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An Assessment of the Hinges from Sutton Hoo, Mound 1

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Introduction

A hinge is an articulated object made of two or more components, in such a way that movement is limited to a single rotational axis. Hinges are associated with objects including containers, vessels, and clothing accessories – the latter category included a great number of metal buckles found in Early Medieval burials. At Sutton Hoo, as elsewhere, the majority of extant hinges are buckles, with unusually high concentrations of buckles and other hinges found in Mound 1, and Mound 17.

In Mound 1, the hinges were most numerous, and include examples of composite hinges (ie. fabricated from several components, soldered together) This paper begins with an assessment of the hinges across Sutton Hoo, followed by structural analysis of the four most complex objects, and then a discussion of their role both as personal possessions, and as a curated burial assemblage.

The Mound 1 assemblage is held by the British Museum. Numbers in parentheses can be searched on the museum's website,¹ e.g. "(1939,1010.1)." All of the images used in this paper are © The Trustees of the British Museum.

1_ <https://www.britishmuseum.org/collection>

Sutton Hoo

During the 6th century, the nearby Tranmer House site was used as a “folk” cemetery.² (Fig. 1) A mixture of cremation and inhumation burials were furnished with goods that included iron buckles of diverse types. Most of these were simple, with the exception of Inhumation 21, which contained an unusual iron buckle associated with the sword. This burial was one of the latest, and the most extensively furnished, including a number of zoomorphic fittings which indicate a Vendel influence. The presence of an unusual buckle may be coincidental, but the burial itself appears to have been a precursor to Sutton Hoo, which involved a change of location, social status, and material culture.

Figure 1 Aerial View of Sutton Hoo Burial Mounds. Photo: Wikimedia.



2 Chris Fern. *Before Sutton Hoo: the Prehistoric Remains and Early Anglo-Saxon Cemetery at Tranmer House, Bromeswell, Suffolk* (East Anglian Archaeology, Report No. 155, 2015), p. 195.

The initial series of furnished burials at Sutton Hoo have been dated to the late 6th or early 7th centuries.³ These are Mounds 5, 6, 7, 18, 3, and 4. These burials do not appear to have surviving hinges, but include imported goods such as the ewer in Mound 3, and the boxes or caskets in Mounds 3, 5, 6 and 7, which might have had hinges when they were intact.

These burials were followed by Mounds 17, 2, and 1, dated to the early 7th century. Mound 2 is the strongest match for Mound 1 in terms of material culture, but was significantly depleted by looting, and contained a single silver buckle.

Mound 17 was discovered intact, and contained fifteen hinges, plus a bucket, and a cauldron. This was a burial of a horse and rider, including tack for the horse, which is responsible for a number of the buckles, while more were found associated with the human incumbent. These buckles were made from iron and copper alloys, sometimes in combination. The most unusual examples were a belt buckle with a suggested 'moth' design, and a double-ended buckle; both have garnet inlay of a different character to Mound 1. There is an internal continuity between the Mound 17 buckles, with diagnostic features that include flat or flat-backed tongues, two rivets along the center line of the buckle, loops with a circular cross-section, chamfered edges, and a hinge plate carefully shaped to house the loop. With the exception of a single iron buckle with three rivets along the back edge (a lower-status version of the copper alloy examples in Mound 1), Mound 17 buckles all have two or more of these features, some of which can also be seen on the

3 Martin Carver, *Sutton Hoo: A Seventh Century Princely Burial Ground and its Context* (London: British Museum Press, 2005), p. 308.

suspension loops from the horse tack. Mound 17 is second only to Mound 1 in terms of the number of hinges present, but the style of those hinges does not match other Sutton Hoo examples, or those from the Tranmer House cemetery.

