

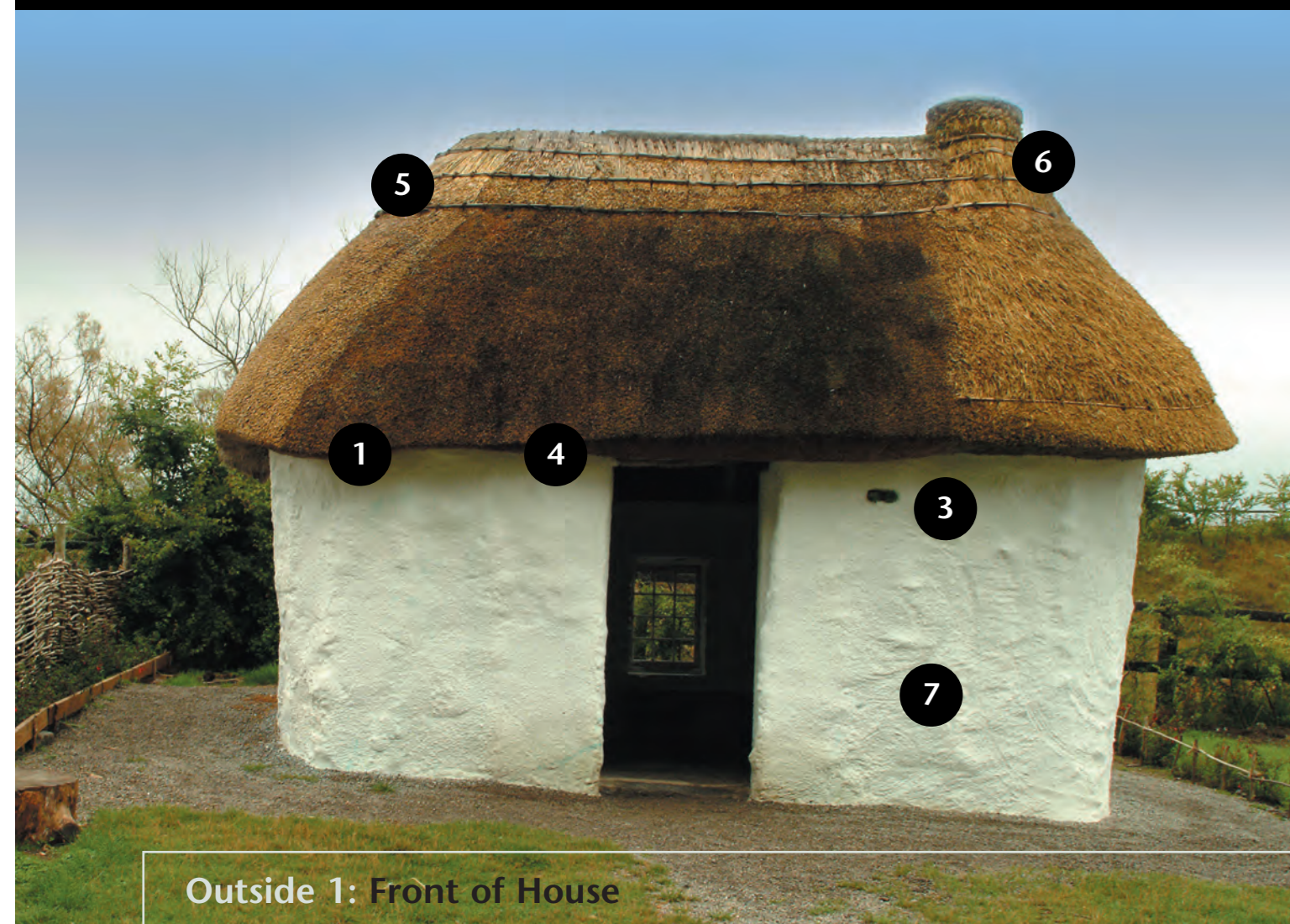
House Building Project

The Education and Outreach Department of the Museum of Country Life aims to draw attention to aspects of the Museum's exhibitions, to increase awareness of traditional materials and skills and to explore their relevance today.

In Summer 2003 we undertook a **house building skills** project. Skilled craftspeople worked in the grounds of the museum to demonstrate and explain the variety of materials, tools and techniques that were used at different times in building traditional houses in Ireland.

