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Enigmatic Lives: An Object Biography of the Trundholm Sun Chariot

By: Roisin Thompson

Abstract: The Early Bronze age in Europe (1900-1500 BCE) is characterized by a dramatically shifting social and economic landscape. Populations expanded, trade networks grew, and the use of bronze exploded. Although the typical life cycle of bronze artifacts was cyclical as they were melted down and recycled, some bronzes were treated differently and were instead deposited in graves, hordes, and on their own. Yet, as Bradley (2013) notes, though the deposition of bronzes has been well studied, understanding them has been limited by restrictive interpretations that fail to include the objects' biography. Object biographies create a platform for researchers to examine the relationships between people and objects and how they change over time, creating a more holistic view of the culture and the object. This methodology is particularly suited for exploring the famous Trundholm Sun Chariot. Although featured extensively in writings on the Nordic Bronze age, research has typically been limited to the object's significance in explaining early religion, or exchange networks and has ignored the complex relationships this unique bronze object can reveal. Through this object biography, interpretations of the Trundholm Sun Chariot can move beyond singular foci and explore how relationships around bronze are changed and meanings are created as the Chariot moves from raw material to a ritually 'extinguished' object and beyond.

Keywords: *object biography, Trundholm Sun Chariot, Early Bronze Age, votive deposits*

The Early Bronze age in Europe (1900-1500 BCE) is characterized by a dramatically shifting social and economic landscape. The growing populations created denser, better built settlements, and increased their agricultural output.ⁱ Trade networks expanded, spreading exotic raw materials (i.e., copper, tin, amber) far from their origins, facilitating a growing elite who can be seen in the unequal distribution of wealth, often in the form of bronze objects.ⁱⁱ Although the typical life cycle of bronze artifacts was cyclical as they were melted down and recycled, some bronzes were treated differently and were instead deposited in graves, hordes, and on their own.ⁱⁱⁱ Yet, as Bradley notes,^{iv} though the deposition of bronzes has been well studied, understanding them has been limited by restrictive interpretations that fail to include the objects' biography.

Object biographies create a platform for researchers to examine the relationships between people and objects and how they change over time, creating a more holistic view of the culture and the object.^v This concept is closely tied to the idea that objects themselves have agency and can actively create meaning through the emotions and information people gather from them.^{vi} By describing objects in this manner, the static environment that artifacts are often portrayed in can be left behind; revealing how objects can be



Figure 1: The reconstructed Trundholm Sun Chariot, showing the gilded 'sun' side of the disk.

fundamental to the creation and reproduction of society.^{vii} However, this methodology is constrained by our knowledge of a specific artifact and this particularly becomes noticeable with ancient objects.^{viii} Ancient artifacts are found in their final state and so life-histories must be built

backwards from clues uncovered from the object and this can leave large gaps in the history.^{ix} Compounding this is the reality that object lives are not necessarily linear or singular and artifacts can lead many lives.^x Despite these problems with using object biographies on ancient artifacts many authors have successfully explored the relationships between objects and people in the past, proving that this methodology can be used as a tool to holistically understand ancient cultures.^{xi}

This methodology is particularly suited for exploring the famous Trundholm Sun Chariot (Figure 1). Although featured extensively in writings on the Nordic Bronze age,^{xii} research has typically been limited to the object's significance in explaining early religion, or exchange networks and has ignored the complex relationships this unique bronze object can reveal.^{xiii} Through object biography, interpretations can move beyond singular foci and explore how relationships around bronze are changed and meanings are created as the Chariot moves from raw material to a ritually 'extinguished' object and beyond.

The Sun Chariot was discovered unexpectedly when the recently dried Trundholm bog in Zealand, Denmark was ploughed for the first time in 1902.^{xiv} This model contains a horse pulling a disk, resting on three sets of wheels connected by axles and a central pole. Measuring 26cm in diameter and intricately decorated with concentric circles and spirals, the disk is further ornamented with gilding on one side (Figure 2).^{xv} As the Chariot was found with no other contextual evidence, it has been roughly dated to the Nordic Bronze Age - Montelius II (1500-1300 BCE) through the distinctive spiral decorations on its disk.^{xvi} Understood immediately by archaeologists to represent early evidence of an already identified Nordic sun cult, the Chariot became a treasure of the National Museum of Denmark and an icon for the Nordic Bronze Age.^{xvii} This ritual aspect of the Trundholm Sun Chariot is only one of the relationships Bronze

Age people would have had with this prestige object. It is only by looking back through each stage of the Chariot's life can we begin to better understand the networks linking the artifact to the people around it.