Burials 12 (a child's burial, with one buckle), 15 (two buckles), and 16 (a chatelaine, but no buckles or other hinges) are given a broad 7th century date, and are followed in the seriation by Mound 14, with a middle 7th-century date. Despite extensive disturbance due to looting, this female burial contained the fragments of two or three silver buckles, and a pair of silver hinges. Carver⁴ suggests a continuation of the traditions seen in Mounds 1 and 2, but the number of hinges, while statistically higher than most burials (four or five hinges in total), cannot be compared to Mound 1, in terms of status, style, or complexity. If the hinges in this burial are playing a significant princely role, it is only as a distant memory of the early 7th-century burials.

Mound 1

Mound 1 contained an elaborate ship burial, which was extensively furnished with weapons, regalia, feasting equipment, and a variety of other objects which express regional or international influences, and high status.⁵ One unusual feature of the burial is the number of extant hinges: twenty-six hinges, across nineteen objects (not including buckets, cauldrons, and imported vessels).

Fourteen of the hinges are on buckles found in 'Area C & shoes complex,' which

4 Carver (2005), p. 313.

5 R.L.S. Bruce-Mitford. *The Sutton Hoo Ship-Burial, Volume 1, Excavations, Background, The Ship, Dating and Inventory* (London: British Museum Press, 1975).

contained eight simple buckles, each with a single hinge, and three unusual buckles – a “conjoined” double-copper alloy buckle (1939,1010.153), and a non-matching pair of silver buckles which each have two hinges (1939,1010.137 & 1939,1010.138). While they are unusual, they are not complex, and their placement together under a dish may suggest that they were personal possessions with a different role to the prominently displayed regalia.

The regalia included a further twelve hinges, all made from gold. Two of these are on garnet-inlaid buckles (1939,1010.12 & 1939,1010.11) which have simple hinges for the loop, and fixed tongues. A third garnet-inlaid object, the “Dummy Buckle” (1939,1010.10) has no hinge, but has the appearance of an articulated buckle. The Great Gold Buckle, the Shoulder Clasps, the Purse Lid, and the Strap Distributor account for a total of ten complex hinges, which are described in detail, below.

The Buckle Hinge

The Great Gold Buckle (1939,1010.1) is 13.2 cm long, and weighs 412 g. It consists of a buckle plate, back plate, loop, and tongue, pinned together (**Fig. 2**). It is renowned for the complex Style II decoration that covers the front, but while the back is undecorated, it reveals an unusual feature in the form of two very different hinges. The first of these is the buckle hinge, which connects the plate, loop and tongue together, and appears to be simple at first glance. However, this simplicity is deceptive – the hinge is hidden from view by its own components.

Detailed photographs of the disassembled buckle can be found in one of Bruce-



Figure 2 The Great Gold Buckle, Sutton Hoo, early 7th century (1939,1010.1)
Photo: © The Trustees of the British Museum

Mitford's publications.⁶ A pair of lugs project from the buckle plate. They are wide, stabilizing the hinge, and allowing it to run along the full width of the parent object – a feature shared with many of the Mound 1 hinges. On the reverse, the lugs are covered by a sheet of metal (**Fig. 2A**), creating a recessed space in which the tongue sits. The buckle loop also has a recessed space (**Fig. 2B**), which fits over the lugs and tongue. Flanking the lugs, the shoulders of the buckle are slightly concave (**Fig. 2C**), allowing the loop to sit very close to it (wear marks on the loop suggest that it does not fit perfectly).

Seen from the front of the buckle, a large circular tongue plate covers the mechanism, which is therefore covered on all sides, in a manner that suggests an intentional strategy of obfuscation. A desire for stability and structural integrity can partially explain the arrangement of this hinge, but the buckle is something of a puzzle box, with zoomorphic interlace on the front, the hidden buckle hinge, and a secondary hinge of an entirely different character.

The Thin Hinges

The Great Gold Buckle is hollow, and has a hinged backplate which is fastened shut with three sliding catches (**Fig. 2D**) that facilitate the attachment and removal of a belt strap. This secondary hinge (**Fig. 2E**) serves a different purpose to the main buckle hinge, presumably being used less often, involving numerous delicate components, and in a state of tension whenever the sliding catches are in their locked position. Whereas the main

6 R.L.S. Bruce-Mitford. *The Sutton Hoo Ship-Burial, Volume 2: Arms, Armour and Regalia* (London: British Museum Press, London, 1978).

hinge relies on the structural integrity of the components around it, the backplate is a thin sheet of gold, and depends on the hinge for strength.

