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## **Tracking the Culmination of the Celestial Cow Motif into Royal Spheres: An Examination of Celestial Phenology and Cattle Pastoralism in Early Ideologies of Power**

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### *Abstract*

Often appearing in relation to modes of ritual and personal display, the Celestial Cow emblem is a frequently encountered aspect of Predynastic and Early Dynastic imagery that has, in some cases, been recognized for its connection to the ruling elite. However, a comprehensive examination of the motif as an iconographical genre has not yet been conducted to reveal its larger ideological significance during Egypt's archaic age. The purpose of this paper is to analyze surviving examples of the Celestial Cow motif in terms of form, function, and context to characterize its evolving role in the socio-economic apparatus of the emerging state. Moving from the premise that divine representatives of the natural world were integrated into symbolic vocabularies of power to help pinpoint social dynamics between the human and divines realms, the argument is made that the importance of celestial phenology and specialized cattle economies encouraged elites to select this symbol for royal products. In addition, this paper proposes that the motif was emblematic of a value system rooted in aspects of social complexity— such as social stratification, economic differentiation, and inequality— that ultimately reinforced the ideology of power that underpinned state formation.

### *Keywords*

Elite Iconography; Royal Ideology; Celestial Cow Emblem; African Cattle Complex; Celestial Phenology

## Introduction

In models of cultural evolution, as societies become more complex and regional power is consolidated, symbols of power are forged to establish or reinforce an ideological framework that sanctions a monopoly on power. These symbols clarify the character of the ruling class and convey the message that this monopoly is justified because the ruler is operating harmoniously with cosmic order.<sup>1</sup> Such ideologies maintain that the true source of power goes beyond physical strength and triumphant battles; it transcends human affairs and is aligned with the spiritual world, which is commonly associated with the sky and its components.<sup>2</sup>

As a result of this principle, celestial imagery— or images with celestial associations— were incorporated into the symbolic systems of complex societies to propagate a cosmological link between the elite and the divine. From the Chumash tribes of California to the Dogon tribes of West Africa, elites have integrated divine representatives of the sky into their symbolic vocabularies.<sup>3</sup> These symbolic elements are evident in modes of ritual and personal display, and can be used to help pinpoint the social dynamics between god and man as well as heaven and earth. Therefore, by examining the application of celestial power in icons belonging to the ruling elite, we may expand upon our understanding of early ideologies of power, and of how these frameworks structured political, economic, and spiritual components of social life.

Turning our attention to the dawn of Pharaonic culture in ancient Egypt, we can see that some of the earliest examples of royal iconography appear on the Narmer Palette (Cairo, 14716). From the bull's tail to the Red and White Crowns, these symbols go on to verify the longevity of artistic convention in Dynastic art for millennia, during which they have clear associations with ideas of political dominance. In contrast to these well-understood signifiers, the meanings of certain visual aspects in the palette's composition are more enigmatic.

I refer to one symbol in particular: the Celestial Cow motif. Appearing a total of eight times on the palette, this symbol is represented in the upper register on both sides of the palette as a pair of two anthropomorphized bovine heads; while a smaller set of four appears on the king's girdle in miniature form on the reverse. When appearing in the capacity of belt ornamentation, the bovine heads are seldom mentioned in scholarship— let alone analyzed. Meanwhile, the larger and more noticeable representations of the Celestial Cow motif in the upper registers have attracted considerable attention, especially with respect to correctly determining the identity of the figure. Certain goddesses who are depicted in bovine form early on in Pharaonic history, such as Mehet-Weret and Sopdet, certainly warrant consideration.<sup>4</sup> Hathor and Bat have also been proposed as possible candidates— albeit, on a much more frequent basis— and at the end of the day, questions

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<sup>1</sup> Baines and Yoffee 1998: 238; Baines 1989: 475.

<sup>2</sup> Krupp 1997: 152.

<sup>3</sup> These societies are examined by Edwin C. Krupp in his seminal study on the relationship between increased social complexity, astronomy, and the dynamics of power structures. He describes how the Chumash tribes were governed by a class of shamanic elites due to their specialized knowledge about calendric systems empowered them to use sacred celestial imagery during performative rites to commune with the cosmos. Similarly, the elders of the Dogon tribes have the ability to read hundreds of celestial pictographs (all based on stars or asterism) and this knowledge gives them the authority to make political decisions and counsel their community in all domains of daily life. See, Krupp 1997: 155–67.

<sup>4</sup> Hornung 1982: 80; Jensen 2015: 289.

concerning identification are still part of an ongoing conversation<sup>5</sup> However, one interpretation that is generally agreed upon is that the four figures in the upper registers probably represent a protective Celestial Cow divinity who is depicted supervising a scene that is being orchestrated under her auspices by none other than the king himself.<sup>6</sup>

The presence of the Celestial Cow emblem on the royal *Ssm.t*-apron does not go on to hold the same degree of permanence in representations of royal costumes as the bull's tail, for example, during Dynastic times. However, items displaying this motif have a long history of use in ceremonial contexts elite stretching back to the Neolithic Period. In fact, it has been described as one of the oldest examples of Pharaonic iconography.<sup>7</sup> This begs the question, what was the symbolic significance of the Celestial Cow emblem to the elite class and what does this tell us about their ideology of power during the gradual nucleation of regional power?

The purpose of this paper is to examine the Celestial Cow motif as an iconographical genre and to assess the cultural factors that influenced the elite class to incorporate Predynastic antecedents of the motif into the repertoire of royal iconography. Surviving examples of the Celestial Cow motif are examined in terms of form, function, and context to characterize its role in the emerging state. Moving from the premise that ‘cosmological elaborations and “political economies” are among the features that can distinguish civilizations from noncivilizations,’<sup>8</sup> I argue that the ideological importance of bovines and celestial cycles encouraged elites to select this symbol for royal products celebrating facets of early statehood. Furthermore, this discussion proposes the idea that the symbol was selected for royal products celebrating early statehood because the motif was emblematic of broader values held by the elite—such as social stratification, economic differentiation, and inequality—that ultimately supported the ideology of power that underpinned state formation.

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<sup>5</sup> There is not enough space to discuss the many bovine goddesses that this emblem might depict. Michael Brass has argued that the goddess who is represented in the Narmer Palette is Hathor on the basis that it is Hathor, not Bat, who is consistently associated with the office of the pharaoh in Dynastic times. This line of thought may explain why in the past the Celestial Cow emblem has been identified as Hathor in other representations, such as one identification in made in 1958 by Edward Borges and William Arkell in reference to the decoration (fig. 1E) appearing on a porphyry bowl rim from Hierakonpolis. On the other hand, Toby Wilkinson has pointed out that no evidence exists to attest to Hathor's veneration in Early Dynastic times and consequently, identifies the goddess depicted in the palette as Bat. Indeed, the confusion between Bat and Hathor in Egyptological scholarship has been discussed by both Henry Fischer and Mohammad Rashed, who both identify the Celestial Cow deity as Bat. In addition, Erik Hornung and John Baines have also identified Bat as the goddess in the Narmer Palette due to the amount of material culture dating to the Predynastic and Early Dynastic Periods that has already been linked to the goddess. For full discussions, see Brass 2003: 106–08; Burges and Arkell 1958; Wilkinson 1999: 282–83; 312; Fischer 1962; Rashed 2009; Hornung 1983:103; Baines 1991: 104.

<sup>6</sup> Jensen 2015: 300.

<sup>7</sup> Hendrickx 2005: 14-15.

<sup>8</sup> Baines and Yoffee 1998: 234.

## Methodology

From approximately the mid-fourth to the early third millennium BC, a growing number of objects demonstrate the emergence of an iconographical group depicting an anthropomorphized bovine deity. Often referred to as the *bat*-fetish,<sup>9</sup> ten examples belonging to this group have been selected for examination in this study. Nine cases date to the Predynastic and Early Dynastic Periods and one case dates to the reign of the Third Dynasty's first sovereign. Although this last example does not technically fall within the chronological confines of this study, it would be quite impetuous to disregard the contributive value that this fragment offers since the temporal boundary between these two periods is something of an artificial construct imposed by later scholarship.<sup>10</sup> The appearance of the Bat emblem on a statue fragment of Djoser can ultimately offer insight into the ideological beliefs that were developed during the reigns of his predecessors, as well as those active during his own rule, and is therefore a valued asset to the present study.<sup>11</sup>

Form, function, and context are reoccurring points of focus in this analysis. As such, the first step of this project is to assess the data set as a class of visual representation that signified specific significance to the segment of society who produced and used the items that the symbol was found upon. These items—and the motif itself—will be inspected as cultural identifiers that potentially denotes a certain place, ritual, economic practice, lifestyle, subsistence strategy, tradition, or body of knowledge that was meaningful to the elite.

