LYRE FRAGMENTS OF SUTTON HOO AND EXPERIMENTAL ARCHAEOLOGY

Mark F

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1.0 - Introduction

1.1 - Importance of Studying Ancient Music

Traditionally viewed as a by-product of culture, it is now postulated that music is universal across all cultures because it is fundamentally driven by the nature of human biology (Peretz, 2006). This argument is further strengthened by the discovery of musical instruments fashioned by Neanderthals in the late Pleistocene (D'Errico et al., 2003). The study of ancient music aligns with the fundamental goals of archaeology - ancient music informs us about the history of a culture/people group, provides insight into past lifeways/traditions, and helps us understand potential mechanisms of cultural change. In 1977 some of humanity's greatest musical works were sent far into the cosmos on a golden record aboard the Voyager spacecraft; it only makes sense to use modern archaeological techniques to try and understand the musical messages of our ancient ancestors.

1.2 - Early Middle Ages and Anglo Saxon Origins

The Early Middle Ages was a period of time in Europe between 400 - 1000 AD; it followed the decline of the Roman Empire, and was characterised by widespread adoption of feudal agriculture and Viking expansion ("Early Middle Ages", 2022). The Anglo Saxons arrived in Britain during the 5th century, but their ethnogenesis occurred within Britain after settlement. Cultural identity was further strengthened and homogenised during the Anglo-Scandinavian wars - a period where written records and valuable artefacts stored in monasteries were plundered by Viking raids during the 8th and 9th centuries ("Anglo Saxons", 2022).

1.3 - Sutton Hoo Site

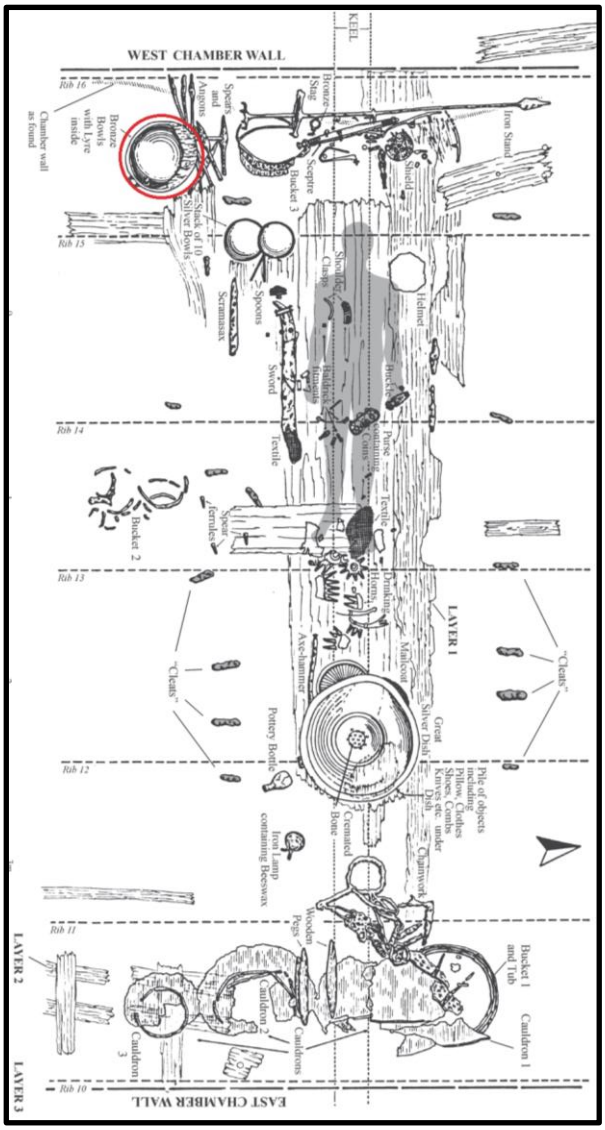
The Sutton Hoo site is a mediaeval cemetery, first made famous by the discovery of an extravagant ship burial in 1939. There are at least 18 individual burials at Sutton Hoo, but this article will focus on the "princely" ship burial of mound 1, and lyre which it contains

(National Trust, 2022). The extravagance of multiple burials indicate the site was used as a royal cemetery - the occupant of mound 1 is speculated by many scholars to be King Rædwald, ruler of the Saxon kingdom of East Anglia. Mound 1 contains a wide assortment of artefacts but this paper will focus specifically on the lyre fragments found within the grave.

