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Reviewed Article:

A Discussion on the Position of Weaving in the Society of Prehistoric Britain

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There have been several recent experiments on using warp-weighted looms in Demark, Italy and Greece, some in Roman houses (Andersson Strand, 2015; Dimova, 2016). The experiments, in particular those in Denmark and Netherlands, took place in the typical rectangular longhouses used in their respective prehistories, unlike 'Britain's predominant roundhouses. There have been little, if any, experiments in using a warp-weighted loom in a

roundhouse. Specifically, we set out to examine the internal environment and its effects on the loom, including its impact on the house. It has been suggested that textile production in prehistoric Britain was done by women, as part of the home's duties. This is now starting to be questioned as there is little evidence one way or the other. However, due to past archaeologists accepting gender-specific roles, this is still promoted in many museums displays. Yet, the history of weaving and textile production in Britain has been dominated by both sexes at different times. There is more evidence in the Roman, Saxon and Viking periods, due to written sources. However, is this a true reflection of the time or our perceptions and social acceptance?

> “There have been little, if any, experiments in using a warp-weighted loom in a roundhouse. Specifically, we set out to examine the internal environment and its effects on the loom, including its impact on the house.

What is known is that weaving must have been regularly performed in Bronze and Iron Age Britain, as in clothing the populace. Evidence of woven cloth has been found in Northumberland, Yorkshire, Dartmoor and recently East Anglia, with Must Farm providing the most significant and most exciting evidence (Knight, et al., 2016). Currently, no identifiable loom has been found. There is evidence of different comb sizes, and other tools found with numerous suggestions of leatherworking, textile working, and jewellery making, but no identifiable loom. Glastonbury Lake excavations did produce a piece of timber with holes which may be fragmentary evidence (Coles, 1987; Earwood, 1988). The dimension indicates an over-engineered object, possibly too heavy to be a loom, especially in a wattle and daub roundhouse due to the inward bowing of the appliance whilst weaving.

But on what type of loom were they weaving? In Europe during this period, five different types of looms are circulating for different applications and environmental differences. The hand (or bow) loom excels at making elasticated fabrics and hairnets (Collingwood, 1999); the ridged vertical loom is still used today for carpets and tapestries; the warp-weighted loom in the Netherland and Rome, and the ridged horizontal or table loom came via the Silk Road and appears to be of Chinese origin (Roth, 1913;1918; Zhao, et al., 2017). There is also the back-strap loom which is still used in many parts of the world. There are advantages and disadvantages to all these looms; ultimately, it comes down to the width of cloth needed and the available space, light, portability and environmental requirements.
In the 1960s, the idea of the warp-weighted loom was introduced as an interpretation of British prehistoric weaving. The weights used on the loom varied in size from the small 'whorl' weights (15- 60 grams) to the larger values weighing 450- 750 grams (See Figure 1). There are pots produced by potters of Roman Italy and Greece that indicate what these warp-weight looms would have looked like with a little artistic licence. Norway and Sweden used warp-

weighted looms in their Bronze and Iron Age through to the nineteenth-century as a continued tradition (Hoffman, 1974).

The warp-weighted loom used to interpret weaving in prehistoric Britain, as used in Norway, Sweden, and Demark, which are seen as our closest neighbours (See Figure 2). That applies to Yorkshire, Northumberland and Scotland, but not the west or southern Britain. Southern Britain's closest' 'cultural' neighbours have been considered to be France, Iberia and the Mediterranean (Cunliffe, 2001; 2007). The northwest of Britain and Wales would have received Irish and Scottish influences (Armit, 2007). The problem is that Norwegians, Danes and Swedes continued to develop the longhouse into their prolonged Iron Age. However, a large part of Britain, Wales and Scotland used the roundhouse rather than the longhouse, although some regions have many rectangular buildings (Moore, 2003). The different internal environment of the roundhouse shape impacts significantly on how ancient British people wove cloth. Archaeologists have found four, six and nine post structures in the Iron Age community such as Danebury, Faringdon, Basingstoke and Glastonbury (Cook, et al., 2004: Ellison & Drewent, 1971:Tratman, 1970: Wright, et al., 2009). Possibly, a workshop for the local industry as well as farming.