The results will then be discussed in the broader context of cultural evolution. Here, bodies of evidence that support the ideological, economic, and cultural importance of cattle pastoralism and celestial phenology will be presented. This evidence has been selected with care from a vast array of material cultural that could easily be included in a larger discussion and the author urges the reader to understand that this study does not claim to present a comprehensive collection of all materials relevant to the themes of this paper. It is the conceptual coalescence of bovine and celestial themes and the role that the emblem played in Predynastic and Early Dynastic Periods that is the subject of focus.

Prior scholarship has remarked upon similarities between specimens featured in this paper with varying degrees of detail and in the context of larger topics and spans of time. Despite the fact that the Celestial Cow emblem is a 'remarkably frequent element during later Predynastic and Early Dynastic times,'<sup>12</sup> an in-depth analysis of the Celestial Cow emblem has not yet been conducted with a focus on the archaic periods. As a result of this situation, the following data has been assembled for the purpose of this discussion.

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<sup>9</sup> Fischer 1962: 7.

<sup>10</sup> Indeed, the main division between the Early Dynastic Period and the Old Kingdom is justified by grandiose state-organized building projects and testifies to progress in architecture. It does not, however, testify to changes in royal ideology, modes of representing the royal figure and costume, or even the location of the royal residence. See, Malek 2000: 83.

<sup>11</sup> Note that this specimen will be inspected closer to the end of the discussion.

<sup>12</sup> Hendrickx and Förster 2010: 823.

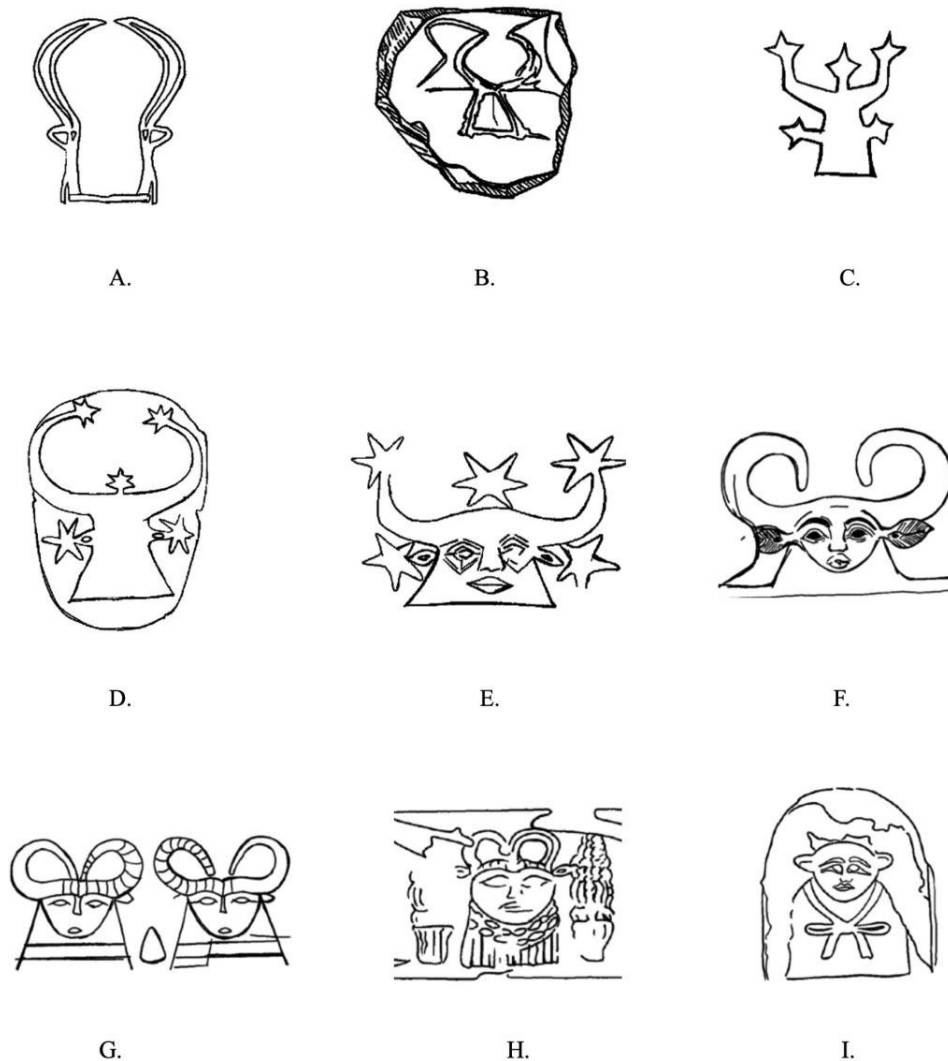


Figure 1. Predynastic and Early Dynastic examples of the Celestial Cow emblem (known as the Bat fetish, alternatively). Data-set shows stylistic and morphological commonalities that unite the images under the umbrella of a specific iconographical category. Images not to scale.

A. Reconstructed pot mark from a red polished bowl, Cemetery HK6 (Tomb 16), Hierakonpolis, Naqada II Period, © R. Friedman 2005: 14; B. Incised ostrakon from ceremonial centre HK29A, Hierakonpolis, Naqada IID2—IIIA Period, © V. Jensen 2015: 300, fig. 5; C. Cylinder seal impression (detail), Cemetery U (Tomb U-210), Abydos, Naqada IID2—IIIA, © M. Rashed 2009: 340, pl. 1; D. Gerzean Palette, Tomb 59, Gerzeh, Naqada IIC—D. Cairo 34173, © V. Jensen 2015: fig. 1; E. Porphyry bowl (rim detail), Main Deposit, Hierakonpolis, First Dynasty. Petrie Museum, UC 16245, © V. Jensen 2015: 300, fig. 6; F. Narmer Palette, detail, Main Deposit, Hierakonpolis, First Dynasty. Cairo 14716, © V. Jensen 2015: 300, fig. 7; G. Ivory plaque from the tomb of Semerkhet, Umm el Qa'ab (Tomb U), Abydos, First Dynasty.<sup>13</sup> H. Ivory inlays of a box, Cemetery 300, Abu Rawash, Early Dynastic Period, © Rijksmuseum van Oudheden 1958: pl. 25. I. Limestone model of a carrying-shrine, Abydos, Early Dynastic Period, © L. Troy 1986: 80, fig. 54.

<sup>13</sup> Petrie 1900: 25, pl. 27.

## The Celestial Cow Emblem: An Iconographical Motif of the Emerging Elite

Every specimen in this data set has been previously identified as either representing Bat or Hathor based on similar mythoi existing between the two goddesses following Hathor's early syncretism with Bat— but mostly, the criterion for identification is founded on stylistic morphology.<sup>14</sup> The inward curvature of the figure's horns is the Celestial Cow's most predominant characteristic.<sup>15</sup> They extend to the point that they are almost touching high above the forehead and in some cases the inward curve continues in a downward direction (1F, 1G, and 1H). Elongated ears protrude at the base of the horns and often align with or are depicted slightly above the level at which the oblong eyes are depicted (1E, 1F, 1G, 1H, and 1I). The gaze of these eyes confronts the viewer head-on by virtue of a frontal mode of representation. These stylistic and morphological commonalities unite the images under the umbrella of a specific iconographical category which will be referred to as the Celestial Cow emblem<sup>16</sup> in this discussion (fig. 1).