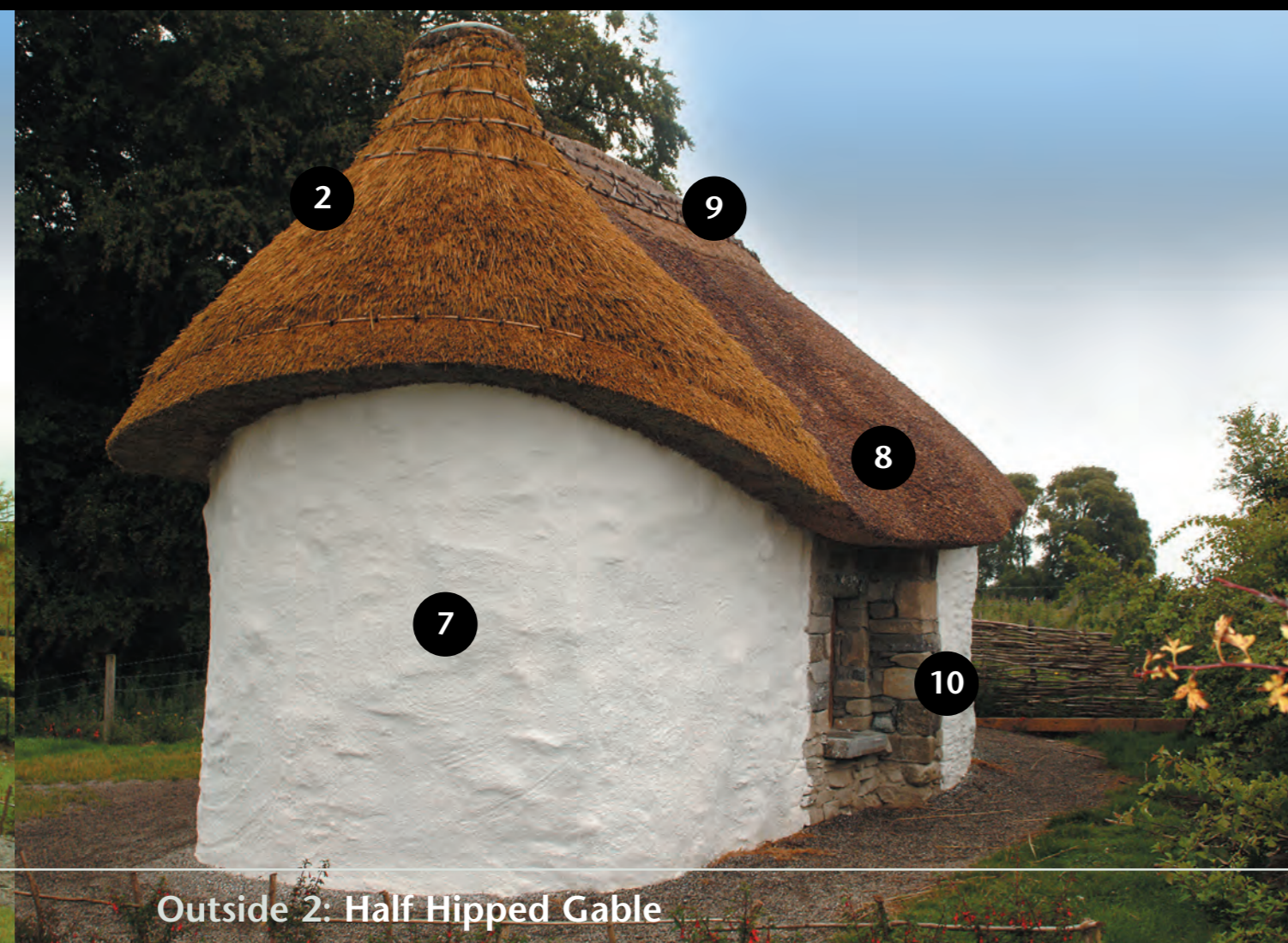
The resulting structure is biodegradable and was made from the sustainable, managed and renewable natural resources of wood, earth, stone and straw, locally produced, as was the case for many thousands of years in the vernacular dwellings of our ancestors.

Tours and workshops to explain the project and demonstrate skills such as wattle weaving, thatching and lime-washing are held at regular intervals or can be arranged for groups.



Outside 1: Front of House

1. Combed eye straw
2. Long wheaten straw
3. Alcove for plants, traditionally the beachall ti, or house leek, which has medicinal properties.
4. Ships rope made from hemp fibre.