To date, no evidence of a prehistoric loom has been found in Britain. The organic nature of a wooden loom means they have not preserved in most of Britain's soil conditions. Secondly, a loom is a machine as well as an expensive piece of furniture, making it an heirloom to be passed down. If broken irrepairably, it could have been used as firewood, but this only follows horizontal and vertical looms including the warp-weighted loom. The handlooms and back-strap loom construction would appear as sticks in the archaeological record or interpreted as purlin or firewood if found.

The evidence stated in archaeology for weaving is the weights and combs (Brailsford, 1948; 1949; Coles & Minnitt, 2000; King, 2004). The weights could be part of self-closing mechanisms for doors, anchors for boats, fishing nets and pots. Combs used for hair, decorative leatherworking, ratting, and as a beating tool for plant fibre and fine woollen or other animal, fibres to ensure an even weave (Hodder, 1977; Ryder, 1993; Štolcová & Grömer, 2015). It is possible that these items were multipurpose.
The Greek drinking cup displaying black-figured Skyphos with the loom of Cira, shown with Odysseus and one of his transformed sailors, made in Boeotia 450-420BC from the temple of the Kabeiroi at Thebes (See Figure 3) shows the weights on a single warp yarn. The Etruscan Lekythos Vase showing a woman weaving on a warp-weighted loom (See Figure 4) displays the more triangular shape weight with four weighted warp threads. Although there may be artistic licence with the images, theses vases where produce for trade exports promoting Greek and Roman culture, this is significant as it may indicate the type of fibre used on the loom. Wool thread placed on the triangular weights due to the wool elasticity and plant fibre on the single smaller weights as it has no elasticity. Setting up a vertical loom each yarn is put

in tension so that the weaver can weave. With wool, a bundle of yarns (20 threads) can be weighted with one weight, plant fibres such as nettle, linen, hemp, and lime bark can have only two threads connected. Cloth woven from plant fibres on a warp-weighted loom requires weights of around 25-45 grams, in the archaeology, often classified as whorl weights (See Figure 5). Therefore, some whorl weights may have been loom weights.

In 2012 at White Hill, Dartmoor excavations found evidence for clothing made of woven nettle fibres in a burial dated 2500-1700 BC (Jones, 2017a; 2017b). The young woman had been buried wearing a dress of woven nettle with calf hair trim with tiny beads woven into the trim. The Must Farm excavations of 2016 also produced cloth-making evidence with plant fibre yarns dated 1000-800 BC (Knight, et al., 2016). Both excavations dated to the Bronze Age, both are in regions that used roundhouses. However, although whorl weights are in abundance at Little Woodbury (Brailsford, 1948; 1949), this does not mean that they used the warp-weighted loom to make plant fibre cloth. They may be spinning plant fibres and possibly weaving on a more portable back-strap loom.

Archaeological evidence shows a high portion of cattle bones compared to sheep/goat and pig bones (Hambleton, 1999:2009; Knight, 2002; Serjeantson, 2007) implying there is little wool for weaving. However, as we move into the Iron Age, the bone evidence shows a constant level of pig bones and a slow rise in sheep bone, while cattle bone declines (Bradley, 1971; Hambleton, 1999:2009; Knight, 2002; Serjeantson, 2007). By the end of the Iron Age, sheep farming becomes more dominant than cattle farming, and this trend continues into the Roman period. The earliest woollen textile evidence dates 800-750 BC (Parker Pearson, et al., 2016). This does not mean that woven woollen fabrics suddenly appear at this point, although it implies that it became more popular amongst the wealthier population.

I have not mentioned weaving combs because these can be for several activities. Different thickness of wool was used on the Butser Farm loom. The finer yarn (18 threads per cm) could not be made with the beater or sword but needed the tip of a comb to push the weft yarn in place. In contrast, thicker yarns (11 threads per cm, See figures 6 and 7) require the sword/beater rather than the comb, as the comb tears the woollen fibres in the yarn. However, linen (flax) and nettle, due to their fibres being straight and slippery, require a comb to ensure a tight weave (See Figure 8). The comb pushes the weft threads up tight using the whole comb, as, by the time the heddle changed for the next row, the yarn would have fallen. However, due to the tight push, the weave becomes useable. With a beater/ sword, the thread would have fallen too far to make a usable cloth before the heddle can be changed. The other use for combs is for ratting plant fibres ready for spinning.

The experiment at Butser Ancient Farm has shown the limitations of using warp-weighted looms in roundhouses. It also raises the question if the rectangular and square structures of Glastonbury, Danebury and Basingstoke could be a workshop (Dimova, 2016; Moore, 2003).