### *Predynastic Specimens*

Commonly, the Celestial Cow motif is surrounded by five five-pointed stars to signal her astral connotations. The two earliest examples were both found in funerary assemblages deposited within tombs and share the same placement of five star-like features: one directly above the kare of the forehead, two extended from what appears to be two ears, and two more extended from the point of each horn. The significance of this mode of representation points to the idea that bovines and stars were connected in some form or another in the eyes of Predynastic groups. During this era, the Celestial Cow symbol was already being depicted on a variety of items; while one example dominates the decoration found on the Gerzean Palette (fig. 1D), another example appears on a cylinder seal impression (fig. 1C).<sup>17</sup>

Broader significance may be drawn from the fact that both these items can be described as “luxury” based on their representational and iconographical nature and therefore, may signify elite contexts. John Baines has noted that the ‘communication and display of early works of art was virtually an internal matter for the gods, the king, and the elite’<sup>18</sup> that contributed to the self-sustaining culture of the ruling elite. These audiences had access to various cultic and mortuary rituals that the rest of society was presumably restricted from. In addition to their decorative aspect, cosmetic palettes were often made from precious ores from the Eastern Desert and may have also been exclusive to a ruling group at one point in time. Indeed, inequality (defined here in terms of differential access to material and symbol resources) was at the heart of the self-sustainable character of the elite because wealth and order were used to secure legitimacy. The elites of late

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<sup>14</sup> By the New Kingdom, Hathor had entirely eclipsed Bat and ruled in her place in the seventh nome of Upper Egypt as the mistress of Hu. In fact, if one shrine of Sesostri I had never been unearthed at Karnak stating that Bat was the patron god of Hu, the seventh nome of Upper Egypt (*Iw.t-Sxm* or “Mansion of the Sistrum,”) it is unlikely that one would ever suspect that Bat was worshipped there as the local deity as late as the Twelfth Dynasty. For more discussion on Bat's syncretism with Hathor, see Fischer 1962: 7–11; Wilkinson 1999: 324; Rashed 2009.

<sup>15</sup> Mohamed Rashed has pointed out that inward curvature of these horns resemble the shape of the horns belonging to the *Syncerus* sp. (the African buffalo). See, Rashed 2009: 335 for full discussion.

<sup>16</sup> By referring to the emblem in this manner, I aim to look beyond matters of identification which have traditionally been the focus of scholarship. The benefit to this approach is as follows: the common stratum of ideas that lent to the similar character of goddesses like Bat and Hathor may finally be addressed.

<sup>17</sup> Shinn 2019: 22; Hollis 2020: 57–58.

<sup>18</sup> Baines 1989: 478.

Predynastic Egypt accumulated precious materials such as gold, ebony, and ivory to transform them into aesthetic items, (such as garments and visual forms) that illustrated characteristics of the ruling elite.<sup>19</sup> As a result, the Naqada II-III Period saw a great surge in cultural uniformity and in the production of prestige goods; cosmetic palettes being a major type alongside decorated pottery, mace heads, and stone vases.<sup>20</sup> This era is the period that the Gerzean Palette has been dated to (Naqada C-DII). The mineral remains found on the palette itself further support its prestigious nature. As evidenced by traces of malachite, the Gerzean Palette (fig. 1D) was used to grind pigment. In seven instances a metallic and bluish-black mineral called galena was recorded in Tomb 59 and it has been proposed that the rarity of black pigments was connected to their exclusive use for holders of higher status. If so, the presence of galena may be viewed as a prestigious commodity. This interpretation would explain why dark pigments were only found in better-provisioned tombs in this cemetery.<sup>21</sup>

Next, the cylinder seal impression signifies the presence of increasingly sophisticated administrative undertakings because seals ‘were instruments of economic control that could be used effectively to guarantee the supervision of proceedings’ in exchange and trading activity.<sup>22</sup> Displaying the Celestial Cow emblem (fig. 1C), this seal impression was found amongst approximately six hundred other graves in Cemetery U at Abydos where large quantities of seals and seal impressions were also recovered. It is important to note that this assemblage has yielded a large range of compositions and stylistic representations of different motifs<sup>23</sup> which points to the presence of ‘an increased use of visible controls on materials and an aesthetic investment in those controls that drew on motifs from the wider cultural context.’<sup>24</sup>

Ulrich Hartung’s excavation work at Cemetery U has determined that the burial grounds appear to have been solely reserved for the interment of the highest elite from Naqada IID and onwards.<sup>25</sup> Since the seal impression in question has been dated to Naqada IID2-III A,<sup>26</sup> it seems reasonable to suspect that the seal impression found in Tomb U-210 belonged to a member of the upper elite, possibly someone who assisted in managing the specialized economies that were on the rise during the Naqada III Period. By this period state formation was well underway in Upper Egypt and the use of seals was an extremely helpful device for state officials to manage the transport of vessels to places like the southern Levant and Nubia where concurrent Egyptian seals have also been discovered.<sup>27</sup> Ultimately, if one can accept that the Celestial Cow motif is typically associated with elite contexts then meaning— such as the motif being a reflector of elite individuals— may be attributed to the emblem. The following contexts yielding the emblem do continue to suggest this link.

The Celestial Cow motif’s connection to the elite sector of society is reinforced by the fact that another specimen was unearthed in a different elite cemetery, specifically in a large and ‘very rich tomb’ called Tomb 16. Located within Cemetery HK6 at Hierakonpolis, this tomb has been

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<sup>19</sup> Van de Mierop 2021: 50; Baines and Toffee 1998: 234–35.

<sup>20</sup> Baines 1989: 476.

<sup>21</sup> Stevenson 2006: 43.

<sup>22</sup> Nissen 1988: 76.

<sup>23</sup> Shinn 2019: 23.

<sup>24</sup> Baines 2010: 138.

<sup>25</sup> Hartung 2018: 323.

<sup>26</sup> Shinn 2019: 19.

<sup>27</sup> Jiménez Serrano 2008, 1133; Regulski 2008: 993; Gatto 2006: 71–72.



interpreted to belong to a local ruler from the Naqada IC-IIA Period (c.3650 BC).<sup>28</sup> It is within this tomb that the Celestial Cow emblem was found on a fragmented red polished bowl in the form of a pot-mark (fig. 1A). Despite the absence of the star-like features in the motif (which has often been interpreted as an indicator of Bat), Stan Hendrickx identifies the pot mark as an obvious representation of Bat and argues that she is the subject depicted in some of the earliest examples of Pharaonic iconography.<sup>29</sup> If Hendrickx's identification is correct, this pot-mark is the earliest attestation of the Bat symbol,<sup>30</sup> and perhaps of the Celestial Cow emblem as well.

Significance may also be extrapolated from the pot-mark itself. Since post-firing pot-marks are indicative of trading and exchange systems,<sup>31</sup> it appears that the pot-mark depicting the Celestial Cow emblem (fig. 1A) was selected from a wider cultural context by officials (or the leaders who presided over them) and was utilized to represent visual control over material goods. In this sense, the economic function of the later seal impression (fig. 1C) from Cemetery U in Abydos and this pot-mark are comparable.

The wealth and status of Tomb 16's owner are also exemplified by a mixture of thirty-six human and twenty-eight animal subsidiary graves positioned along the outer perimeter.<sup>32</sup> There can be no question that we are dealing with an important member of society here. In fact, it has been noted that 'these subsidiary graves surround Tomb 16 in an arrangement that seems to anticipate the royal tombs of Dynasty 1 at Abydos, where retainer burials were carefully situated around and beside the tombs of the kings'.<sup>33</sup> The possibility that we may be looking at the antecedents of royal funerary traditions is strengthened by the layout of the mortuary complex of Tomb 16, which likely imitates an elite residence or palace.<sup>34</sup>

The absence of stars can also be seen on an incised ostrakon from a trench near the HK29A ceremonial centre at Hierakonpolis (fig. 1B), which has also been dated to the Naqada IID2-IIIA Period by Renée Friedman based on the material discovered in the same stratum.<sup>35</sup> In contrast to the Gerzean Palette or to the seal impression from U Cemetery, this ostrakon does not depict five stars. Such a variation suggests that the mode in which the figure is represented was not yet set in stone, pun intended.

### *Early Dynastic Specimens*

The Celestial Cow emblem is attested in both modes during the Early Dynastic Period, albeit briefly. One porphyry bowl dating to the First Dynasty was discovered in the Main Deposit at Hierakonpolis and the decoration (fig. 1E) on its rim stands alone as the only known case depicting stellar imagery with the Celestial Cow emblem from this period. Fischer argues that a hieroglyphic grouping is formed when read with the accompanying image of a Jabiru stork (*Ephippiohynchus senegalensis*), which appears on the opposite side of the bowl's rim. He interprets the *ba*-bird as a phonetic complement and with the omission of the feminine "t" (being common practice at this

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<sup>28</sup> Marinova et al. 2013: 58; Friedman, van Neer, and Linseele 2011: 157; Friedman 2011: 85

<sup>29</sup> Hendrickx 2005: 14.