The style of hinge used here is a “thin hinge,” composed of long, narrow tubes with a pin running through them. As this hinge is on the reverse of the buckle, and worn against the body, it would be uncomfortable to have a hinge that protrudes from the surface. Instead, the hinge is embedded in the back of the buckle.

This embedded hinge starts with a saddle and four tubes. The saddle is a strip of metal, running the full width of the hinge, and curved to match the tubes, which are soldered in place. Whereas the main buckle hinge has recesses that fit the components approximately, the saddle is precise, and provides a firm support for the four hinge tubes, as well as creating three recesses for the attachment of the backplate.

On the backplate, there is no saddle. Instead, the three hinge tubes are mounted on the edge, in a position that would be prone to breaking. This is a weak point - under tension from the sliding catches when they are locked, and from the hinge whenever the backplate is opened. In response to this problem, a surprising strategy was adopted.

On the interior surface of the backplate, hidden from view, a grid of gold strips has been soldered in place, providing a thicker ledge for mounting the hinge tubes, and creating a zone of ribbing in the area where extra strength is most needed. Though it is a small detail, it reveals an awareness of structural engineering that seems eerily modern, and emphasizes the exceptional standard of goldsmithing involved in the production of the Sutton Hoo metalwork.

In terms of manufacturing, the use of a saddle makes some of the work easier, but

also brings problems. For example, one benefit of the saddle is that the hinge tubes will sit naturally along the axis of the hinge, making assembly and soldering much easier.

However, this also demands that the tubes are a matching set, and makes tube placement very difficult. On one half of the hinge, the tubes can be arranged somewhat arbitrarily, but on the second half, they must be arranged to fit perfectly between the tubes from the first half. This is relatively easy with modern equipment, but the Early Medieval goldsmith had to assemble the components, apply small pieces of solder, and then move the object to the furnace to commence soldering, while ensuring that the components did not change position.

Saddles were also used for the Shoulder Clasps (1939,1010.4; 1939,1010.5). These are a matching (but not identical) pair of clasps, thought to have been worn on the shoulders with the purpose of attaching armor or textiles together. Assembled, they are 12.7 cm long, weighing 184 g, and 201 g, respectively. Functionally, the clasps are a fastening system with a removeable pin, but structurally they are hinged objects (**Fig. 3**).

Each clasp splits into two similar parts, the first possessing five hinge tubes, and a connecting pin which is attached via a loop-in-loop chain to the body of the clasp. The second part has four tubes. The hinges are assembled from sheet-metal components that have been soldered together. The hinges are integral to the clasps, sitting in a saddle along the inner edge of each part. This saddle is off-set, leaving a lip that renders the hinge invisible when the clasps are assembled, and also limits the movement of the parts.



Figure 3 Shoulder Clasps, Sutton Hoo, early 7th century (1939,1010.4; 1939,1010.5).

Photo: © The Trustees of the British Museum

The Thick Hinges

Another type of hinge is seen on the Purse Lid and the Strap Distributor, which have much thicker hinges, with fewer tubes. They are pendant hinges, meaning that the lower half hangs down from the upper half, with the weight of the suspended objects.

The Purse Lid frame (1939,1010.2.a-l) is 19 cm wide (**Fig. 4**). There are four hinges: three mounted on the top of the frame, sharing the same axis, and a fourth hinge hanging from the bottom of the frame, which corresponds with a sliding catch (**Fig. 5**).

There is some variation between the hinges. top left and top right are hinges with three tubes. Top centre is a hinge with five tubes, but otherwise matching the first two. The



Figure 4 Purse Lid, Sutton Hoo, early 7th century (1939,1010.2.a-l) Photo: © The Trustees of the British Museum

tubes attached to the frame have been flattened off on one side, allowing them to be firmly soldered onto the flat ledge provided by the frame. The upper halves of these hinges are composites, formed from tubes and sheet metal components soldered together, with a hollow recess for a leather strap to be riveted in place.