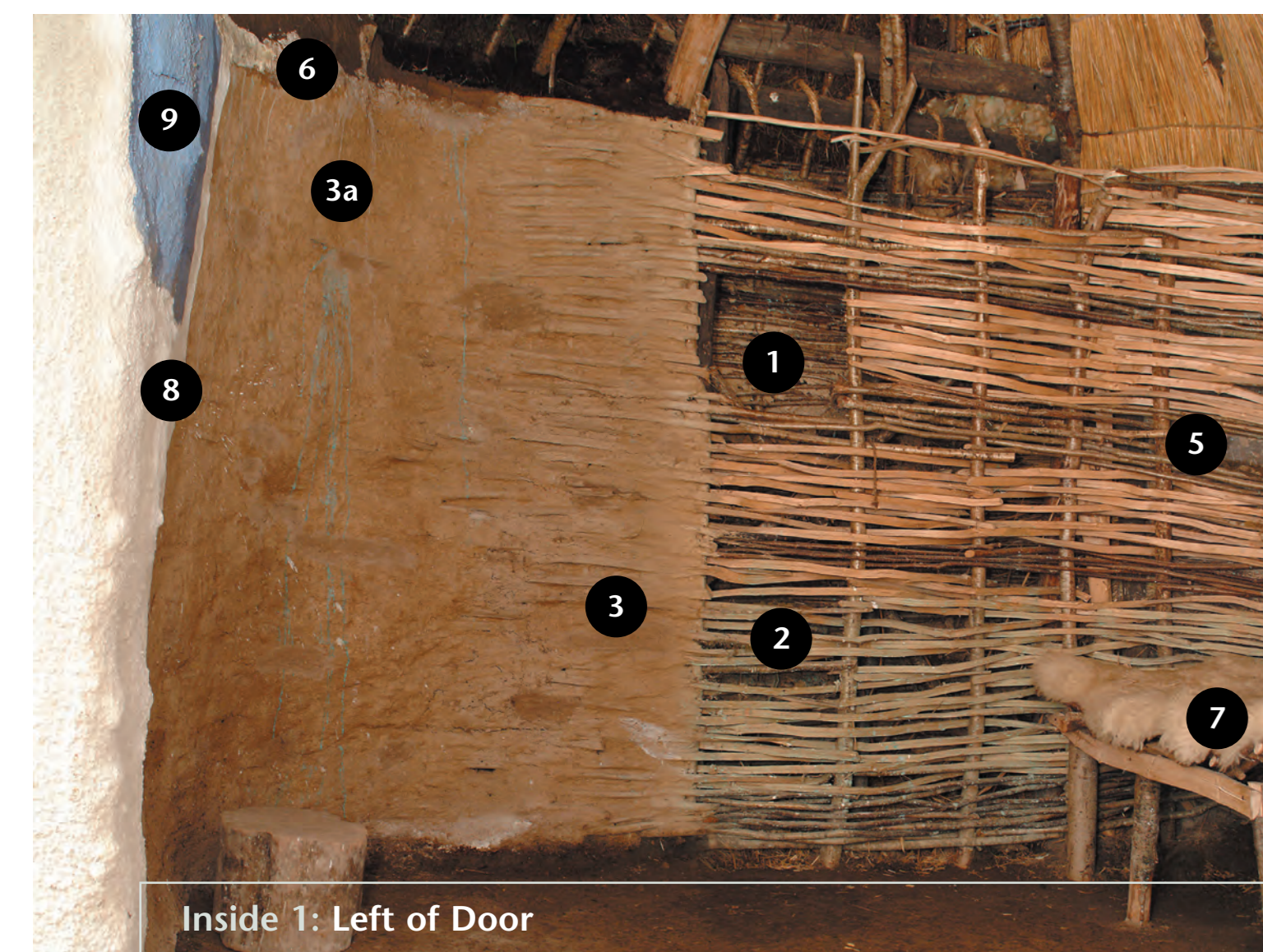
Outside 2: Half Hipped Gable

5. Exposed scollaps, or hazel pins, and horizontal hazel rods, or ledgers, on the ridging.
6. Thatched chimney
7. Curved wall of double wattle frame filled with insulating materials and covered in daub, lime plastered and white washed with lime putty and water.