<sup>30</sup> Hendrickx 2005: 15; Hollis 2020: 55; Friedman, van Neer, and Linseele 2011: 160; Sabbahy 2020: 9.

<sup>31</sup> Regulski 2008: 995.

<sup>32</sup> Marinova et al. 2013: 59–60.

<sup>33</sup> Friedman, van Neer, and Linseele 2011: 162.

<sup>34</sup> Friedman 2011: 85

<sup>35</sup> Friedman 2009: 93, 96; Jensen 2015: 300.

time), the whole reads the name of a prehistoric cow goddess: Bat.<sup>36</sup> Her name has largely been accepted to mean the feminine form of the word “soul” and possesses the meaning “female power” or “female spirit.”<sup>37</sup> The relationship between this goddess and the king is suggested by the bowl’s inclusion amongst the deposit of royal objects offered to the temple of the patron god of kings, Horus.<sup>38</sup> Furthermore, the spatial organization of the bovine and stellar elements is astoundingly similar to the Gerzean Palette which indicates that certain modes of representation achieved significant reach across regional zones and were maintained over several generations.

During the First Dynasty, it became common practice to depict the Celestial Cow emblem without star-like features— a quality that originally may have been necessary to identify the goddess in older representations. Upon state formation, certain divinities that were endorsed by the office of the Pharaoh naturally became widely known and recognized. It is possible that the goddess’ celestial overtones were so synonymous with her conceptualization that stellar imagery became superfluous in her iconography, especially in the presence of other visual indicators denoting the heavens. For example, the spatial organization of the Narmer Palette shows Narmer’s *serekh* being framed between two representations of the Celestial Cow’s star-less image (fig. 1F) in the upper register— a place signifying the heavens.<sup>39</sup> This spatial arrangement also bears a mythological element. By placing the king’s *serekh* between the two bovine heads, the king’s intimate connection to the divine world is expressed.

As noted, the star-less image of the Celestial Cow also decorates the king’s belt on the reverse of the Narmer Palette (fig. 2A). We can only assume this modality expressed a specific meaning, and perhaps implies that this girdle-decoration was worn in daily life. Why would this emblem be chosen over, say, Horus to embellish the king’s *Ssm.t*-apron? The exact reason remains a mystery but the overall composition seems to suggest that the king was closely connected to the goddess of the heavens, thus implying a cosmological link between the king and the celestial domain. Art historians customarily argue that the palette represents the dawn of many standardized elements of Egyptian art and that it exhibits representational features of the state, now completely formed.<sup>40</sup> The king’s connection to the goddess suggests that the emblem was now a securely established aspect of royal iconography. I would also guess that the maintenance of the goddess’ cult was important to the highest office of the state but unfortunately, no temple remains belonging to the goddess have been recovered from this period— only cultic and funerary contexts.

Later on in the First Dynasty, the symbol appears on an ivory in the tomb of Semerkhet at Abydos.<sup>41</sup> As seen on the Narmer Palette, the emblem is represented as a pair on this object (fig. 1G) which suggests that the practice of doubling the original image carried a specific meaning in royal contexts. Indeed, in the Pyramid Texts (§1096) the king is described as ‘Bat (with) her two faces’ and seems to, at the very least, substantiate the idea that double heads had a particular significance in the early royal cult.<sup>42</sup>

However, not all objects that the Celestial Cow emblem appears on have obvious associations with royalty during this period. In fact, there are instances where the motif does not

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<sup>36</sup> Fischer 1962: 11; 1973: 631; Burgess and Arkell 1958; Edel 1955: 205–11. Today, fragments have been divided between Ashmolean and Petrie Collection.

<sup>37</sup> Fischer 1962: 11; Rashed 2009: 335.

<sup>38</sup> Jensen 2015: 300.

<sup>39</sup> O’ Connor 2011: 148.

<sup>40</sup> Baines 1989, 472; Wilkinson 2000: 26–29; Robins 2008: 32–35, for example.

<sup>41</sup> Petrie 1900: pl. 27; Wendorf and Schild, 1998: 116; Rashed 2009: 336; Hollis 2020: 58.

<sup>42</sup> Fischer 1962: 11; Allen 2005: 157; Faulkner 1969.

even appear in contexts with clear connections to the elite. One example of the motif was found in a middle and lower-class cemetery at Abu Rawash called Cemetery 300.<sup>43</sup> This particular example of the motif was found on an ivory plaque (fig. 1H) that was originally covered in gold foil. It appears that this is the first known case in which the motif was flanked by another Predynastic symbol: the thunderbolt emblems of Min.<sup>44</sup>

This composition is a reflection of the belief that Bat was the female counterpart of the fertility god Min,<sup>45</sup> who may have also once been connected to the celestial realm, as indicated by his association with thunderbolts. And although the Palermo Stone records various events in which the cult of Min was honoured by royal patronage,<sup>46</sup> there is no reason to suspect the item was produced for the use of the king. After all, the plaque (fig. 1H) was found among a sequence of more common burials. These graves, which span the entirety of the Early Dynastic Period, yielded large quantities of imported stone vessels and pottery from Syro-Palestine and confirm trading activity between the Nile Valley and the Near East.<sup>47</sup> Alongside these items, the presence of the ivory plaque possibly signifies that the goddess' popularity extended beyond the domain of the royal/elite circles.

It is also possible that trading activity between elite and non-elite personnel was involved at one point in the sequence of events leading up to the plaque's burial. As it happens, there are a couple of indicators that suggest the item was not originally created for the consumption of the middle-lower social classes. In addition to the skilful craftsmanship exhibited by the plaque's carvings, its materiality gives cause to suspect that the elite class originally produced the item (perhaps also for elite consumption). During the Early Dynastic Period, specialized craft production—which has been seen as a marker of state formation—was heavily monopolized by the elite.<sup>48</sup> It is very likely that the elite also had complete control over the gold-bearing regions in the eastern desert, from the Sudan border north to the Qena el-Quseir road.<sup>49</sup> The significance of gold as a highly-prized commodity may have stimulated interest in trading activity between different socio-economic groups. Since applying gold foil to luxury goods is a well-attested practice during this period,<sup>50</sup> the materiality of this item (fig. 1H) maintains some connection to the elite.

In the majority of cases, the emblem occurs either in contexts or on objects that bear royal or elite associations. Used to decorate a limestone carrying-chair (fig. 1I) for the transportation of royal children, one damaged depiction of the motif is missing its horns but is shown wearing an intact *ankh*-knot.<sup>51</sup> This item was also found in an Early Dynastic deposit of votive offerings, but this time in one from Abydos.<sup>52</sup> A gold amulet found in an elite grave (N-1532) from Naga ed-Deir also represents the Celestial Cow (referred to by Fischer as the '*bat*-fetish') and the *ankh*-knot

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<sup>43</sup> Ormeling 2022: 84.

<sup>44</sup> Klasens 1958: 50, pl. 25; Wilkinson 1999: 13, 252.

<sup>45</sup> Rashed 2009: 337.

<sup>46</sup> Wilkinson 1999: 252.

<sup>47</sup> Wilkinson 1999: 13.

<sup>48</sup> It should be noted that in isolation, specialized craft production is not indicative of state formation. It is when this element is accompanied by other factors, such as long-distance trade, urbanism, social complexity, bureaucracy, and political and economic centralization, that the emergence of an autonomous state is indicated. See, Köhler 2011: 123—25.

<sup>49</sup> Trigger 1983: 39.

<sup>50</sup> Trigger 1983: 34.

<sup>51</sup> Fischer 1962: 12.

<sup>52</sup> Troy 1986: 80; Wilkinson 1999: 244–45; Rashed 2009: 335.

around the neck of a bull in the form of a pendant.<sup>53</sup> Although this example is not a member of the iconographical family discussed in this paper, the fact that the amulet was found with ten gold beads and twenty-two shells of heavy beaten gold within a large multi-chamber mud brick tomb further demonstrates a connection between the elite (and possibly royal) members of society and the goddess' worship.<sup>54</sup>

The data set inspected in this study indicates that the Celestial Cow emblem was part of a well-established tradition of iconography that was predominantly associated with the elite stratum of society throughout Predynastic and Early Dynastic times. Upon state formation, the symbol was selected to decorate materials designed for royal consumption and use in cultic and funerary activities. To clarify why this symbol was repeatedly selected for royal products it is necessary to explore the ideological and cultural importance of bovines and celestial cycles to the emerging elite class.