The grave map below shows the position of lyre fragments, highlighted with a red circle. During the time of burial the lyre was hung in a Beaver skin bag (fur turned inwards) on the west wall of the chamber. When the roof of the chamber collapsed in later years, the lyre was smashed and its fragments were preserved as they fell into the large bronze pot (Boenig, 1996, p. 301).

Figure 1

Grave goods of Sutton Hoo mound 1



Note. Image taken from *Sutton Hoo - A seventh-century princely burial ground and its context* (Carver, 2005, p. 182)

2.0 The Sutton Hoo Lyre

2.1 - Sutton Hoo Lyre Details

Like other Anglo Saxon lyres, the Sutton Hoo lyre is of maplewood construction, with poplar or willow tuning pegs. Due to the fragmentary nature of the artefact, it was initially thought to be a rectangular harp (photograph of incorrect reconstruction, and distinction between the instruments discussed in the appendix), but more careful reconstruction has shown that the instrument is indeed a lyre. It was probably strung with gut or possibly horsehair; metal strings are not likely due to the softness of the wooden tuning pegs. The instrument would probably have required a tuning key due to the small diameter of the wooden pegs (Rupert Bruce-Mitford, 1970).

In my high school woodworking class, I built a “replica” of the Sutton Hoo lyre. In the process of building the instrument, I learned many interesting lessons about lyre construction and playing. These lessons provide insight into possible historical construction techniques, and the lives of the craftsmen/musicians who built and played the instruments. A photograph of surviving lyre fragments and a modern reconstruction is presented below in figure two. My lyre “replica” is presented in figure three.

Figure 2

Photograph of lyre remains and reconstruction

Note. Photos from the British Museum. 1 - Metal fittings, maple-wood fragments and remains of poplar or willow pegs of the Sutton Hoo lyre, before assembly. 2 - Surviving fragments of the Sutton Hoo lyre assembled. 3 - New reconstruction of the Sutton Hoo ‘harp’ as a lyre (Rupert Bruce-Mitford, 1970)

Figure 3

Photograph of my “replica” lyre

Note. Although functional, the lyre cannot be considered an accurate replica due to obvious differences in form, materials, and construction technique. Image from the authors personal photo archives

2.2 - Historical Evidence for Lyre Playing in Anglo Saxon Culture

The lyre is mentioned 5 times in the epic poem Beowulf, and 21 times in all of Anglo Saxon poetry. In context, the lyre is related to the accompaniment of storytelling or poetry, celebration/feasting, and a status symbol of the warrior elite ("Anglo-Saxon Lyre", 2022; Welch, 2012).

It is important to note the distinction between lyres discovered in princely, and non-princely burials. In a princely burial such as mound 1, the lyre does not occupy any place of importance - possession of the instrument does not indicate the occupant of the grave was able to play it. This is in contrast to other discoveries such as the non-princely graves of Schlotheim, Bergh Apton, Morning Thorpe and Snape where the lyre is positioned close to the body. It is speculated that the occupants of these graves may have been *scops*, the Anglo-Saxon counterpart to the Scandinavian *skald* (Hillberg, 2015).

