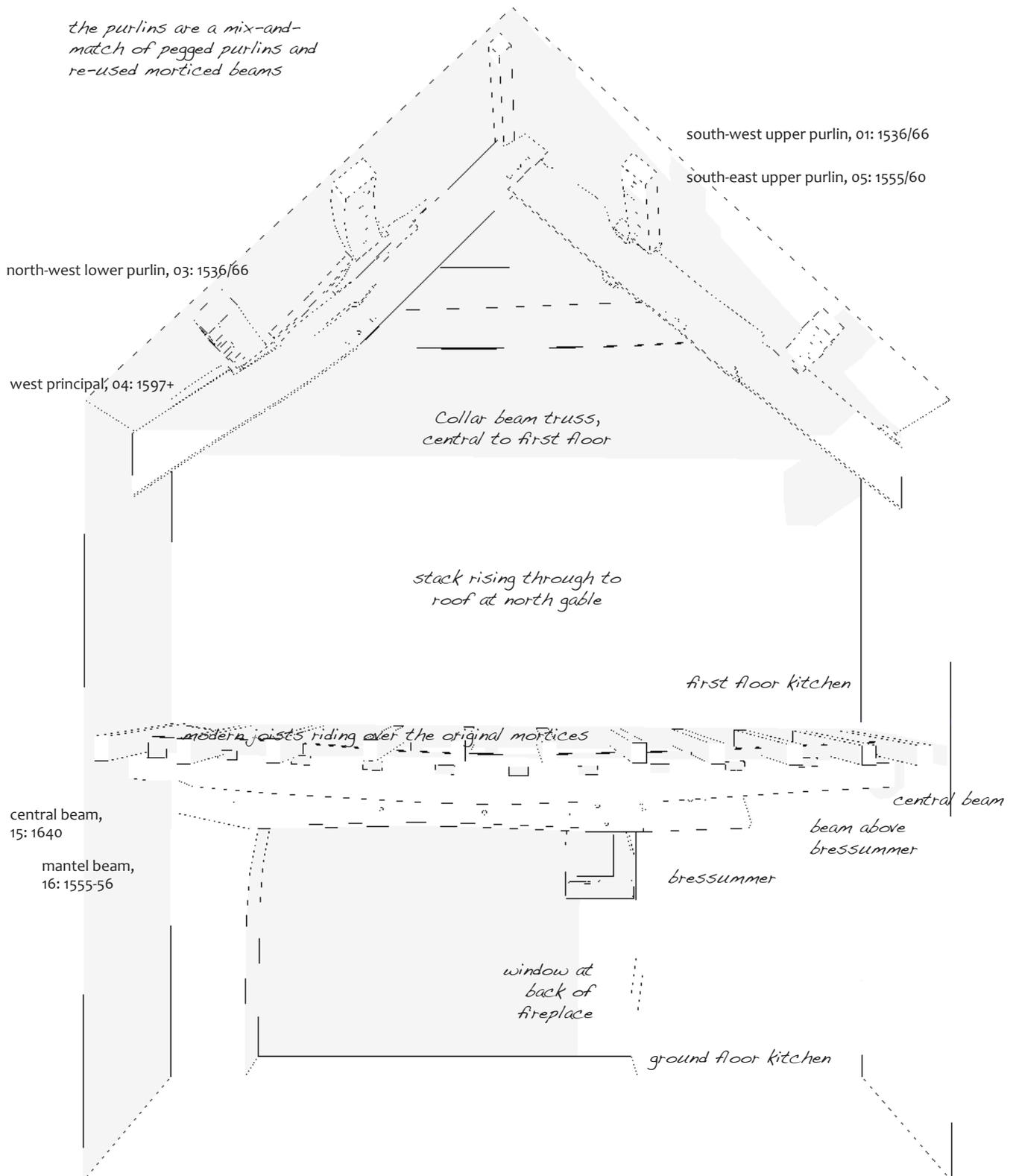


The base of the eastern truss, on the north side is visible below the first floor ceiling/attic floor adjacent to the second beam from the east.

mortices on the upper edge to carry joists. The beam has sagged so much that a cement infill and varying sizes of wooden chocks bring up the level.

A beam, 295 mm. deep and 250 mm. wide, chamfered on the underside edges spans the width of the room, at the centre. The distance between the beams is 2.2 m. - between the fireplace beam and the south end of the room. The original run of eleven mortices is blocked and the modern joists are partly trenched to different depths to

the purlins are a mix-and-match of pegged purlins and re-used morticed beams



accommodate the sag of the beam.

A beam is fixed to the south wall to receive the joists at that end. In the south-west corner the joists have been truncated to accommodate first floor wooden steps

