21st Century Roundhouse Building

How to construct a Roundhouse using Iron Age technology

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As part of the activities for the Iron Age Open Day in November 2008 it was decided that methods of roundhouse wall construction be explored with a panel being constructed of wattle and daub. This would give visitors on the day a hands-on opportunity to thread willow withies through hazel stakes and then apply a mixture of clay and hay. However as often happens, this simple idea started to grow. An idle suggestion that perhaps some posts laid out in a circle would give more of an impression of a roundhouse was greeted enthusiastically. So several days before the Open Day, posts hastily sourced from around the farm, were erected and hazel stakes were cut to size and put into wall plates (wooden lintels) placed between the posts. A huge pile of clay was dug and dumped ready to be mixed and pounded to a useable consistency next to a rather bare looking group of posts.

On the day we started to weave some withies in anticipation that the children that came would automatically gravitate towards wanting to put clay onto the panels. They didn't. It may have been the sub zero temperatures but the idea of possibly getting muddy, wet and cold didn't seem to be a priority for the 21st Century child, good job we left out the animal dung! However, their parents were itching to have a go, held back only by their child's reluctance. This did mean that withies were soon being thread through the stakes giving me a chance to mix the clay, an operation that was harder and more time consuming than first anticipated, and raised the question of how this would have been done on a large scale with so much material, presumably clay being needed, surely geophysics would show where this material was dug from. As the day progressed several sections of paneling were well under construction with some parts completely covered in clay along with several children and some of their owners. By now the sub zero temperatures had risen enough for it to start raining but despite the weather we had built more panels than expected and had run out of clay.

During the day many people had asked if we intended to complete the house and others simply assumed we would. Initially the idea was for it to be a one off event, but with its success on the day it was decided that it would transfer well as one of the activities run during school visits but we had to relocate as Homefield was water logged. Jess Hendy was happy for us to continue with the project and as all the other activities take place at Blacklands, that was the obvious place. With

Figure 1
A group of teenagers from the Woodcraft Folk start to weave the wattle walls of the Roundhouse.

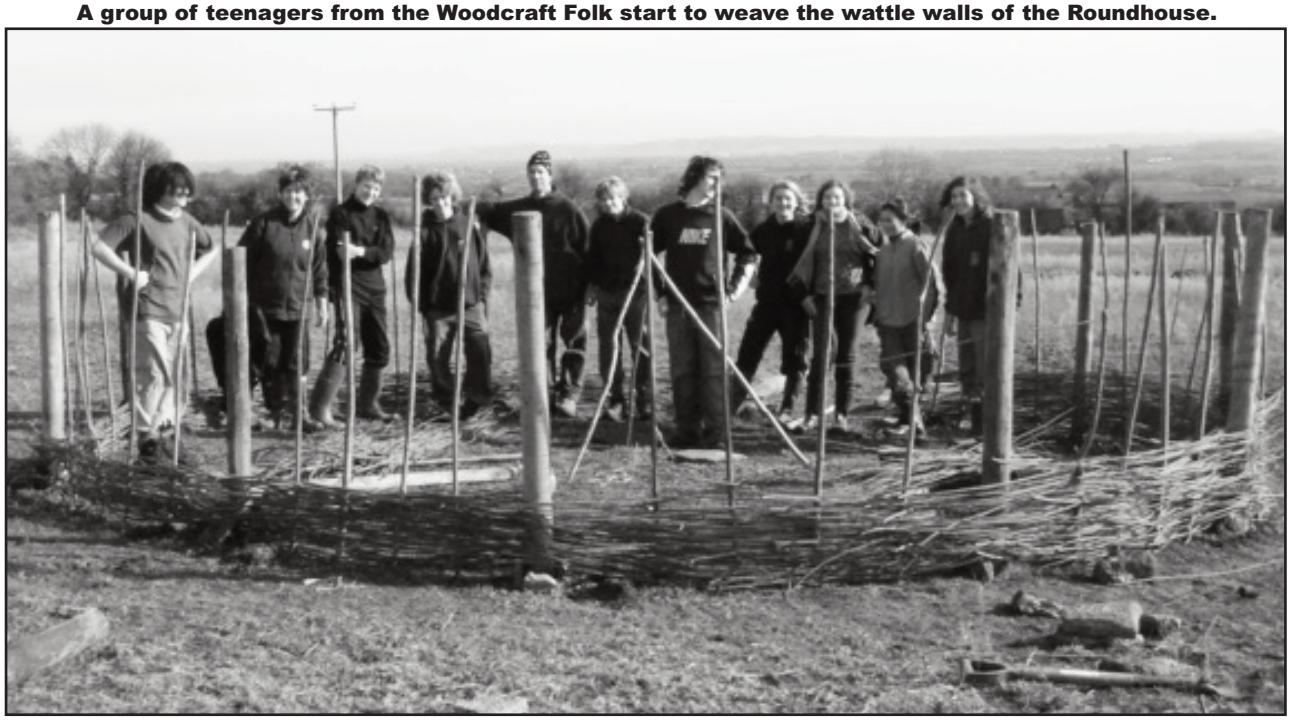

Figure 2 top
The wattle wall covered in daub with the central rig and rafter poles set at 45°.
Figure 3 above
Hazel perlins create the roof structure.
Figure 4 right
Thatch is added to create a waterproof roof.