The bottom hinge has slimmer proportions, and a different purpose. The hinge consists of three tubes - two of them attached to the frame, and the middle tube carrying an L-shaped plate which corresponds with a separate catch (1939,1010.3) used to fasten the

Figure 5 Purse Lid hinge, Sutton Hoo, early 7th century

Photo: © The Trustees of the British Museum



purse. Rather than having a fixed plate for this catch to slide onto, it is articulated, but appears to be lightly sprung against the back of the purse frame, and this perhaps represents a compromise between a fastening system that is too rigid, and one that swings too freely.

In any case, this plate has been installed despite technical challenges; whereas the top hinges are soldered onto a flat surface, and are themselves flat on one side, the bottom hinge has the curved profile of the tubes meeting the curved profile of the frame, which only provides a narrow contact surface for soldering. In response, the soldered joint has been bolstered with strips of metal sitting between the tube and the frame (**Fig. 5**). These are noteworthy because they appear to be unworked, irregular, and cut from sheet metal

with a chisel or shears – a stark contrast to the thousands of carefully crafted components used for the Purse Lid and the mounts attached to it. As such, they may represent a change of plan, or an unexpected problem, during the later stages of production.

Another feature of the Purse Lid is a marked lack of obfuscation – the hinges are clearly visible, and sit prominently on the frame. This may be for practical reasons, or mere coincidence, but compared to the other prestige hinges in Mound 1, the Purse Lid stands out. One interpretation of the Purse Lid⁷ emphasizes themes of hunting, based on the elaborate mounts depicting birds, horses, and dogs. In comparison to the other objects discussed in this paper, the Purse Lid overtly displays these depictions at the waist of the wearer, and this overt aspect is shared by the attached hinges.

The same cannot be said for the Strap Distributor (1939,1010.17), which is a part of a belt set, and facilitates the movement of the sword hanger. It weighs 73 g, and contains two very different hinges (**Fig. 6**). The first of these is the upper hinge, with three tubes, and similar proportions to the Purse Lid top hinges. Yet, this appearance is deceptive; two of the tubes have inlaid garnets and the pin is much thinner than the size of the hinge implies. The tubes are in fact composites, with an external shell that provides room for the garnet inlay. This is particularly clear on the middle tube, which has no inlay, but shows rough soldered joins on either side. The hinge must therefore contain either slimmer tubes, or holes for the pin to pass through, which are hidden by the components surrounding them.

⁷ Roland Allen, "A Stag Stands on Ceremony: Evaluating some of the Sutton Hoo finds," *Bulletin of the John Rylands Library* 79/3 (1997), pp. 167-175.



Figure 6 Swivel Hinge on the Strap Distributor (1939,1010.17) , early 7th century
Photo: © The Trustees of the British Museum.

The Swivel Hinge

This effort to disguise the mechanism is taken even further on the lower hinge (**Fig. 5**), which is unique among the Sutton Hoo finds. It is a swivel hinge, allowing the bottom of the Strap Distributor to swing from side to side, providing a second axis of movement for the sword hanger, improving the wearability of the belt set.

The technical challenge here was to produce a sturdy hinge, without the long pins and supporting structures seen on the other objects. For this reason, the swivel is flat, and much wider than its rivet. The middle and bottom sections of the Strap Distributor have corresponding circular plates, connected with a rivet. The middle section carries the rear plate, and the bottom section carries the front plate, which has been covered with garnet inlay, thereby hiding the mechanism.

The reverse (**Fig. 6**) has suffered minor damage, in the form of linear scratch marks and a halo of dents around the rivet head. In the former case, the scratches are caused either by wear, or (as they are widespread) marks left by the abrasives used during production. The dents are quite different, appearing in a localized group around the rivet (with a small zone on the bottom section of the Strap Distributor). These dents might be explained by wear – if the hinge was repeatedly knocked against an underlying object – but the depth, size, and grouping suggest a series of strikes with a punch, with the intention of tightening the hinge. Typically, this would be facilitated by tightening the rivet, but that may have been insufficient in this case.