Creation

As a raw material, copper would have had many connotations for the local people of Scandinavia. Major centers of copper mining with local smelting operations were dotted throughout Europe by 1500 BCE with extensive trade networks sending copper to those regions lacking local mines; notably Scandinavia which lacked both tin and copper.^{xviii} This posed no deterrent to the extensive use of bronze in the region though, and the southern half of Scandinavia is thought to have more bronze objects per km² than contemporary cultures elsewhere in Europe.^{xix} The Nordic trade of amber and other goods in exchange for metals is believed to have fuelled the rise of various localized elites in the region.^{xx} Control of these trade routes provided opportunities for individuals to aggrandize themselves and gather wealth in the form of rare, exotic materials.^{xxi} Yet, wealth and prestige would not have been the only



Figure 2: The 'sun' and 'night' sides of the disk. The pattern of connected spirals differs slightly between the two sides.

connotations Scandinavians associated with bronze, and perhaps these were not even the most important relationships.

Archaeologically, bronze is found in a number of ritual and religious contexts in Scandinavia; in graves, hordes, liminal watery contexts, connected to stone-built longhouses associated with carvings and standing stones known as ‘Cult Houses’, and associated with cremation activities.^{xxii} The brilliant sheen and red-gold colour of bronze would have been early attractants, but it is its transmutative power that has been suggested to have inspired supernatural connotations.^{xxiii} Bradley has suggested that smiths were both labourers and ritual specialists.^{xxiv} In working with ritually significant materials, smiths were able to create cosmologically powerful objects of bronze and pass down specialized knowledge.^{xxv}

In this context, raw metals would have been recognized for more than their economic value and social power but also as beautiful, mysterious materials that one needed special knowledge to engage with. It is in this complex framework of meaning that the Trundholm Sun Chariot would have been forged. Travelling as raw smelted copper, most likely from the mines of Mitterberg in the Austrian Alps,^{xxvi} the raw copper would have reached a smithing workshop in Zealand where it would have been melted together with tin to form the bronze alloy of the model. Many factors point to the local production of this artifact and there are two likely workshops in North Zealand where it might have been fabricated. Nørgaard suggests that these particular workshops were run with support from elites in the area,^{xxvii} allowing at least some of the smiths to specialize in their craft. Specialization allows for the increased time commitment required to produce artifacts of superior quality,^{xxviii} such as the intricately detailed Trundholm Sun Chariot. Both horse and disk were cast in the Lost-Wax method, an early defining technique of Scandinavia,^{xxix} and one that was particularly perfected in the Zealand region.^{xxx} The wheels

the model rests upon are crafted slightly differently; solid bronze, they were likely made in another form of lost-cast mould such as a sand mould.^{xxxii} The uniform spirals and concentric circles on the disk suggest that they were pressed into the wax using stamps, a decorative treatment reserved for special artifacts.^{xxxiii}

The Zealand workshops were probably located in special areas where the dangerous physical techniques, as well as any ritual activity, used to craft bronze could be set apart.^{xxxiiii} Bronze working in Scandinavia has been connected to locations that show evidence of cremation activities, and both are associated with 'cult' houses.^{xxxv} This further points to the idea that ritual was an integral aspect of metal-working and that smiths likely led these events.^{xxxvi} Therefore, smiths required not only crafting knowledge to make objects such as the Trundholm Sun Chariot, but also the ritual knowledge needed to work with a powerful material and create an object associated with cosmological designs.

One can then imagine a smithy, set apart from the settlement and perhaps in an area with other ritually associated activities and buildings, where the smith carefully crafted and impressed designs into the lost wax moulds of the Chariot. Perhaps certain stages of the casting process required rituals and it was the smith who stepped in as a ritual specialist to perform these. Once the bronze was solid, the moulds would have been broken and the final touches added; any irregularities fixed, gilding added to the disk, and the model put together. The smith who worked on the Chariot may have been a full-time specialist, possible due to the support of local elites commissioning pieces like this, although this was not necessarily the case and should not be assumed.^{xxxvii} It is in this complex social organization that the Sun Chariot would have transformed from raw material to a cosmologically powerful object. The rare, exotic materials would have been recognized as denoting wealth and status, signifying trade with far off groups,

but would also be associated with local rituals and the ‘secret’ knowledge (both physical and ritual) held by smiths. These many associations, connotations, and relationships would have been attached to the object at its inception before it even began to be actively used in society.