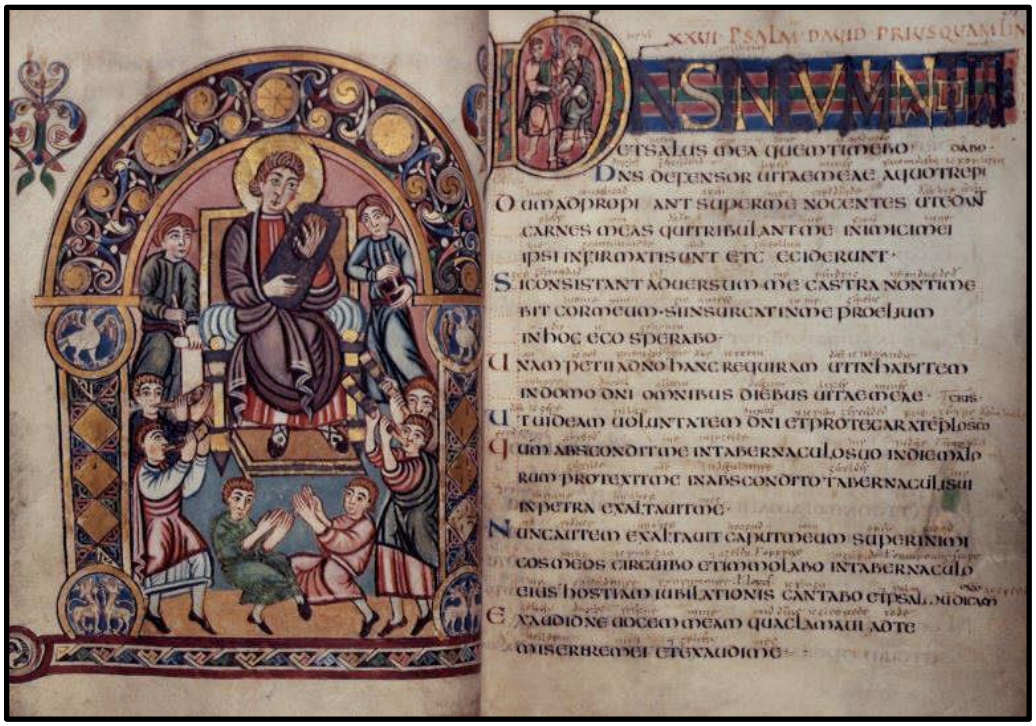
It is likely that lyres owned by elite warriors were used to entertain their followers in the mead-halls as accompaniment to recitation of poetry. As speculated by Professor J.C. Pope in *Rhythm of Beowulf* (1942), the metre of old English poetry was likely conditioned by rhythmic accompaniment of a stringed instrument - the Sutton Hoo lyre seems to be an example of the very instrument that was used (Rupert Bruce-Mitford, 1970).

There is some historical evidence for playing methods, which can be supported by experiments using modern reconstructions. For example, the Vespasian Psalter (figure 4, below) is a surviving Anglo-Saxon manuscript from the 8th century which contains an illustration of King David playing the Lyre on his knee - a fashion frequently depicted on ancient Greek pottery ("Anglo-Saxon Lyre", 2022; Boenig, 1996). The viability of this playing position has been confirmed by dimensions of the reconstructed instrument - it can be held comfortably in the lap. From this position the lyre player can apply a variety of playing

techniques including plucking, and the block and strum technique (playing techniques further discussed in the following section).

Figure 4

Vespasian Psalter



Note. Illustration from the Vespasian Psalter which portrays King David playing a lyre resting vertically in his lap. Hands are positioned to accommodate either plucking, or the block and strum technique. Image from Wikimedia commons

2.3 - Experimental Archaeology

The most basic playing technique is a plucking method, where a melody is played by plucking individual strings. The musician is somewhat limited by the number of strings, although musicians playing modern reconstructions of the lyre have demonstrated that it is possible to reach the first and second harmonics of the instrument, greatly expanding the range of musical possibility (Rupert Bruce-Mitford, 1970; King, 2006).

The absence of curved bridges on most 6th-7th century lyres indicates that bowing was not commonplace in this period; this technique was adopted around the 10th century (Hillberg, 2015).

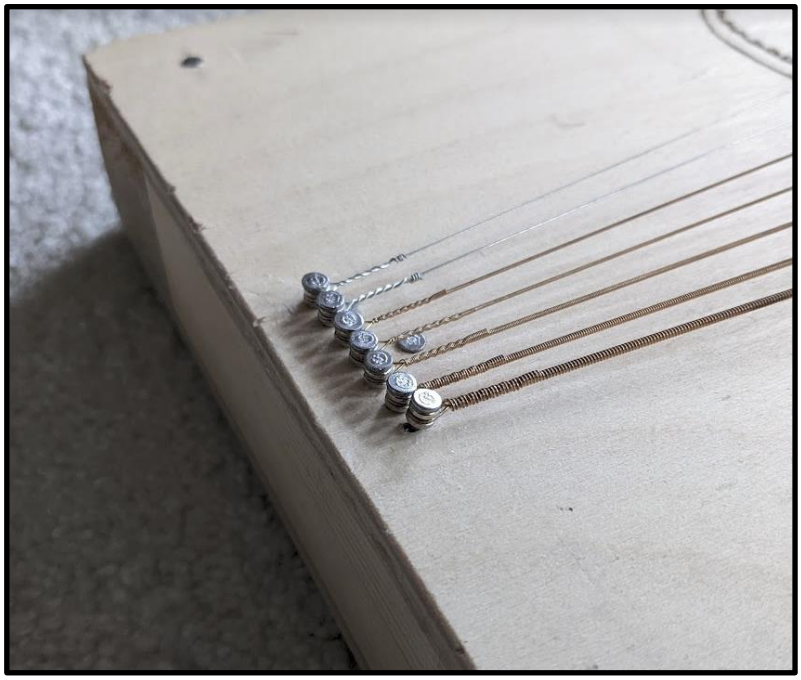
The block and strum method is used to play chords; the musician blocks the notes he does not want to hear by touching the strings, and strums the instrument to sound the remaining notes. Combinations of plucking and strumming were likely also common, and available chords are determined by the specific tuning chosen by the musician (Rikardsson, 2019).