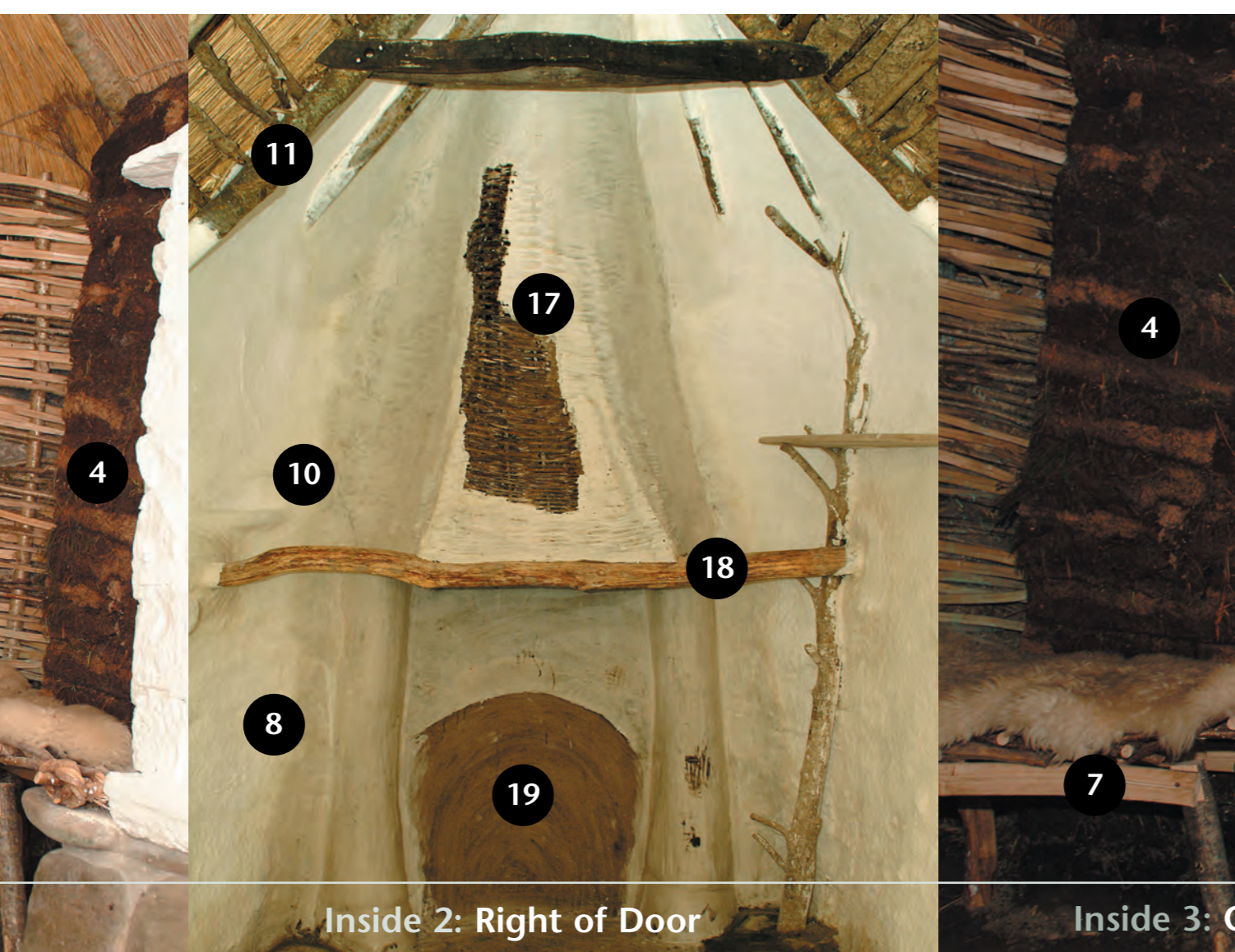
Outside 3: Full Hipped Gable

8. Reed thatch
9. X Shaped style scollap and rod work on ridging
10. 18th century window set in stone wall
11. 8 yrs old flax thatch



Inside 1: Left of Door

1. Thatch hole showing outer layer of wattle with non-split hazel rods.
2. Inner layer wattle of split hazel rods.
3. A skim daub consisting of 50% clay 35% lime 15% milled hemp or straw on the wattle weave.
- 3a. A full coat of daub consisting of 50% clay 35% lime 15% milled hemp or straw on the wattle weave.