Life

While many aspects of an object’s day to day life can seem unknowable in an archaeological context, other, more general understandings can be seen through the traces left on the artifact.^{xxxvii} The fine workmanship and unique character of this artifact along with its iconography points to its ritual significance and association with the Bronze Age’s mythological journey of the sun.^{xxxviii} The Chariot is an early representation of this myth, better known from rock art and late Bronze Age razors.^{xxxix} Interpreted from detailed decorations on razors, the sun can be seen to undergo a daily cosmological journey through the sky and into the underworld on a ship.^{xl} This journey is not undertaken alone however, and various animals play a role in aiding the sun to the next stage. The boat rises in the west and then travels across to the east with the help of a fish, horse, and a snake before sinking below the horizon to the underworld and travelling in the opposite direction.^{xli} Notably, a horse is one of the associated animals and is seen to be carrying the sun through noon. It is this section of the story that the Trundholm Sun Chariot seems to portray.

Yet, there are some discrepancies between the Sun Chariot’s design and this myth as portrayed on later bronze razors. While the Trundholm sun is placed on wheels and pulled by the horse, in the general myth laid out by Kaul the sun’s only transport other than animals, is a ship.^{xlii} Some have thus taken the wheels as purely practical additions required for performance and not intended to be understood as integral to the story.^{xliii} Others suggest that the sun is resting on a chariot, a design that travelled from the east and is also prevalent in rock art.^{xliv} Whichever

the original intent, the wheels under the horse's hooves in combination with those under the sun allow the model to be moved; most likely this was an action that was performed to mimic the sun's journey across the sky.^{xlv} On wheels, the model could be pulled so that the golden sun's journey was followed by the darker bronze 'night' as it turned, representing the sun's descent under the world.^{xlvi} This may have been made possible by a tether attached to the hole above the horse's mouth (Figure 4).^{xlvii} The remaining metal loops located under the horse's head and at the

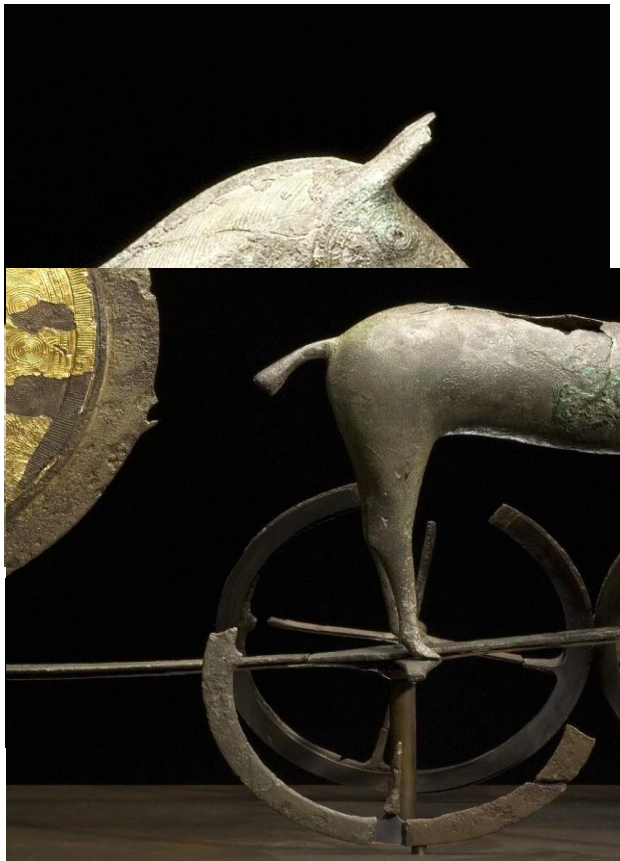


Figure 5: The remaining loop located on the front of the disk behind the horse.

front of the sun disk indicate that a second tether attached these two elements together (Figures 4 and 5).^{xlviii}