Possible tunings are contested by lyre aficionados; it is speculated that Anglo Saxon lyres may have been tuned in the Roman style - the first six notes of the major scale. Unfortunately there is no good evidence for historical Anglo Saxon tuning methods, although it is probably safe to assume that musicians used a variety of tunings, some of which may have survived into early folk music (Rupert Bruce-Mitford, 1970).

My reconstructed lyre is tuned in the Lydian mode, which allows for over 8 individual chords to be played, including those commonly used in modern music.

One practical lesson I learned by building a reconstruction of the lyre is the function of the tailpiece. Due to the high tension in the lyre strings, it is not practical to anchor them into the soundboard, or the edge of the frame. This became evident as the string anchors began pulling out of the instrument when loaded under tension, pictured below. Rather, a tailpiece should be used for a more secure attachment.

Figure 5
String anchor pullout issue



Note. Only the thicker, lowermost strings are loaded with sufficient tension to begin pulling out of the instrument frame. This phenomenon may be a nonissue when using lower tension nylon or natural gut strings, but a tailpiece is considered a superior attachment method. Image from the authors personal photo archives

Loaded purely in tension, a tailpiece solves the issue of string anchor pullout by preventing any component of the instrument from being subject to bending loads. This produces a more stable string anchor point which is less likely to drift out of tune over time. The discovery of other 6th and 7th century lyres such as the Trossingen lyre confirm that tailpiece technology was commonplace, so it is reasonable to speculate that the Sutton Hoo lyre may also have employed a tailpiece which did not survive in the archaeological record. An image of a reconstructed Trossingen lyre with a tailpiece is shown in the appendix.

3.0 - Conclusion

3.1 - Lessons Learned from Ancient Music

The Sutton Hoo site is an important archaeological site that gives valuable insight to the otherwise mysterious lifeways of the Anglo Saxon peoples. The Sutton Hoo lyre is worth studying in detail because it informs us about Anglo Saxon art and culture, of which music was an integral part. Anglo Saxon musical traditions inform us about various socio-cultural fields including woodworking technology, feasting traditions, poetry, and the interaction between elite status warriors and their followers. Furthermore, ancient music provides insight into the evolution of modern music as Anglo Saxon tunings and melodies were likely immortalised in old English folk songs.

3.2 - Further Pursuits in Experimental Archaeology

Sutton Hoo yields artefacts and evidence that reveal the extent of Anglo Saxon woodworking technology; it would be a valuable exercise to try creating a lyre replica using only period-available technology. This would allow the luthier to discover potentially unforeseen challenges, generating further debate and speculation about Anglo Saxon woodworking techniques and technology.

Historical texts such as the Vespasian and Utrecht Psalter indicate that Greco-Roman culture had a strong influence on Anglo Saxon music, but it may also be worth considering further study of Eastern influences as well. For example, Kolltveit (2022) discusses very similar instruments recovered from sites in Asia. These instruments may indicate the existence of yet undiscovered trade routes, and unexpected transmission of technology/cultural exchange throughout the ancient world.

4.0 - Appendix

Figure 6

Photo of incorrect reconstruction

Note. Initial (incorrect) reconstruction of the instrument fragments recovered at Sutton Hoo. The above instrument is a harp, while it is now known that the Sutton Hoo instrument was a lyre. The distinction is that a harp has strings attached directly to the sound board, while a lyre has strings running horizontally over the sound-box with vibrations being transmitted by means of a bridge. Image from British Museum

Figure 7

Trossingen lyre with tailpiece

Note. This replica uses a floating tailpiece; solid wooden tailpieces are also common and are found on other ancient lyres and modern stringed instruments. Image from Michael J. King

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