### **Moving Beyond the Goddess: Reconstructing the Importance of Cattle Pastoralism and Celestial Phenology to the Emerging Elite**

When attempting to pinpoint the cultural factors that originally enticed elites towards symbols denoting the Celestial Cow goddess, a few considerations are necessary. First, Henri Frankfort was probably correct when he remarked upon the danger that 'lies in the temptation to force analogies and to forget that each culture is an integrated whole so that ... a "sky-god" means totally different things in different cultures.'<sup>55</sup> The same can be said of a therianthrope cattle goddess. On its own, it is inadequate to cite the basic bovine similarities existing between two cattle deities separated by time and space to justify the idea that these goddesses were one and the same. With the evidence currently available it is not yet possible to track the worship of the Celestial Cow goddess with any degree of confidence before the advent of a written tradition.

However, we may move forward with a different approach— being, to search the material record for cultural reflections that correspond to a common substratum of *ideas* which lent to a similar character of different sky goddesses.<sup>56</sup> In other words, by looking beyond obvious indicators of cultic worship for material reflections that denote the cultural importance of her associations (and not just the goddess herself), we may reconstruct the factors that stimulated the elite's interest in the Celestial Cow in the first place. In the context of this line of inquiry, culture is regarded as an evolutionary process with a vibrant, inherently socio-economic variable system with a shared value system rooted in symbolic learning.<sup>57</sup> We may ask ourselves, where do we find evidence reflecting the importance of bovine and celestial themes, when do they intersect, and is there an "elite presence" reflected in these instances? By asking ourselves these questions, the importance of cattle pastoralism and celestial phenology to emerging elites during Predynastic and Early Dynastic times may be reconstructed.

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<sup>53</sup> Fischer 1962: 12; Rashed 2009: 336.

<sup>54</sup> Reisner *et al.* 1908: 7, 12, 28–31.

<sup>55</sup> Frankfort 1948: 163, n. 5.

<sup>56</sup> Wilkinson 1999: 283; Fischer 1962: 12.

<sup>57</sup> Brass 2019: 56.

## *Prehistoric Stimuli*

Some of the earliest archaeological evidence of mobile elites and increased social complexity in Northeast Africa have long been associated with the rise of transient pastoral societies.<sup>58</sup> In a mosaic of cultural variability, power and hierarchy were centred around cattle, designating landscape systems, controlling exchange networks, and regulating resource access in kinship-based pastoral societies.<sup>59</sup> Known as the African Cattle Complex in anthropological discourse, the rise of cattle economies has been a source of fascination over the years. Not only has the complex been identified as a stimulator of social and economic differentiation amongst practicing communities, but it also represents a variant in most Late Neolithic models of human evolution because it juxtaposes against the standard conversion from a nomadic to a sedentary lifestyle.<sup>60</sup>

In particular, a range of archaeological remains from Nabta Playa represents a quintessential case study that is typically cited in scholarship to demonstrate the connection between increased social complexity and cattle pastoralism. Osteological evidence from Nabta Playa indicates that the domestication of *Bos primigenius* likely began in the Middle Neolithic (c. 6100 to 5600 BC) before it became widespread during the fifth and fourth millennium throughout the Nile Valley.<sup>61</sup> During the late Neolithic (7,400 to 6,600 BP), the Ru'at El Baquar people or 'Cattle Herders' left ritualized cattle burials in area E-94-1N at Nabta Playa.<sup>62</sup> In addition to signalling developments in cultic practices, these tumuli have been identified 'as a potential source of evidence on the origins of cattle-worship in the ancient Egyptian belief system.'<sup>63</sup> During the Terminal Neolithic (6,600 BP to 5,500 BP), a three-ton cow 'sculpture' with a large head-like projection was later deposited in the centre of a ceremonial space by the Bunat El Ansal culture or 'Megalith Builders.'<sup>64</sup> During this time, a Stone Circle with elements suggesting a north-south orientation was also erected.<sup>65</sup> With an additional alignment running some 70 degrees east of north, this circle acted as a calendar to announce the annual monsoon season and thus appears to be associated with the rising summer solstice sun—making it the 'the earliest known case of megalithic astronomy to date.'<sup>66</sup> Together, these megaliths demonstrate advancements in astronomical knowledge, resource management, and community organization.

Upon the firm establishment of cattle domestication during the fifth and fourth millennium BC, funerary rituals incorporating cattle elements bear remarkable similarities from Middle Egypt to modern Khartoum which suggests 'a coherent and widely disseminated body of beliefs and practices' connected to modes of bodily display and ritual.<sup>67</sup> Various forms of cattle deposits are attested in Egypt and Nubia. However, the practice is notably specific to the latter, starting as early as the late sixth millennium when a bucranium was placed over a child's grave in a cemetery at el-

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<sup>58</sup> Brass 2003: 103; 2007: 8.

<sup>59</sup> Brass 2019: 68.

<sup>60</sup> The anthropologist Melville Herskovits introduced the term 'Cattle Complex' in 1926 to describe the the deep influence cattle ownership had on value systems, beliefs, and traditions in pastoral societies in Africa. See, Herskovits 1926; Di Lernia *et al.* 2013; Brass 2003, Wengrow 2001, for further reading.

<sup>61</sup> Malville *et al.*, 1998; Hendrickx 2002: 276.

<sup>62</sup> Malville 2015: 1080; Brass 2018: 84; Heath 2021:84.

<sup>63</sup> Brass 2003: 101.

<sup>64</sup> Malville 2015: 1084–85; Heath 2021: 288.

<sup>65</sup> Brass 2018: 84.

<sup>66</sup> Shaw 2012: 163; Jórdeczka *et al.* 2013: 257; Applegate and Zedeño 2013: 466.

<sup>67</sup> Malville *et al.*, 1998; Hendrickx 2002: 276; 297—98. For the full discussion on coherent beliefs and practices, see Wengrow 2001: 95—96.

Barga in the Kerma region. Indeed, fifth-millennium sites such as Kadruka and Selim Basin, and fourth-millennium sites such as Kadada and el-Ghaba in Central Sudan attest to the practice of including one or more bucrania with grave goods adjacent to the deceased.<sup>68</sup> Notably, the bioarchaeological data retrieved from bucrania fragments found in more than a dozen Middle Neolithic graves at a burial mound in Kadruka.<sup>69</sup> Similar practices involving cattle bodies or elements continue to be featured in Naqada I-II and A-Group human cemeteries in Naqada, Khor Bahan, El-Mahasna, El-Amra, Naga ed-Deir, El-Gerza, Abusir el-Meleq, Gebelein, and Hierakonpolis.<sup>70</sup>

Created by participants of the African Cattle Complex, early bovine imagery also reflects broad similarities rooted in a shared heritage and experience. Granted, at Predynastic sites where cattle domestication is first attested (such as Merimde, Beni Salma, and Buto), bovine iconography is nuanced and varied. But when one takes a step back to examine this collective body of imagery, a common value system revolving around issues of identity, funerary customs, and social relationships emerges. For example, pottery figurines representing cattle appear in every layer at Merimde. This not only indicates that the importance of bovines transcended economic significance, but also signifies that bovines may have had special symbolic value to the people residing at Merimde.<sup>71</sup> Combs, cosmetic palettes, and hairpins that were decorated with avian and horned-bovine forms were found in Naqada I and II graves at sites such as Abadiya, and testify to a developing technology of personal display in the Neolithic.<sup>72</sup>

The morphological similarities between these horned representations also bear a resemblance to the raised arms of clay figurines which were sometimes found in funerary assemblages. This posture is encountered on many examples of clay figurines and decorated ware from the Naqada I and II Periods, such as on an unprovenanced vessel (E.3002) from the Naqada I Period, demonstrating the fusion of avian, bovine, and anthropomorphized features.<sup>73</sup> This common morphology also resembles the horn-curvature found on surviving examples of the Celestial Cow motif.