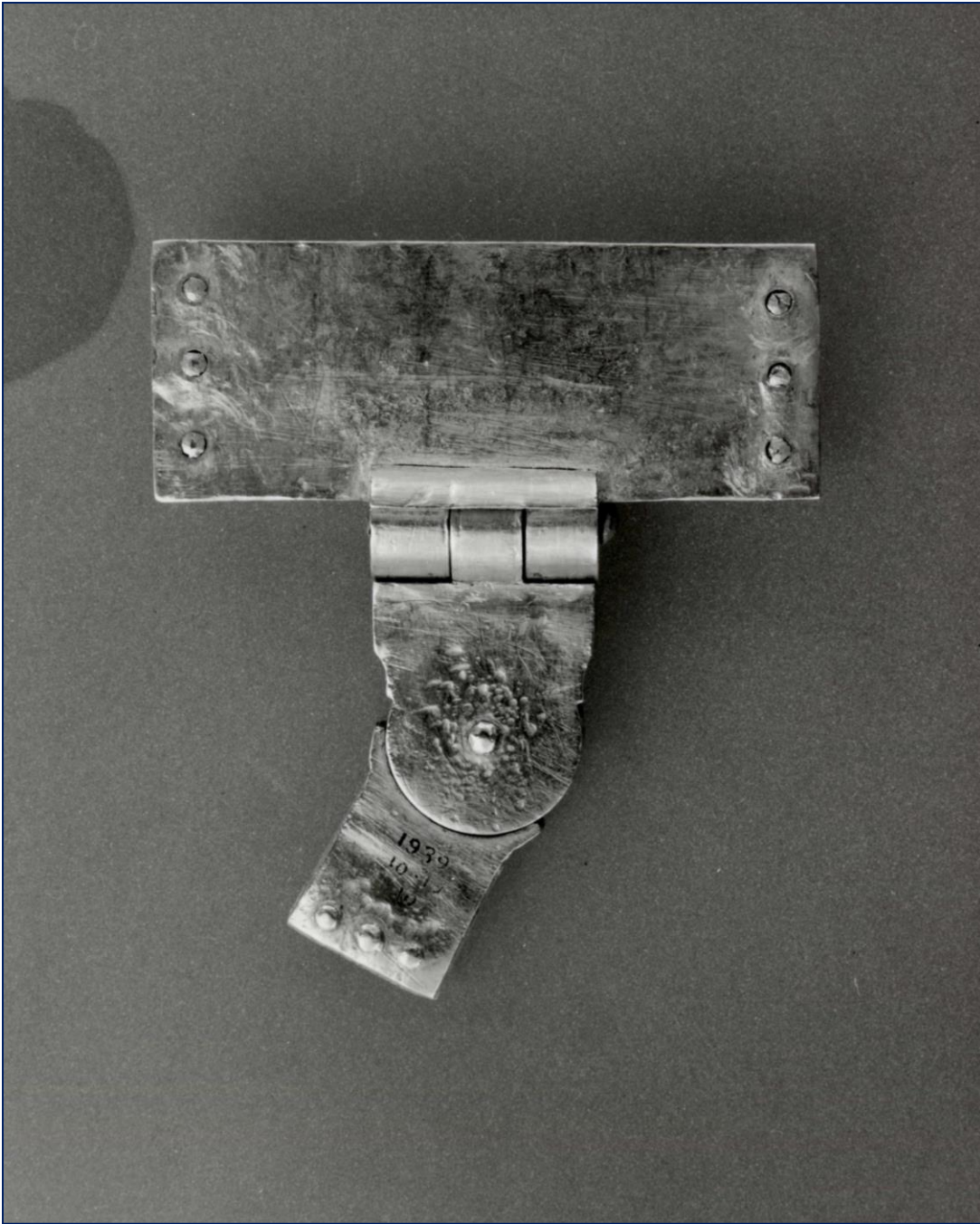


Figure 7 Reverse of the Strap Distributor, Sutton Hoo (1939,1010.17) ,
early 7th century

Discussion

Furnishings for the dead are curated by the living. In the case of Mound 1, an unusual number of hinges were included in the burial. These hinges were not objects in their own right, but they were an essential feature on many of the finds, such as buckles, which depend on controlled articulation.