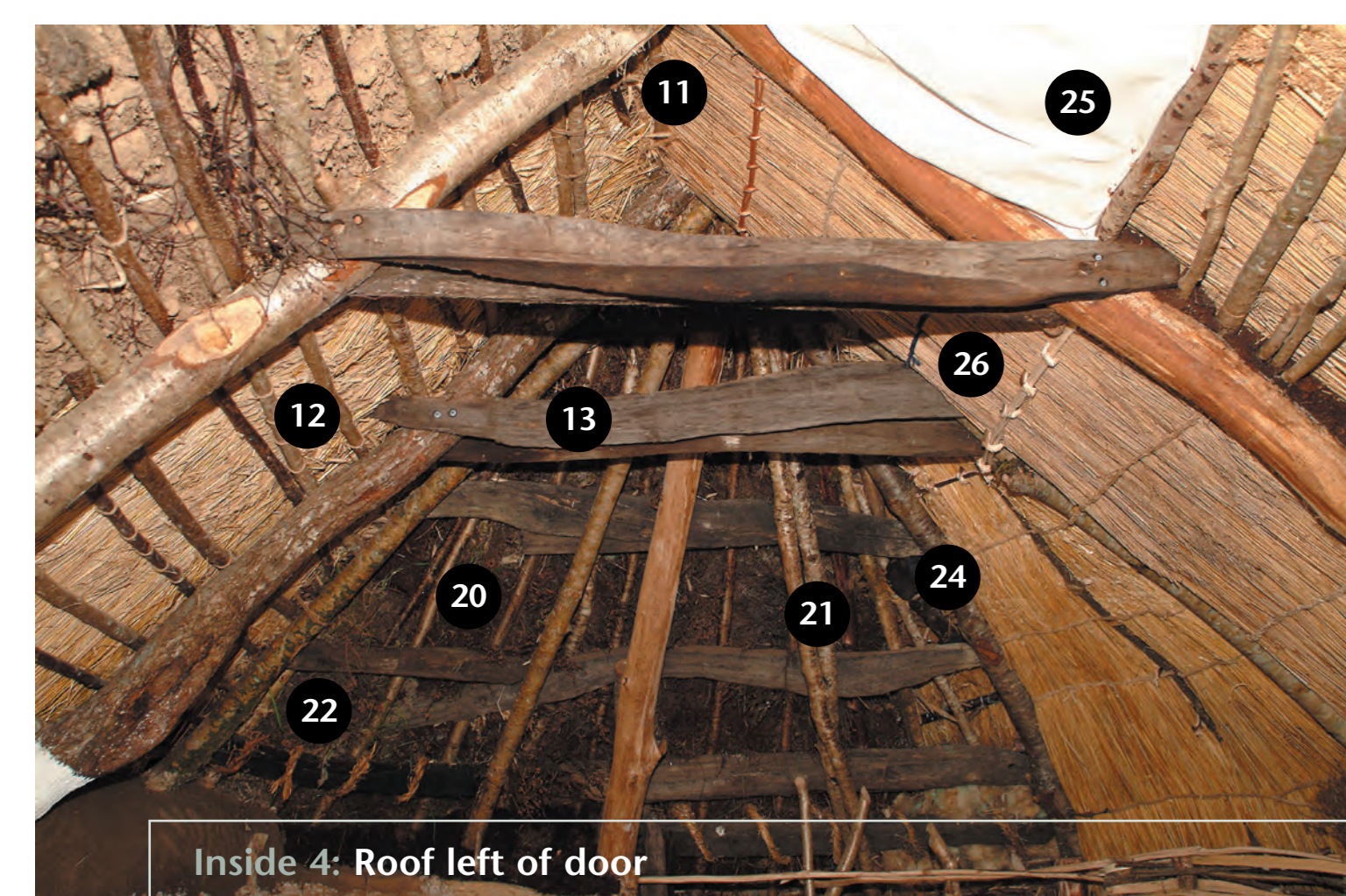
Inside 2: Right of Door

4. Wall segment is made of turf sod.
5. Insulation materials include: chopped straw, reed, gorse, moss, leaves, tannin-rich oak bark, wool, hemp etc.
6. 6-12 inches of compacted raw wood with copper sulphate mix provides a draught proof layer between the roof and the wall.
7. Bed outshot of calceath. The calceath is usually situated beside the hearth.
8. Lime wash over thin lime mortar.
9. Blue stone copper sulphate, Cu SO₄, mixed with lime wash provides a hygienic anti-bacterial, anti-fungal. Copper sulphate was good for pest control because bugs dislike it and rats and mice are poisoned by it.
10. The plastering on the wall near the fireplace incorporates the shape of the wattle to create alcoves, nooks and crannies.