There is evidence in many settlements in Britain's southern region of four, six and nine post-holes that could possibly be artisan workshops. The weaving experiment showed an equilibrium in environmental conditions required, such as light, wind and rain spray, to reduce felting and maintaining quality. The investigation highlighted the labour intensity of weaving. It may be that this was much more of an industry than previously thought. Therefore, several settlements may have specialised on specific aspects of the cloth production process. Before moving to a central place to weave, Danebury suggested as one such site in the past. Still, they are other smaller sites in the south that shows a similar concentration of activity.

Throughout Britain, there is a paucity of preserved textiles, and even less of the equipment used to produce it. The number of finds may have increased with the Must Farm excavation, but there is still no absolutely identifiable loom. The Butser Ancient Farm experiments have shown significant issues with the warp-weighted loom, especially when talking about seasons and when weaving becomes restricted. However, as Butser Ancient Farm is in the south, the results are limited to the southern region and not Wales, the Midlands and Northern England or Scotland. These regions' results would be different due to changes in elevation of the sun, landscape, and prevailing wind direction over the calendar year. The typical type of weather expected in the individual regions would affect the user. These differences will indicate different solutions and methods, especially in weaving. It may even be that there is a different season for weaving in Northern Britain and Scotland to Wales and the Midlands never mind the south. Equally, other influences from neighbours and trading contacts may have a bearing (Moore, 2007)! Perhaps, it is time to re-evaluate the type of looms to 'best fit' with the current regional archaeological knowledge, including regional trading contracts and networking. Instead of one loom place on the whole landscape or; placing another cultural solution on top of a complex island with different topographies and culture (Ryder, 1993). We cannot say that the warp-weighted loom was or was not used, but investigations into the other types of looms used within the roundhouse and different regions are required, along with possible protective structures which may have been used for weaving cloth within the community (Costin, 1991).

Keywords loom
weaving

Country United Kingdom

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Gallery Image

FIG 1. LOOM WEIGHTS IN BASKET. PHOTO BY HELEN POULTER

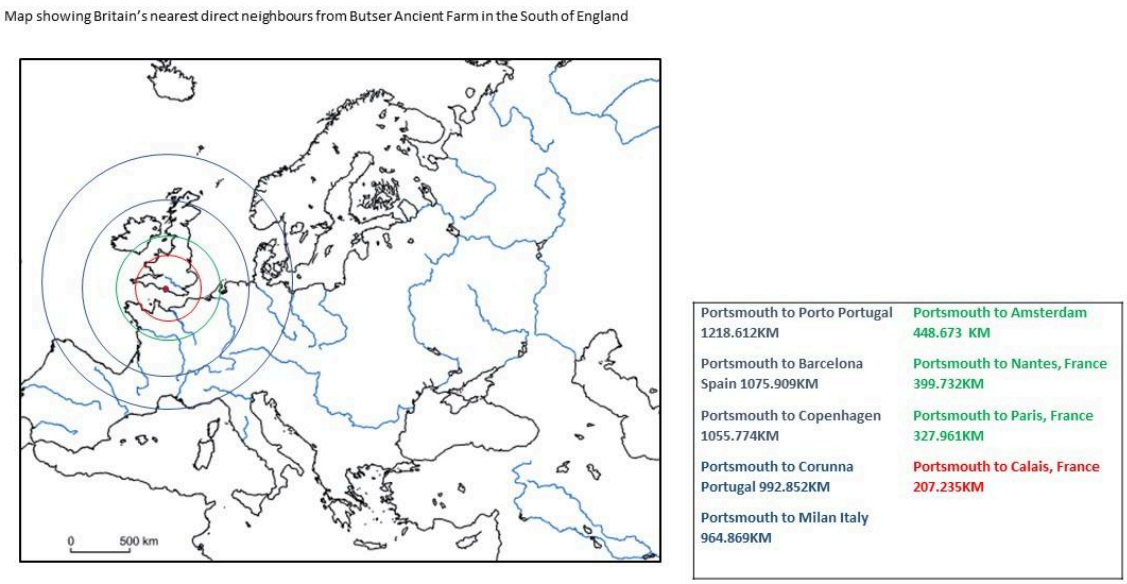

FIG 2. MAP SHOWING NEAREST NEIGHBOURS. DRAWING BY HELEN POULTER

FIG 3. BLACK- FIGURE SKYPHOS WITH THE LOOM OF CIRA. MADE IN BOETIA 450-420 BC FROM THE TEMPLE OF KABEIROL AT THEBES DISPLAYED AT THE BRITISH MUSEUM. PHOTO BY HELEN POULTER