More commonalities can be identified between the cultures that once populated Nilotic regions and beyond. Alongside hippopotami and crocodiles, stylized depictions of bovines appear in the designs of White Cross Line pottery, in the form of figurines from el-Amra cemeteries, and as amulets from Hierakonpolis, Abadiya, Abu-Sir el Malaq, Tarkhan, Matamir, Abydos, and Badari.<sup>74</sup> The importance of cattle herds across different regions can be seen on depictions of cattle herds on a terracotta model dating to the Naqada II Period (Royal Ontario Museum, 9002.45) and Neolithic rock art at Jebel Uweinat in the Western Desert, which show remarkable stylistic similarities.<sup>75</sup> These representations support a symbolic, religious, and sociological interpretation

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<sup>68</sup> By the second half of the third millennium, the Eastern Cemetery at Kerma demonstrates funerary traditions that spans from c.2450 to 1480 BC which involved depositing hundreds or thousands of bucrania in front of the largest tombs. This practice reflects the important role livestock plays in the economy, as well as in establishing the social prestige of the owner in life and of the deceased in death. For the full discussion, see Chaix, Dubosson, and Honegger 2012: 189—197; Hendrickx 2002: 276; Wengrow 2001: 96.

<sup>69</sup> Sellier et al. 2019: 69; 74.

<sup>70</sup> Wengrow 2001: 96.

<sup>71</sup> Hendrickx 2002: 275.

<sup>72</sup> Wengrow 2001: 97—98.

<sup>73</sup> Seidlmayer 1998: 13; Wengrow 2001: 98—99; Jensen 2015: 99.

<sup>74</sup> See, Hendrickx 2002, for full discussion.

<sup>75</sup> McHugh 1990: 265; 274.

that may be explored in the context of pastoral subsistence strategies, and socio-economic differentiation.

The emergence of an elite class was likely stimulated by the central role the celestial realm and bovines played in the survival of nomadic communities during seasonal migrations. Starting with celestial phenology, it is likely that interest in the heavens originally emanated from the practical need to establish direction and navigate the arid terrain when groups migrated between water sources.<sup>76</sup> Members of society who could apply this knowledge correctly would naturally have a degree of status because the ability to locate water tilted the balance between life and death. Acquiring such specialized knowledge was probably a logical consequence of those managing large groups of people participating in nomadic lifestyles and pastoral identities. Meanwhile, the fat of *Bos primigenius* was an important dietary aspect in pastoral communities because its fat percentage was higher than in most wild animals. Therefore, cattle ownership increased chances of survival during periods of difficulty when other sources of sustenance were strained or altered, such as during times of climatic or environmental change.<sup>77</sup> In fact, one climatic change is at the heart of the spread of the African Cattle Complex into Egypt.

Around 3500 BC, a dramatic climate shift into hyper-aridity debilitated the northward reach of the African monsoonal system and the desiccation of grazing land in the Eastern Sahara. This promoted the westward expansion of the African Cattle Complex into Libya and Niger, as well as into Nilotic regions in the east.<sup>78</sup> Following this climatic shift, cultural parallels between the nomadic groups populating the Eastern Sahara and Nilotic regions suggest that a degree of cultural transference occurred, prompting scholars to reassess integral aspects of Early Dynastic civilization and connect them to the diaspora of pastoral nomads from the eastern Sahara.<sup>79</sup> For example, the same black-topped pottery technology found in the pastoral cultures of Nabta, Merimda, and Khartoum, later appeared in Badarian strata,<sup>80</sup> suggesting the possibility of exchange and trade, varying degrees of ideological diffusion, or the spread of ceramic technology.<sup>81</sup>

Indications of groups practicing pastoralist economies become pronounced along the Nile at this time. Badarian, Khartoum, Neolithic Naqada I (c.4000 to 3500 BC) and Early A-Group sites (c.3800 to 3400 BC) show few traces of permanent architecture and yielded layers of animal droppings and the remains of enclosures.<sup>82</sup> These findings correlate with radiocarbon data retrieved from dozens of sites in the now hyper-arid Eastern Sahara of Egypt and Sudan which suggests that the increasingly arid conditions that developed over the first half of the fourth millennium in the Sahara coincide with rising occupation levels at certain sites like Hierakonpolis<sup>83</sup> (discussed

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<sup>76</sup> Spence 2010: 175.

<sup>77</sup> Brass 2003: 104; 108.

<sup>78</sup> Di Lernia 2006: 50, 53, 54; Malville 2015: 1080.

<sup>79</sup> See, Wengrow 2003; Kuper and Riemer 2013: 47; Midant-Reynes 1992; Brooks 2005: 263; Kuper, and Kröepelin 2006: 803; 806.

<sup>80</sup> Badarian origins are not firmly clarified today but most scholars accept that they were likely a mixture of different groups, in which the Western Desert nomads served as a predominant portion. See, Wengrow 2003; Hendrickx and Vermeersch 2003.

<sup>81</sup> Wendorf and Schild 1998: 115.

<sup>82</sup> Wengrow 2001: 95.

<sup>83</sup> Starting around 5000 BC, occupation levels begin to rise at Hierakonpolis and grew over the course of the Badarian period (c.4500–4000 BC) until it became one of the largest settlements in Upper Egypt during the Predynastic Period. By the Naqada II period (c.3700 BC) the site had developed cemeteries, cultic architecture, along with food and pottery production installations. See, Marinova 2013: 59.

below).<sup>84</sup> It is intriguing that Hierakonpolis—the site that yielded four examples of the Celestial Cow motif— yielded prior indications of a tangible transitional period from mobile to sedentary lifestyles, also.<sup>85</sup> Furthermore, ritualized cattle burials have been documented in Naqada I strata in areas Hk11, 29, and 29A.<sup>86</sup> Recent studies also reveal that the famous Hk29A temple structure was oriented to align with a quarter-cardinal direction. Based on this directionality, it has been argued that a simultaneous transit method was selected to accurately rotate the axis of the structure 45° from an original north-south orientation by using the two circumpolar stars in Ursa Major: Phecda ( $\gamma$  UMa) and Megrez ( $\delta$  UMa).<sup>87</sup> In other words, methods for aligning sacred structures to astronomical objects had been established in the same place where ritualized activity with cattle elements occurred.

The specific motivations stimulating such widespread practices are mysterious, but there is much reason to believe that a shared heritage rooted in pastoralism is a contributive force worth serious consideration. The evidence discussed shines a light on the transforming relationship humans had with the non-human world in the Nile Valley. In particular, the stars depicted in the Celestial Cow emblems from this period hint at the idea that members of the emerging bureaucratic apparatus of the state were also contemplating their position in the world in relation to the cosmos and the celestial cycles that operated above the heavens.

### *Dynastic Developments*

During the Naqada IIC Period, iconographical components were formalized into a canon of early Pharaonic iconography by the elite which drew from a potent archive of pre-existing visual traditions and cultural forms that were connected to modes of bodily display and ritual.<sup>88</sup> The Celestial Cow emblem is simply one example of a visual tradition that appears during this transition. In addition to encapsulating the importance of cattle pastoralism (both in the past and present), this symbol indicates an investment of human values in cattle that seems likely to have synthesized political, economic, and spiritual components of social life.<sup>89</sup> By reviewing other examples of bovine iconography on products belonging to the ruling elite, we may begin to reconstruct the primary values that were poured into expressions of identity and statehood during the Early Dynastic period. As the evidence will show, the display of bovine imagery is often associated with concepts or accompanied by imagery denoting the celestial world or ideological aspect of the cosmic order.

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<sup>84</sup> This correlation is important because it provides support for ‘models of cultural evolution involving increased social stratification and the concentration of political power as a response to increased population densities resulting from a decrease in available productive land, and associated migration/increased sedentism as a consequence of environmental desiccation.’ See, Brooks 2005: 263; Kuper and Kröepelin 2006: 806.

<sup>85</sup> Excavations at Hierakonpolis have yielded evidence suggesting efforts to integrate domesticated herds with a sedentary way of life at the dawn of the Dynastic Period which indicates that roaming groups were settled permanently in the Nile Valley, either by force or volition. In addition, significant layers of animal droppings and remains of transient enclosures at sites like Hierakonpolis suggest the seasonal sojourns of roaming pastoral groups. See, Brooks 2005: 263; Wengrow 2001: 95.

<sup>86</sup> Belmonte, Shaltout, and Fekri 2008: 190.