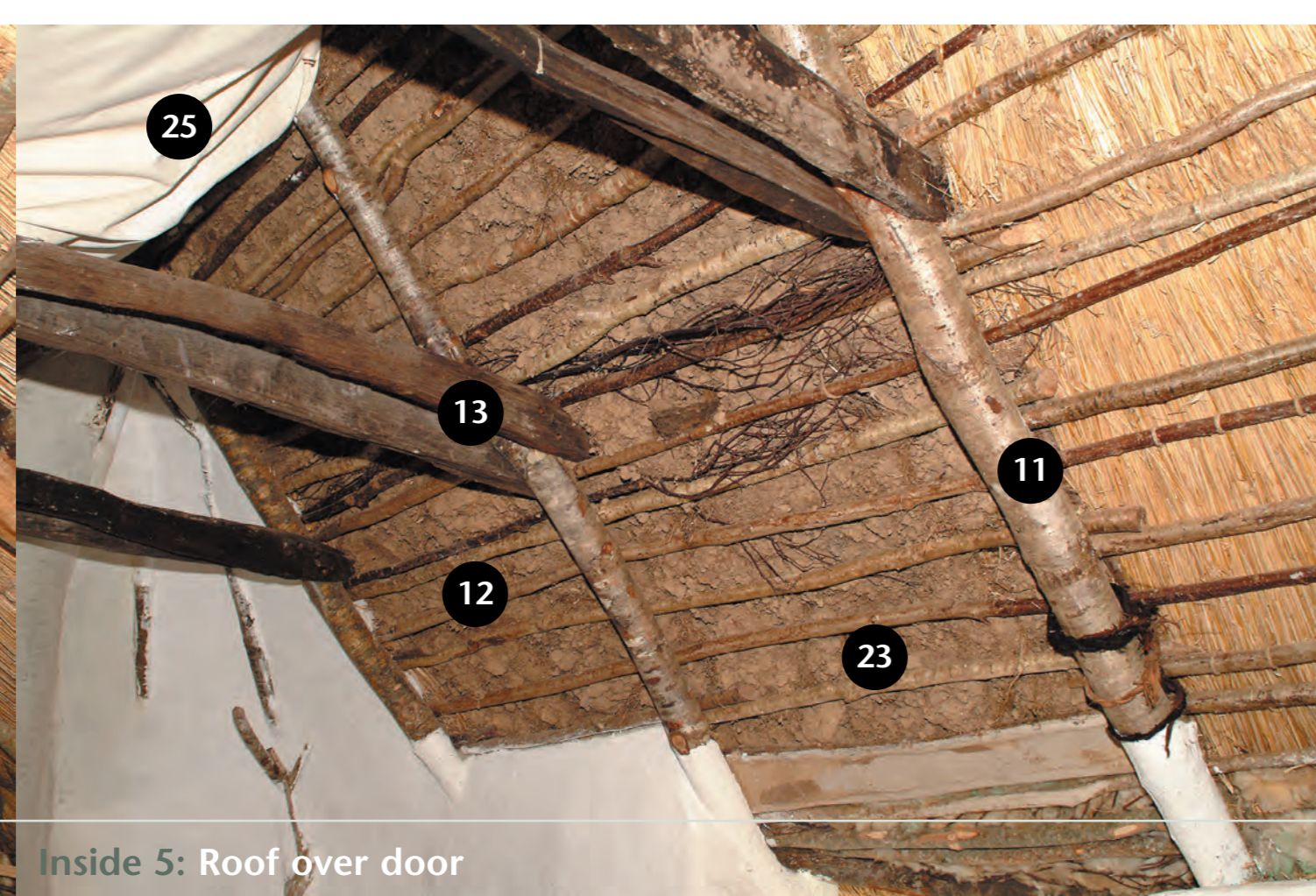
Inside 3: Opposite door

11. Rafter of ash and oak.
12. Horizontal hazel laths.
13. Bog oak crucks.
14. Stone wall including re-used dressed stone from Dromore West, glacial rounded stones, river rounded stones and local stone.
15. The window comes from the workhouse in Dromore West, Co. Sligo.
16. Wall segment made of clay sod.
17. Willow cowl woven in two different styles.
18. Length of oak as a mantel strut.
19. Fireplace.