These hinged objects were available at the time of burial, and considered important enough to include, even in the case of the lower status 'Area C & shoes complex' buckles. Other princely burials have fewer hinges, eg. the princely burial at Prittlewell⁸ contained four buckles and a folding stool, plus cauldrons, buckets, and imported vessels. Mound 1 was furnished more elaborately than Prittlewell and other burials, so a greater number of hinges might be expected. Nonetheless, twenty-six hinges, plus cauldrons, buckets, and imported vessels, is very high in comparison to other burials.

The only comparable burial for the number of hinges is Mound 17 at Sutton Hoo, with fifteen hinges. Most of these hinges were associated with the horse tack, but Mound 1 was a very mixed assemblage, associated with different items of dress and regalia. There were more hinges, they were attached to a wider range of objects, and many of the hinges were complex or unusual. The hinged objects likely reflect the legacy of the incumbent, rather than the norms of burials during this period. There is no evidence to assert that the incumbent had a personal interest in buckles, but the objects – individually, and as an assemblage – indicate that considerable thought and effort had been invested in

⁸ Liz Barham, *et al.*, *Priory Crescent, Southend on Sea – Post Excavation Assessment* (Museum of London Archaeology, 2012), pp. 34-38.

them.

Signs of alteration and repair, such as the rough slivers of gold on the lower Purse Lid hinge (**Fig. 5**), and the marks on the reverse of the Strap Distributor (**Fig. 6**), may indicate an experimental attitude to the design and production of the hinges, and suggest that unexpected problems were encountered during manufacturing. Just as the garnet cutting on the Shoulder Clasps displays virtuosity and ambition, so too do the composite gold hinges that accompany them.

The simple hinges might be explained by pragmatism: a belt buckle, a shoe buckle, and so on. The complex hinges are harder to justify in this way. They are more complex than they need to be structurally and have features which are deceptive, perhaps even playful. The Great Gold Buckle (**Fig. 2**) has a buckle hinge that is hidden by its own components, and a second hinge at the back, which would be invisible when the buckle was worn. Likewise, the Shoulder Clasp hinges are invisible when pinned together, and the Strap Distributor obscures its mechanisms behind garnet inlay. The Dummy Buckle (1939,1010.10) provides another example of playful thinking – it appears to be hinged, but has no articulation whatsoever.

The Mound 1 hinges are capable of provoking surprise and amusement in the modern observer, and this may have been equally true for their recipients, patrons, and manufacturers, who lived in the 6th and 7th centuries. 🐼

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Bibliography

Allen, Roland. "A Stag Stands on Ceremony: Evaluating some of the Sutton Hoo finds." *Bulletin of the John Rylands Library* 79/3 (1997), 167 – 175.

Barham, Liz, *et al.* *Priory Crescent, Southend on Sea – Post Excavation Assessment* (Museum of London Archaeology, 2012).

Bruce-Mitford, R.L.S. *The Sutton Hoo Ship-Burial, Volume 1, Excavations, Background, The Ship, Dating and Inventory* (London: British Museum Press, 1975).

Bruce-Mitford, R.L.S. *The Sutton Hoo Ship-Burial, Volume 2: Arms, Armour and Regalia* (London: British Museum Press, London, 1978).

Carver, Martin. *Sutton Hoo: A Seventh Century Princely Burial Ground and its Context* (London: British Museum Press, 2005).

Fern, Christopher. *Before Sutton Hoo: the Prehistoric Remains and Early Anglo-Saxon Cemetery at Tranmer House, Bromeswell, Suffolk* (East Anglian Archaeology, Report No. 155, 2015).