<sup>87</sup> The simultaneous transit method was used to identify true north by distinguishing north as the direction on the ground corresponding to an imaginary line joining two circumpolar stars when it is perpendicular to the horizon. For the full discussion, see Belmonte, Shaltout, and Fekri 2008: 190–95; Belmonte and Shaltout 2010: 537.

<sup>88</sup> Hendrickx 2002: 297–98.

<sup>89</sup> Wengrow 2001: 98.



Acting as a visual metaphor for the king himself, bulls were depicted in scenes of dominion to communicate the idea of cosmic order over chaos<sup>90</sup>. For example, the image of the double bull standing next to a building on the Hunters Palette (EA 20792) has been interpreted by Baines to be an early representation of kingship.<sup>91</sup> Although the full symbolic value of the double bull is elusive, this interpretation corresponds to other contemporary royal representations where the king is shown purely in animal form. This can be seen on the Bull's Palette and on the Narmer Palette in which the king is shown as a bull trampling an enemy in both instances. In addition, the Abydos tablets of King Narmer and Men also centrally feature large bulls which may be symbolic of their office.<sup>92</sup> It has been noted that this particular mode of royal representation may be linked to the rock art at el-Kab from the very late Predynastic and the Early Dynastic Periods which also depicts images of bulls presumably symbolizing royal power.<sup>93</sup> After Narmer's reign, this mode of representation falls out of use<sup>94</sup> and seems to be replaced by a new practice: to depict the king wearing a bull's tail to illustrate the idea that the strength and forcefulness of the bull reside within his position. The signifier was altered, but what was signified endured: the ability of the ruling class to regulate cosmic order.

The use of bovine elements also appears in an elite funerary context alongside architectural features that may point to funerary beliefs about celestial bodies. The earliest known mortuary temple to be built in Egypt was placed on the northern side of a monumental First Dynasty mastaba (S 3504). Perhaps belonging to a member of the royal family, this mastaba also yielded the earliest known example of a brick bench adorned with clay bucrania on the first terrace from Egypt.<sup>95</sup>

It has been theorized that the north-facing mortuary temple (S 3504) represents early eschatological beliefs concerning the circumpolar stars and the destiny of the king's soul in the afterlife.<sup>96</sup> The fact that stellar preoccupations are explicitly expressed in royal foundation names during the first three dynasties offers credence to this line of thought. Starting in the First Dynasty with Anedjib's royal foundation name, *Ir-sbA-h-t*, or 'Horus, star of the corporation,' this tradition carries on to Hotepsekhemwy's foundation name, *Ir-h-sbA*, or 'Horus, risen is a star' and to Khasekhemwy with *Ir-sbA-bAw*, or 'Horus, the star of souls.' Djoser continues in his father's steps in the Third Dynasty with the name *Ir-sbA-h nti-pt*, 'Horus, the foremost star of the sky.'<sup>97</sup> In fact, much evidence exists in Djoser's mortuary complex at Saqqara to illustrate his interest in the starry stratum.

There is a lot to unpack when it comes to the materials Djoser left behind. First of all, a fragment belonging to a statue of Djoser was recovered from his funerary complex displaying the only other attestation of the Celestial Cow emblem that we know of that appears on the royal *Ssm.t*-apron.<sup>98</sup> No other examples are known to exist in the Predynastic or Early Dynastic record to reinforce the idea that the emblem was integrated into depictions of royal regalia. Nor has a

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<sup>90</sup> O'Connor 2011: 148.

<sup>91</sup> Baines 1995: 112.

<sup>92</sup> Petrie 1900: pl. 10.

<sup>93</sup> Huyge 2002: 202; Hendrickx and Förster 2010: 832.

<sup>94</sup> Wilkinson 2000: 28.

<sup>95</sup> Magli 2016: 31.

<sup>96</sup> Kuraszkiwicz 2013: 400.

<sup>97</sup> Royal foundation names refer to land holdings donated to the royal cult to maintain its operations through production and collection activities. Thus, they served a pivotal economic role in the early state's administrative apparatus. See, Magli 2018: 36; Wilkinson 1999: 101–3.

<sup>98</sup> Wengrow 2001: 94; Firth and Quibell 1935: 113, pl. 59.

physical example ever been recovered to verify this mode of personal display in the costume of early kings. However, the stylistic and morphological similarities between the Celestial Cow emblems on the royal belts of Narmer and Djoser bear uncanny similarities that warrant further inspection (fig. 2).

A couple of situations are plausible to explain the resemblance, both of which are speculative. One is a simple case of emulation: Djoser viewed the Narmer Palette before it was buried in the so-called Main Deposit at Hierakonpolis. Presumably, he was inspired to connect himself to a great king of the past and sought to achieve this by imitating Narmer's belt on his own statuary representation. Another explanation is that as a result of the goddess' prominence in early royal culture, the style and form of the Celestial Cow emblem were already popularized and somewhat standardized in artistic renderings. In either case, the Celestial Cow emblem's importance in royal ideology is quite certain during the reign of Narmer, but less clear in the case of Djoser's statuary fragment. Luckily, other features in Djoser's complex offer insight into the role the celestial realm played in royal mortuary beliefs, which may then be indicative of the sky's general importance to early kings.

It is quite interesting that Djoser's statuary fragment (fig. 2B) was discovered in a funerary complex that has been examined for its astronomical significance. The structural layout, architectural features, decoration scheme, and orientation of Djoser's funerary complex all work together to make the complex a giant vehicle for ascension into the northern sky where the circumpolar stars reside. To start with, the complex, mortuary temple, and *serdab* chamber are positioned to exhibit a northern directionality.<sup>99</sup> Next, the burial chamber was decorated with rows of five-pointed stars in low relief and when viewed from the burial chamber, the Step Pyramid's entrance passageway 'would resemble a large ramp which pointed northward towards the circumpolar stars,' thereby supplying a mechanism for ascension.<sup>100</sup> Furthermore, the gaze of Djoser's *ka* statue ascends up into the northern sky and goes up towards the circumpolar stars from his *serdab* chamber. The triangulated azimuth of the statue's gaze follows the orientation of the entire complex at  $\sim 4^\circ$  and radiates out through the slightly raised eye holes (one with an

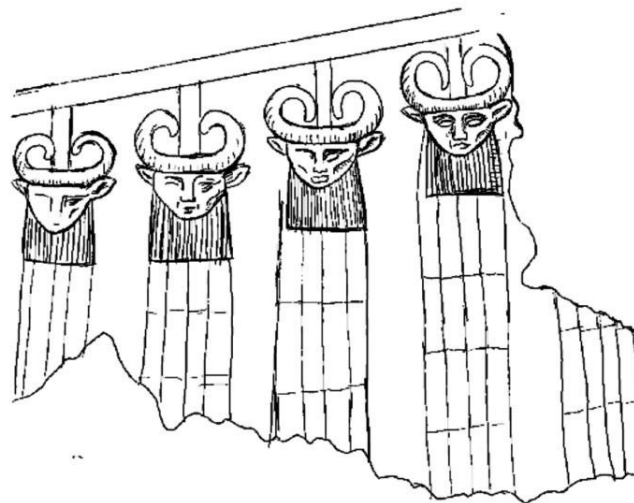
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<sup>99</sup> Gates 2011: 88; Lehner 1997: 87; Bergendorff 2019: 33.

<sup>100</sup> Edwards 1993: 281–84.



A.



B.

Figure 2. Archaic examples of the Celestial Cow emblem appearing in miniature form on the girdle of two early representations of kings exhibiting stylistic and morphological similarities. Images not to scale.  
 A. Narmer Palette, detail. Main Deposit, Hierakonpolis. First Dynasty. Cairo, 14716. Image by author.  
 B. Fragment of a limestone statue of Djoser, Saqqara. Third Dynasty.<sup>101</sup>

<sup>101</sup> Firth and Quibell 1935: 113, pl. 59.

inclination of about 12° and the other with a steeper incline at 20°). This angle is projected upwards into the northern quadrant of the sky. With a reference date of 2600 BC, stellar reconstruction software concludes that these two trajectories point to Dubhe ( $\alpha$  UMa) in Ursa Major (*Meskhutyu*) and Kochab ( $\beta$  UMi) in Ursa Minor at the time of the complex's construction with the approximate coordinates (4°, 12°) and (4°, 20°).<sup>102</sup> So, why is this important?