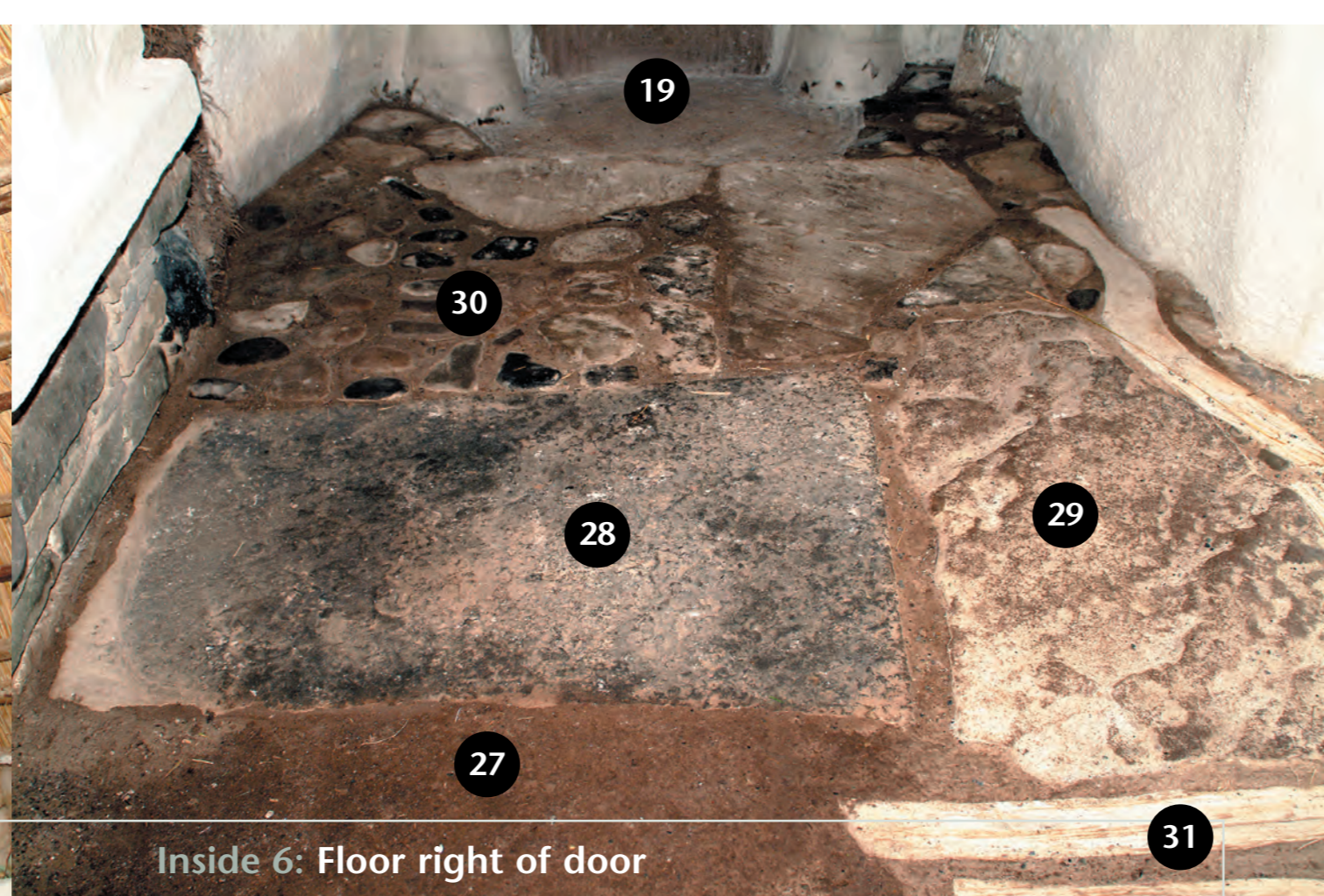
Inside 4: Roof left of door

11. Rafter of oak and ash are half notched and joined at the top for greater stability. These were usually secured by wooden pins and pegs and driven into the rafters to hold them in place.
12. Laths of hazel.
13. Double crucks of bog oak. Single crucks are more traditional in the west of Ireland.
20. These scavens from the bog which kept out the cold and the damp, acted as a fireproof and also served as a draftstopper.
21. The use of vertical laths of hazel placed on horizontal bog oak purins supported by oak, ash vertical rafters is typical of Irish thatch roof construction. This type of construction is more archaic.



Inside 5: Roof over door

22. Súgán, fine rope made from straw, or twisted broken timber fibre have been used to sew the turf scraw onto the bog oak purins.
23. Earthen sods from the site kept out the cold and the damp, acted as a fireproof and also served as a draftstopper.
24. Black leg. Cow or call's leg left in roof to build cattle's immunity to the disease.
25. Canvas sheet used as a draftstopper.
26. Straw and reed finishing tied and pinned with different materials.
27. Earthen floor sometimes finished with powdered sheep dung.



Inside 6: Floor right of door

19. Rafter of ash and oak.
28. Lisannor flag stone.
29. Kilkelly flag stone.
30. Cobble floor.
31. Cleft oak flooring.



thatch

Brian Rogers

The typical thatched roof had a layer of sods (either earthen or turf) on top of rafters and laths, onto which the thatch was fixed. This sod layer served as a draught-proof, an insulating layer, and a fireproof barrier.

A variety of materials are used in the process of thatching such as reed, rye, wheat, oats, barley, sedge, flax, rushes and heather. Large volumes of hazel and willow, as well as bramble and snowdrops, were used as scollaps (pins) and rods. Súgán (straw) ropes were used as binders. Approximately three acres of straw and 4000 scollaps were needed for a typical roof.

The principal tools used are still the leggat, beetle or bat, a knife, a sheep shears, and a ladder. Reed pins serve as temporary tensioning tools. A stitching needle and a stopper and a thruster are also used.

Very little fossil fuel is used to produce thatch compared to that expended on other roof types. It can be produced locally and it is constantly renewable. As such, it has many sustainable characteristics.

Thatch is an intrinsic part of our Vernacular architecture but has been in very sharp decline since the late 1950's. It faces serious threats. Water pollution and fertilisers, coupled with a change in the UV rays of sunlight, acid rain, and increased levels of rain and wind all make thatch less durable. It is also very labour intensive and therefore expensive. The production of straw and reed for thatching in Ireland is virtually collapsed and the vast majority of thatch materials are now imported.

These factors combined with the lack of technical backup contribute to the current decline of thatch as a significant contributor to the social economy and as a powerful community art form.

Thatch has a leading edge contribution to make in matters such as developing local economies, the diversification of farming practices, the stabilisation of rural communities, ecologically sound or conscientious affordable housing, 'Identity' and the social economy. It is a key means of articulating Our Heritage and Culture through an exploration of Our Vernacular Architecture.