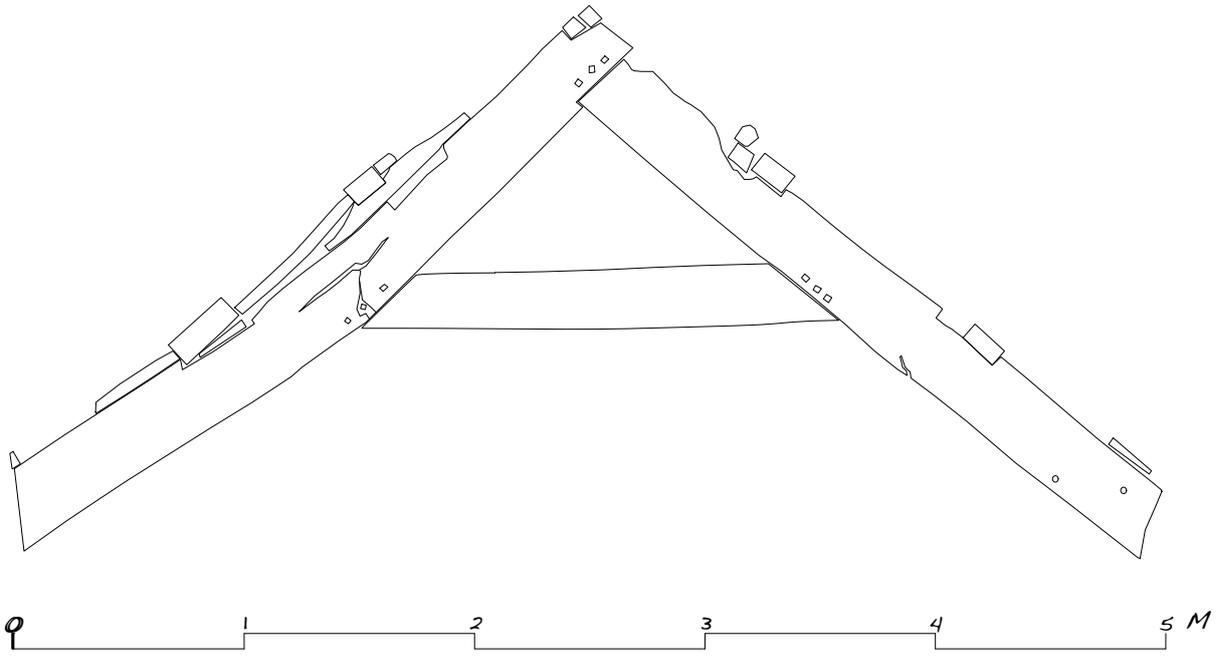
The first floor of the kitchen

The first floor has similar dimensions to those on the ground floor. There are two windows below the eaves on the east side and a small window in the west wall at the south end near the steps. There is no visible evidence for a fireplace in the first floor, north gable.

The main feature of the room is the large single collar beam truss which stands centrally within the roof space. The principals rest on the wall plates at 1.3 m. above the first floor on the west side and 1.4 m. on the east. The ridge is 3.7 m. above the floor. The north principal has a tension fracture causing some splaying on that side. Several modifications and repairs have been made. The purlins are not all original, not quite in the right place and have been lifted by chocks on the west side. At least two different sets of beams have been used as purlins. The upper row on the west side, comprise two beams, scarf-jointed. The purlin on the south may be original, with peg holes for rafters. The northern purlin has clearly been removed from another location. It carries a row of mortices which suggest an original use in supporting joists. The lower row also comprises a mixture of mortice beams and pegged purlins but in the opposite order. The purlins on the eastern principal may be original.

The north wing, showing openings on the east side





○ *Bryn yr Odyn kitchen truss*
Scale: 1:33



Purlins on west side of kitchen truss principal. The purlins are scarfed at the principal with a mixture of peg-hole beams and re-used trenched, morticed, beams

Dendrochronology

Sheet1

Sample number	Timber and position	Dates AD spanning	No of rings	Felling seasons dates/date ranges (AD) 1536-66
Rear (North) Wing				
byr01	South-west upper purlin	1450-1526	77	1536-66
byr02	East principal rafter	undated	NM	unknown
byr03	North-west lower purlin	1420-1525	106	1536-66
byr04	West principal rafter	1458-1586	129(+5NM)	after 1597
byr05	South-east upper purlin	1454-1531	78 (+24NM)	1555-60
byr13m	Mean of 01 and 03	1450-1526	107	1536-66
Cross passage screens				
byr06	South door jamb in west screen	1421-1533	113	1544-74
byr07	Top-plate to east screen	1436-1518	83 (+38NM)	c.1556
Ceiling joists				
byr08	9th joist from south, east room	undated	87	unknown
byr09	4th joist from north, east room	1414-1515	102	1526-56
byr11a	Main north-south beam	1423-1536	114	-
byr11b	Main north-south beam	1496-1552	57	-
byr11	Mean of 11a and 11b	1423-1552	130	c1556
Fireplace lintel				
byr10	Fireplace lintel, main G. Floor	1388-1503	116	1503?
Roof timbers				
byr12	Collar to east truss	1410-1556	147	Summer 1557
byr13	Collar to west truss	1408-1555	148	Summer 1556
byr14	North principal to west truss	1388-1516	129	soon after 1549
North Wing add. Timbers				
byr15	Axial beam	1424-1639	215	Summer 1640
byr16	Mantel beam	1436-1555	120	Winter 1555/56

The dendrochronology results were obtained by M. C. Bridge and D. Miles, (Oxford Dendrochronology Laboratory) and are indicated on the relevant drawings, pages 13, 21 and 24.

Appendix:

Cadw listed building survey (summary)

Listed Grade II

Record No. 4836

A sub-medieval house of probable late sixteenth century date, extended in the seventeenth century by the addition of a rear wing. The original dwelling is within the regional tradition as a storeyed, end-chimney house with internal cross passage. Recorded in the tithe survey of 1840 as a substantial holding of over 132 acres (53.4hectares), owned by Reverend David Griffiths and occupied by Morris Griffiths.

Two storey farmhouse with later block to rear added to form an L-shaped plan. Built of mortared rubble masonry, slate roof with stone gable stacks with dripstones and capping.

Listed as a well-preserved late sixteenth century house retaining original character and layout.