FIG 4. LEKYTHOS VASE SHOWING THE PRODUCTION METHODS OF MAKING CLOTH. METROPOLITAN MUSEUM OF ART, PUBLIC DOMAIN

FIG 5. 42G WEIGHT OFTEN TERMED AS A WHORLWEIGHT HERE USED AS LOOM WEIGHT FOR NETTLE. PHOTO BY HELEN POULTER

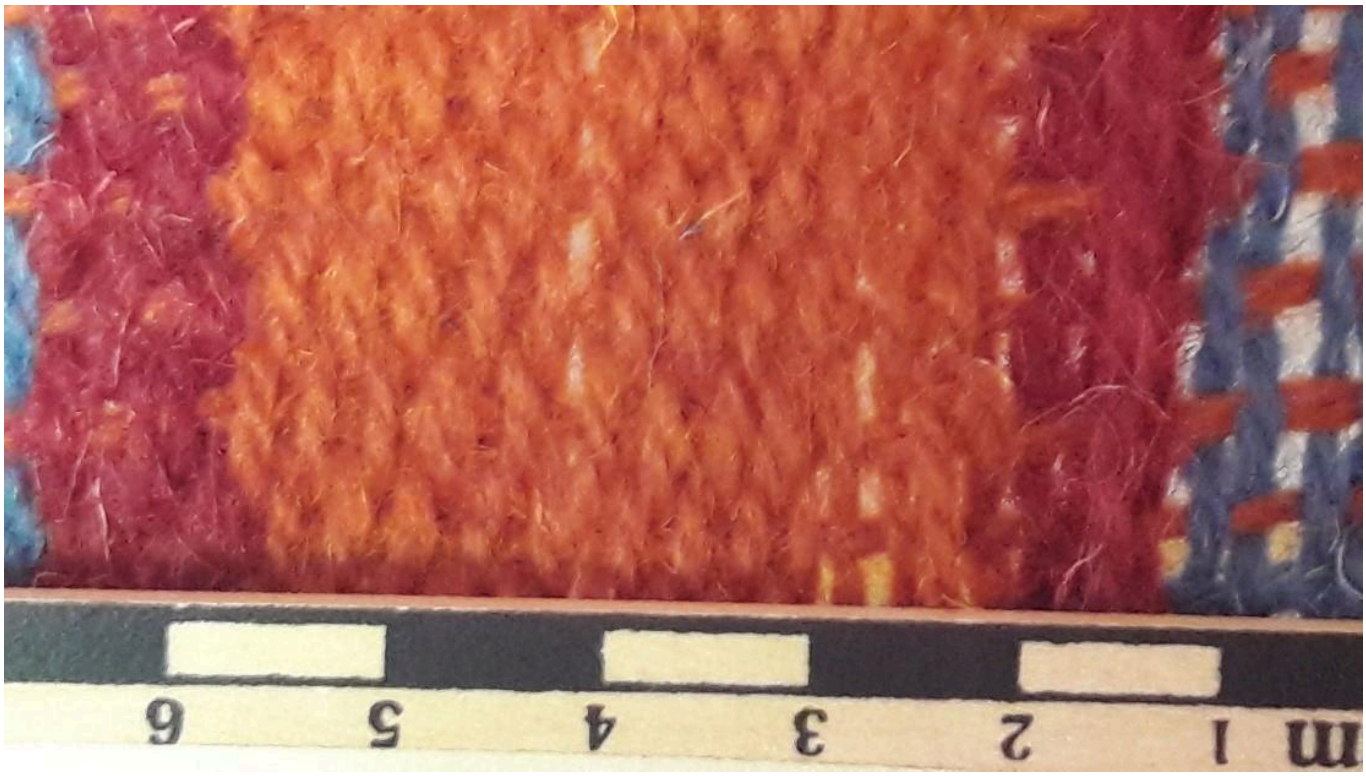

FIG 6. ELEVEN AND TWELVE STRANDS PER INCH. PHOTO BY HELEN POULTER

FIG 7. FOURTEEN STRANDS PER INCH AND VARIED THICKNESS OF YARN WOVEN. PHOTO BY HELEN POULTER

FIG 8. NETTLE WOVEN WITH USING THE COMB. PHOTO BY HELEN POULTER