Here we can imagine someone, perhaps a ritual specialist or an elite, performing the cosmic journey of the sun through the Trundholm Sun Chariot. The wear on the mouth hole suggests that the Chariot went through this journey many times over its life.^{xlix} The Chariot may have held such roles as a teaching tool, a ritual aid, or even a divine object itself. Such a powerful object could have been perceived as dangerous, and this may explain why the artifact seems to have been

continually taken to pieces and reassembled, a feature noted by Goldhahn.¹ This act can be interpreted as a 'deactivation' of power between uses, as has been suggested for similarly treated gold objects.^{li} Equally, this repeated destruction could have more to do with the act of re-

assembling the object, making creation an essential aspect of the ritual performance as the cosmic world was re-created continually and thus physically realized within their society.^{liii}

As the Sun Chariot went through its life it may have been seen as powerful, educational, dangerous, or even an object of creation and cosmological re-enactment. These relationships would join earlier connotations connected to its creation and material, not to mention the specific histories and memories attached to the artifact that remain unknowable. Yet, it is important not to forget that along with all these esoteric and social understandings would be the simple recognition of the horse as a work animal, a recognizable connection to their daily lives.^{liiii} After a period of time, the life of the Sun Chariot came to a close, but the artifact did not follow the typical recycling of bronzes and was instead deposited in a bog.

Death

The enigmatic relinquishing of precious materials and objects into waterways, sometimes in vast quantities, is well researched.^{liv} Interpretations vary, but most scholars agree that the placement of objects into watery locations (lakes, rivers, and bogs) presumes an impossibility of retrieval, and as such indicates a votive offering.^{lv} Economically focused interpretations suggest that the deposition of bronzes was a type of commodity control, ensuring the value of bronze remained the same by taking quantities out of circulation, thus reinforcing the prestige goods system that created elite power.^{lvi} This interpretation hardly encompasses the patterns apparent in these depositions and other explanations have been suggested. Bradley proposes that metal objects were understood to contain cosmological power from the earth (where the raw material originated) and this special nature required that a portion be returned to the earth to guarantee renewal.^{lvii} Alternatively, since finely crafted objects could have had supernatural or powerful qualities, particularly ornaments such as the Sun Chariot, special treatments were required at the

end of their use-life so as to not damage this nature.^{lviii} Or perhaps objects were deposited as gifts in ceremonies to the supernatural, a process understood to reinforce and create social values and status hierarchies.^{lix} Bruck and Fontjin suggest that objects associated with ceremonial events or people helped create identities and so required removal when these identities were no longer needed.^{lx} While many of these interpretations focus on the deposition of hordes, Bradley notes that the deposition of singular items occurs in similar patterns and should not necessarily be interpreted differently.^{lxi}

The Trundholm Sun Chariot is a single deposit, but its burial location and final form unequivocally point to a purposeful end to this object. Found in pieces, it was clear that only some breaks were from the recent plough, and that the carriage and disk had been dismantled a final time before deposition.^{lxii} The purposeful damaging of objects before burial is a practice well attested to in the Bronze Age.^{lxiii} This final destruction may have been enacted, as earlier dismantlings were, to remove any power the Chariot contained.^{lxiv} Perhaps in conjunction with ritual, the purposeful destruction opens an avenue for people to take tokens or heirlooms of the event or person the Sun Chariot was connected to, a practice that can be seen in the deposition of ancestral bones in Bronze Age graves in Britain.^{lxv} Indeed, some researchers believe that rather than an inaccurate depiction of a two-wheeled chariot, the Sun Chariot is missing a second horse which would have been yoked to the first.^{lxvi}

The Trundholm Sun Chariot's deposition can be understood to have been an event charged by the location, the liminal space of a watery bog under the shadow of two barrows, and by the object's history.^{lxvii} The Chariot was broken into pieces and placed into the bog, but perhaps not before a token was taken from this powerful object. While the exact reasons behind this deposition are difficult to decipher, it is clear that this object mediated ritual relationships

through its powerful material, cosmic purpose, and ritual life, all of which influenced its final location. As the Chariot went out of use, it is unlikely that the many connotations, relationships, and memories associated with the object did as well. The act of deposition undoubtedly, intentionally or not, reinforced the values and concepts associated with the object as well as the elite hierarchy, social structure, and the value of copper.^{lxviii}