Vernacular Architecture is about a sense of place; of our houses and our built environment 'coming up out of' and reflecting the local environment and community. It is about an architecture that interacts with, and reflects, the local.

* This decline is somewhat slowed down by grants paid directly to householders

wattle

Joe Gowran

Wattle is composed of flexible rods interwoven to form a hurdle or frame. It was sometimes covered in daub and used in wall building. These flexible rods or poles were produced by coppicing, which is the repeated cutting of hardwoods to produce crops of rods or poles.

The process of coppicing* hazel to produce rods for wall weaving, in a manner that gave reasonable structural strength, was probably discovered after periods of slash and burn agriculture on the margins of natural temperate forest across central and western Europe, from c.10-7,000yrs ago. The techniques involved remain basically the same today except for the development of iron cutting tools.

Hazel was abundant in semi-natural woodlands throughout Ireland when the early settlers arrived from Europe. A building culture developed which relied heavily on wattle up to Norman times and to a lesser extent up to the late seventeenth century. A major expansion in managed grassland reduced hazel resources to rocky outcrop and field margins. Clearance of hazel scrub continues to this day usually after re-colonisation onto temporarily abandoned farmland.

Wattle based constructions were the preferred option of the native or 'Wild Irish' up to the 1600s. Round houses of approximately 4m in diameter, consisting of a double layer wall with some form of insulation (bracken or possibly wool) between the two layers, were quick and easy to construct. Therefore dwellings could be built near, or in, hazel, ash and oak woods and close to supplies of varied thatching materials. More permanent structures were designed for winter quarters while temporary dwellings were designed for summer grazing on uplands.

The cultivation of hazel for construction material was banned as part of the enforcement of the penal laws as late as the 1780s. Permanent homes built of stone increasingly became the norm. The old building culture, along with the semi-natural woodlands, the language and customs, became almost extinct. The Gaelic term for woodland is 'coill', which specifically means a wood of predominantly Hazel and the associated species of Ash and Oak. Some inhabited dwellings still exist today which contain wattle sections within the walls.

* This system is now being slowly reintroduced as an element of government policy on sustainable forest management



acknowledgements

List of Building Craftspeople

Joe Gowran, Niall Miller, Clint Taylor
Brian Rogers, Brian Simpson, Susanne Bojkovsky
Edward Byrne & Terry McGrogan *Irish Traditional Lime Company*
Enda Collins, Tim Roderick, Brian Rogers

Wattle, Oak
Thatch
Plastering
Stone Walling

The craftspeople working on this project are affiliated to Muintir na Coille: The Coppicing Association of Ireland and the Ecological Trades Community (ETC).

The Ecological Trades Community is concerned with efforts to manage resources in a sustainable manner in an atmosphere of fair trade and solidarity. It aims to "organize the gathering of ecological traders/service providers for public education and for the cross fertilization of ideas and capacity building within the 'environmental sector' of the economy. It aims to strengthen the isolated, marginal and obscure trades and crafts by increasing confidence through socialization and the 'strategic skills' notion".

We would like to thank the following for their contribution and assistance to this project.

The Rogers family, Dromore West
Wildlife Service, Roscommon
Joyce Brothers, Laghtavary/Ballyvary
Ken Gill, Clongullogue, Edenderry, Co. Offaly
Lorna Elms, Kilkelly
Sligo County Council
Sligo Loy Association
Mayo County Council

Stone
Oak & Hazel
Hazel
Hazel
Stone
Stone
Clay scavens
Grounds and materials

reading list

Books of Interest in relation to Vernacular Architecture.

Aalen, F.H.A., Whelan, K. and Stout, M. (1997) *Atlas of the Irish Rural Landscape*, Cork University Press, Cork.

Evans, Emyr-Estyn, (1957) *Irish Folk Ways*, Routledge and Keegan Paul Ltd., New York.

McDonald, Frank, Doyle, Peigin and MacCorville, Hugh, (1997) *Ireland's Earthen Houses*, A & A Farmer, Dublin.

Ní Fhloinn, Bairbre and Denneson, Gabriel. (eds). (1994) *Traditional Architecture in Ireland and its Role in Rural Development and Tourism*, Environmental Institute, U.C.D. Dublin.

O'Danachair, Caoimhín, "Traditional Forms of Dwelling in Ireland", *Journal of the Royal Society of Antiquaries of Ireland*, Vol 102, part 1, 77-96.

Paria, Sara and Bolton, Jason, (2000) *Stone, Brick and Mortar*, Wordwell Ltd., Bray, Co. Wicklow.

Shaffrey, Maura and Pfeiffer, Walter, (1990) *Irish Cottages*, Weidenfeld and Nicholson, London.

Shaffrey, Patrick and Maura, (1985) *Irish Countryside Buildings*, O'Brien Press, Dublin.