By midsummer we had a complete wall of withies woven between the hazel stakes, each area showing the unique style of its builder. Fastidious straight sections met with more carefree patches undulating randomly interrupted by partially daubed areas. But most importantly daub that had been applied at the beginning of the year despite being exposed to the elements remained in place. Becoming wet did not seem to cause the daub to fall off the wall, only severely strong winds at the end of 2009 caused some patches to fall probably due to vibration.

Throughout the year the idea of putting a roof on the house had been muted, after all we would soon have the wall finished so up was the only way to go. Sourcing poles to use as rafters and material to thatch with soon fell into place. Tavis school visits looming the house was dismantled and moved ready for the next visit, which saw the Woodcraft Folk group starting the new build from afresh, the wall plates were dispensed with and the posts spaced out in a circle on a part of Blacklands that geophysics deemed safe.

The school visits during the winter period proved productive and soon we had a wall that resembled the start of a large basket and more amazingly we hadn't had one complaint about muddy children. Once one eight year old decides to use mud as a medium to express their inner Celt, then it's only a matter of time before the other thirty have joined in. With five groups of six children rotating round activities being the norm and each group having twenty minutes to half an hour it gave us just enough time to show them the materials used and explain about some of the evidence experimental archaeology is based on and to offer the experience of building before any potential spear throwing started.

Walker had been given the name of Ron Dawson a retired thatcher who fortunately for us was not only keen to get involved but had a store of unused reed thatch that he generously donated for free. A supplier of pine Tipi poles in the Forest of Dean could help with poles of the length we would require and deliver. This next stage of the roundhouse's development would mean working off the ground which would exclude children leaving us with a team of three: Tavis, Ron and myself.

Good Autumn weather meant we were able to put up the rafters quite quickly, this was perhaps helped by our decision to raise them from the floor set in a hole against a foot plate of local stone *(Figure 5*) and rested on a central ring raised on poles in the centre of the house, all positioned to give a forty five degree pitch to aid rain to run efficiently off the roof (*Figure 4*). To a certain extent having started with the wall first dictated the methods we would use to raise the roof and this seemed to us to be a structurally more secure method of placing a roof on the house. The raised central ring idea was taken from post hole footprints taken from excavations elsewhere in the country. At first we attempted to position the poles flat on the floor to work out the desired lengths and angles but soon found it easier to think three dimensionally by actually raising the poles to see where they would best lie. The wall, not having wall plates, would not be used as a weight bearing structure as is so often seen in reconstructions. From a practical point of view there seemed little point in fixing rafters to the wall, as there was little to be gained in the extra wood work needed and length of rafter saved, weighed against a possible weak point. Rafters taken to the floor will rot in time so each one was scorched to close the cells in the wood to slow the absorption of moisture and retard rotting. However, should they rot each pole can be chocked up to give it support. Wall posts are also likely to rot but these could be easily replaced if rafters were positioned centrally on wall plates running across the panels but catastrophic collapse is more likely should the wall shift. From here on, the roof would only get stronger as hazel purlins were attached to the rafters with sisal twine. At this stage it became clear that the inner ring beam although substantial had become redundant as several woven pieces of hazel at the same level acting as purlins now held the rafters securely. Once the roof is thatched we will remove the inner ring beam and posts.

Ron was now a valuable member of our team having come on board and been thrown in at the deep end with the return of the Woodcraft Folk group and decisions on how best to proceed with thatching. Although the techniques of thatching would be similar we didn't want to replicate the sort of thatched roof you may find today and opted for a thinner layer of thatch which we felt would be more appropriate in terms of the size of rafter we were using and its load bearing capabilities. As this goes to press the thatching stage of the build is under way with new skills and a glossary of words being learnt.

There is still a lot of work to be done as it would be foolish to believe that the work finishes with the building. Rather than being an experimental reconstruction based on a specific excavation, like the houses at places such as Butser, ours is experimental archaeology based on excavated evidence and known techniques. We have had an opportunity to try and recreate some techniques we think were used in building a roundhouse and offer this experience to others and by doing so provoke questions. Because we started with just a wall this dictated the overall size of our house, but we have had to give much thought to the size of the house and the sheer quantity of material used and the best and most practical way to do things without generations of handed down experience. With so many questions raised during the build not only about the build, but also on the maintenance, use of the living space and probable lifestyle of the people living in it, we can be certain this valuable educational resource will give an understanding of the past above ground level and the processes used to interpret the archaeological evidence below.

Figure 5
A rafter pole set in a hole and supported by stone.