Rebirth

Despite the seeming finality of this destructive deposition, the Trundholm Sun Chariot's life journey was not over. Instead, centuries later, the chariots fragments were pulled up when the bog was ploughed for the first time by a local farmer in 1902.^{lxix} The Bronze Age connotations had faded with time and so the relationships mediated by the Chariot continued to change as it re-emerged in the modern era. Initially, these were the connotations of a small model toy as the farmer gave the object to his daughter to play with.^{lxx} However, before long the National Museum of Denmark became aware of the find and radically changed the interactions with and perceptions of this object.^{lxxi} The Chariot became enshrined as a museum object, quickly becoming re-associated with the Bronze age and soon, with the modern idea of Denmark as it became a national symbol, found even on the Danish 1000 Krone bank note.^{lxxii} These new understandings of the Chariot as a precious prehistoric artifact note a new chapter in the life of this object.

From base metal, to ritually charged object, to a rare and unusual remnant of history, the Trundholm Sun Chariot has had many different and intertwined meanings throughout its life that have mediated the interactions with the object and reveal how cultural relationships with the Chariot have changed over time. This object biography reiterates what others have noted:^{lxxiii} that it is as equally important to look closely at objects as it is to explore entire cultures. Object

biography is a methodology that allows the past to be understood through the relationships people have with objects, an ever-shifting landscape that can create a more holistic view of the past. While there are many areas of research that would further clarify the life of the Trundholm Sun Chariot, this interpretation has attempted to combine what is known into a comprehensive picture of the object and its era.

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- ^{xxvii} Nørgaard, *Bronze Age Metalwork*, 360-362.

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- xxviii Nørgaard, *Bronze Age Metalwork*, 360-362.
- xxix While there are arguments for the horse to have been crafted in the east (See Ashbee 1989) this interpretation is based on lack of resemblance to northern horses and how its decoration could be a *chamfrein* known from the East. However, others (See Littauer & Crowel 1991) have convincingly argued against a *Chamfrein* interpretation, and a comparison with the recent analysis of decoration distribution in Scandinavia (Nørgaard 2018, 297-308) strongly suggests a Scandinavian manufacturer.
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- ⁱⁱⁱ Goldhahn, "Rethinking Bronze Age Cosmology," 263.
- ⁱⁱⁱⁱ Oma, "Large Scale 'Grand Narratives'," 81, 83.
- ^{lv} See Bradley 2013, Thrane 2013, Bruck and Fontjin 2013.
- ^{lv} Bradley, "Hoards and the Deposition of Metalwork," 124.
- ^{lvi} Bruck and Fontjin, "The Myth of the Chief," 198.
- ^{lvii} Bradley, "Hoards and the Deposition of Metalwork," 130.
- ^{lviii} Bradley, "Hoards and the Deposition of Metalwork," 132-133.
- ^{lix} Goldhahn, "Rethinking Bronze Age Cosmology," 256-257. ; Bruck and Fontjin, "The Myth of the Chief," 211.
- ^{lx} Bruck and Fontjin, "The Myth of the Chief," 209.
- ^{lxi} Bradley, "Hoards and the Deposition of Metalwork," 131
- ^{lxii} Thrane, "A Note," 48.
- ^{lxiii} Bradley, "Hoards and the Deposition of Metalwork," 128. ; Bruck and Fontjin, "The Myth of the Chief," 206.
- ^{lxiv} Armbruster, "Gold and Goldworking," 458.
- ^{lxv} Bruck and Fontjin, "The Myth of the Chief," 206. ; Bruck, Joanna. "101 Things to do with a Dead Body in the Bronze Age." Presented at Durham University Archaeology Department Research Seminar, Durham, England, 4th November 2020.

lxvi Gelling and Hilda Davidson, *The Chariot of the Sun*, 16.

lxvii Thrane, "Scandinavia," 752.

lxviii Bruck and Fontjin, "The Myth of the Chief," 198, 211.

lxix Blind, "A Prehistoric Sun Chariot".

lxx Thrane, "A Note," 47-48.

lxxi Thrane, "A Note," 47-48.

lxxii Blind, "A Prehistoric Sun Chariot," 552. ; Nationalmuseet i København, "The Sun Chariot," 1:44.

lxxiii See Joy 2009, Gosden and Marshall 1999, Gerrard 2007.