These features suggest that an ideological framework existed during Djoser's reign that determined that the destiny of the king's soul was deeply connected to the celestial realm. With this in mind, Djoser's selection of the Celestial Cow emblem for one of his royal representations is quite fitting. Based on the architectural alignments to Ursa Major and Ursa Minor exhibited in features of his complex, perhaps the star-like features that were once included in the motif may allude to Ursa Major and Ursa Minor. It is also possible that the star-like features appearing in earlier examples of the motif simply referred to the starry stratum in a more general sense. Ultimately, it is difficult to say without explicit textual evidence. However, if we take a moment to assess the king's connection to the celestial realm from a different vantage point beyond mortuary beliefs, a fuller understanding of the sky's importance during the Early Dynastic Period may be reached.

Astronomical observation had practical applications for the early state and its economy. In addition to solar and lunar cycles, stellar phenology has been connected to the establishment of a novel time-keeping system, which roughly coincides with state formation. One strategy that was utilized by the early state to reinforce cultural unification across Upper and Lower Egypt was to establish a civil calendar to synchronize administrative and economic operations.<sup>103</sup> When recognizing patterns of local and regional variation across the state, it is evident why the centralized administration of a unified Egypt benefitted from implementing a schematic calendar that outlined agricultural seasons<sup>104</sup> and periods of taxation.<sup>105</sup> For instance, this schematic kept society accountable to the pre-determined timing of the *šms-Hr* ('Following of Horus'), a royal tour that assessed the country's wealth and levied taxes accordingly for the royal treasury. The Palermo Stone suggests that by the early Second Dynasty this "cattle-count" occurred regularly (likely on a biennial basis) which guaranteed 'the continued functioning of the government apparatus—and reinforced the psychological ties of loyalty felt by the Egyptian populace towards the king.'<sup>106</sup> So, what does this mean in the context of the Celestial Cow goddess?

From a spiritual perspective, divinities affiliated with the sky have been recognized for their involvement in ritualized practices of observation because—in one form or another—they held dominion over the astral elements that allowed societies to regulate their activities with respect to seasonal fluctuations and live in universal balance with celestial rhythms.<sup>107</sup> Erik Hornung notes that 'apart from the sun and the moon, only Sothis, the brightest fixed star Sirius,

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<sup>102</sup> Magli 2018: 50; Shaltout, Belmonte and Fekri 2007: 413–14.

<sup>103</sup> The 365-day civil calendar was organized into three seasons; each season was divided into four months, and each month was divided into three ten-day weeks. The state's astronomical knowledge was so advanced by the Early Dynastic Period that five epagomenal days were added bringing the total to the 365 days apparent in the yearly cycle. Today, this accuracy is recognized to be a unique feature of ingenuity in Africa's ethnographic record. See, Spence 2010: 175–76; Winlock 1940; Parker 1950: 51–56; Krauss 1985:191–92; 2018; Spalinger 2015: 1489–90, for further discussion on the relationship between astronomical cycles and the emergence of the Egyptian calendar.

<sup>104</sup> Neugebauer 1983: 201.

<sup>105</sup> Wilkinson 1999: 37.

<sup>106</sup> Wilkinson 1999: 189; 96.

<sup>107</sup> Krupp 2015: 68.

acquired a cult as the herald of the inundation.’<sup>108</sup> There is a possibility that the stars surrounding the oldest representations of the Celestial Cow goddess depicted the divine personification of the Sothis. Perhaps it is the Celestial Cow’s association with inundation— a time of year connected with agriculture and fecundity— that made the Celestial Cow motif an appropriate visual tool to aid in the deceased’s rebirth. This would explain, at least in part, why examples of the motif (fig. 1A, 1B, 1C, 1G, and 2B) were found in elite funerary contexts on multiple occasions. One Pyramid Text utterance (§442:822) describing the king’s transfiguration into a star, ‘your third is Sothis of the pure places, she is your leader by the beautiful ways in heaven, in the Marsh of Reeds,’ appears to support this connection.<sup>109</sup>

As noted, it is not necessarily the goddess who is important here, but the cultural aspects that are reflected in the goddess’s character. The helical rising of Sirius signalled the new year and inundation and therefore carried a massive degree of cultural importance in Nilotic regions. One First Dynasty ivory tag from Abydos (Philadelphia Museum, E9403) shows Djer’s *serekh* next to the phrase ‘Sothis, Bringer of the New Year and of the Inundation’<sup>110</sup> and gives credence to the notion that timekeeping was connected to the office of the pharaoh at the start of the third millennium.<sup>111</sup> Time-keeping practices vary from culture to culture,<sup>112</sup> but connections between state power and calendrical systems are not limited to Egypt. For example, in the capital of imperial China at the great Temple of Heaven, it was the chief responsibility of Shang Dynasty emperors to maintain an accurate calendar during the second millennium BC by participating in performative timekeeping ceremonies that allowed the power of Shang Di, the god the heavens and cosmic order, to be transferred to the emperor in a glorious act of state power.<sup>113</sup>

In the context of the Celestial Cow motif, the comprehensive utilization of heavenly bodies solicited routine reference to its divine representatives who were integrated into symbolic vocabularies which helped to pinpoint the social dynamics between god and man, as well as heaven and earth. By applying these symbols to social and political institutions, the heavenly power of these divine representatives could be transmitted and used as a source of power in state ideology.<sup>114</sup> Beings such as Bat or Sothis probably held varying degrees of dominion over the astral realm which were perceived to have allowed for time-keeping and observational practices to be maintained by state operations in daily life. In turn, the veneration of these deities likely symbolized a stable and harmonious relationship between the state and the cosmos.

If we apply this idea to the Narmer Palette, the presence of the Celestial Cow motif in the “heavenly” upper registers of the palette may be read as an expression of this relationship. By extension, we may further speculate that the Celestial Cow was a divinity whose value to the elite members of society was connected to the goddess’ underlying affiliation to the stable and dependable elements of celestial (particularly stellar) phenology. It was through the state’s awareness of astral cycles that annual and seasonal frameworks were structured and implemented

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<sup>108</sup> Hornung 1982: 80.

<sup>109</sup> Lichtheim 2006: 66.

<sup>110</sup> Winlock 1940: 457.

<sup>111</sup> Spence 2010: 175–76.

<sup>112</sup> Anthropological scholarship suggests that by studying the natural rhythms of the stars, for example, a multitude of ancient societies were able to construct ‘cultural products’ (that is to say, products of thought) in the form of conceptual templates to “stabilize” the passage of time. For further discussion, see For further reading, see Iwaniszewski 2015: 3–4; Ruggles 2015.

<sup>113</sup> Krupp 2015: 69–70; 78.

<sup>114</sup> Krupp 2015: 69.

into a system that made it possible to codify and synchronize state activities and ultimately, to function as a unified entity across different regions. In this sense, the sky may have been perceived as a tool to further implement cultural unification, which would make the Celestial Cow emblem an especially appropriate symbol for royal products celebrating statehood.

### **Final Remarks**

The Celestial Cow emblem is a reoccurring feature of Predynastic and Early Dynastic iconography that represents more than the worship of a specific divinity; it offers an access point from which the values and self-proclaimed identity of its producers and consumers may be explored. The extensive material covered in this study demonstrates that the Celestial Cow emblem was a deeply important symbol to elite members of society. It was infused with an ideology of power that underpinned the administrative and religious framework of the state. As an all-encompassing statement of royal ideology, its application was appropriate for various ritualized items and items; this would explain why the emblem has been found on a diversified body of materials ranging from cosmetic palettes, ivory inlays, royal carrying-chairs, votive bowls, and seal impressions.

The changing form of the motif itself likely corresponded to ideological, political, and socio-economic developments as regional power was increasingly consolidated. But what contributed to the motif's general longevity throughout the Predynastic and Early Dynastic Periods was likely its timeless associations with components of daily life that were heavily meaningful and crucial to the elite's self-sustaining character and socio-economic position. While celestial phenology made it possible to synchronize and effectively manage a range of state activities, specialized cattle economies were rooted in a way of life that revolved around inequality, social stratification, and economic differentiation—the same qualities that were championed by the elite. In this sense, the Celestial Cow motif was likely a celebration of elite values and a signifier of the state's harmonious relationship with the cosmos. The use and production of this imagery in elite circles fuelled its inner dynamic, which sought 'to legitimize the whole order of society, along with the role of the elite, as cosmologically just.'

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