*Klavs Randsborg*

# SPIRALS!

## Calendars in the Bronze Age in Denmark

***ABSTRACT***

*The ornamentation of the bronze "drums"/thrones from Hasfalva, Hungary and Balkåkra, Scania, as well as of the two sides of the disc of the famous Sun Chariot from Trundholm, Zealand reflect the use of calendars in the Early Bronze Age. The same is the case with the spiral ornamentation of a number of fine female belt-plates contemporary with the Sun-chariot: each unit = one day. When applying certain formulas, including the rank number of the ornamental zones, the sums appear to be months (in days) of three different calendars. A ten-digit numbering system is suggested.*

### Introduction

The Sun was evidently the supreme supernatural and yet very natural and visible power of the Bronze Age in Denmark. Cosmology and religion were centred on the daily journey of the Sun from East to West and thus on the progression of the year and the return of the seasons. Witnesses are the famous Early Bronze Age Sun Chariot from Trundholm Bog, Sjælland (Zealand) (AK II 867) (Figs. 2-3), Late Bronze Age images on razors, and, not least, the rock carvings (cf. Kaul 1998; 2004). The dream of eternity and quest for immortality also lived in the Early Bronze Age oak-coffin burials, in which the sons and daughters of the Sun have "survived" till this very day behind heavy layers of iron oxides in the burial mounds (Randsborg & Christensen 2006).

The recent find of the famous Sun Disc from Nebra in Central Germany (16th century BC) demonstrates early observations of the Sun as well as the Moon - the latter seems to lack in the North, but is, as we shall see, actually present, invisibly (Meller 2004). Also stars are present on the Nebra disc; and even Summer and Winter solstices are marked.

With the two "drums", or perhaps rather thrones, from Hasfalva in Hungary and Balkåkra in Skåne (Scania) (Fig. 1) (15th century BC) we are in a socially highly significant sphere of long-distance exchange of cult items, and, no doubt, pertaining astronomical information (Montelius 1917; Knape & Nordström 1994). Such items, accompanied by cosmological knowledge, inform in detail in particular of the Sun cult of the period. On the slightly later Sun Chariot (14th century BC), the Sun is a disc drawn by a horse across the sky: during daytime from East to West with the golden side towards the Earth, during the night from West to East with the dull bronze side towards the Earth. The wheels are merely added to allow the model to move during demonstrations, even though the hind pair also makes the Sun ride as if the driver in the cabin of a fast horse-drawn aristocratic chariot of the age.

The Hasfalva and Balkåkra drums are both in 10 parts, kept together by 20 nails with big heads and a top ribbon with 10 more such nails plus 30 large bosses. There are also 30 large openings. Each part ends in a four-spoked wheel. The bronze "drum skin" is decorated with Sun and rays. The numbers used seem to indicate the existence of a 10-digit system, but there is more to be gathered from numbers.

On the Hasfalva-drum, the rays are arranged in six zones around the image of the Sun (Table I). The total number of rays is 337, or almost the same (336) as the number of days in 11 months of the "Sun Year" (of 365/366 days). This correspondence is remarkable for such a high number. On the Balkåkra-drum are 275 rays, also in six zones around the Sun, or, the exact number of days in 9 "Sun months". One almost imagines an original set of 12 "drums" sent to the corners of the World by Bronze Age Middle Danubians.

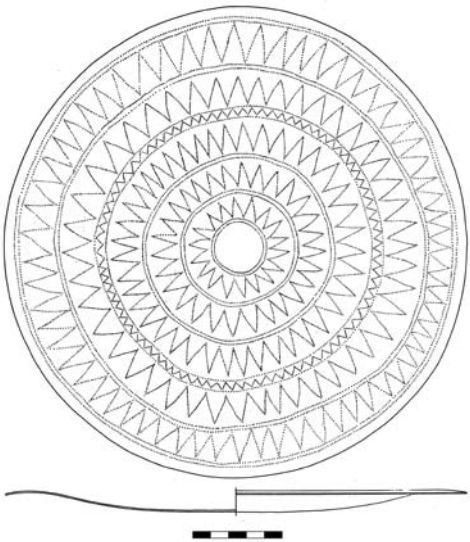

*Fig. 1. The Balkåkra Drum, Scania (after Montelius 1917).*

## The Sun Chariot

The golden side of the Sun Chariot's disc has 1 large concentric circle (or rather circle group)

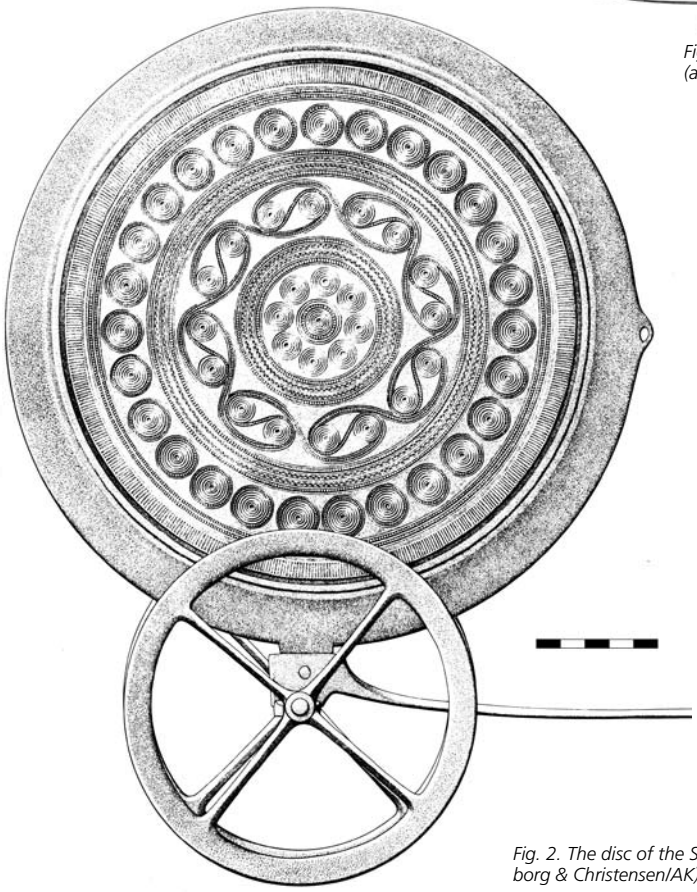

*Fig. 2. The disc of the Sun-chariot: Day-side (after Randsborg & Christensen/AK).*

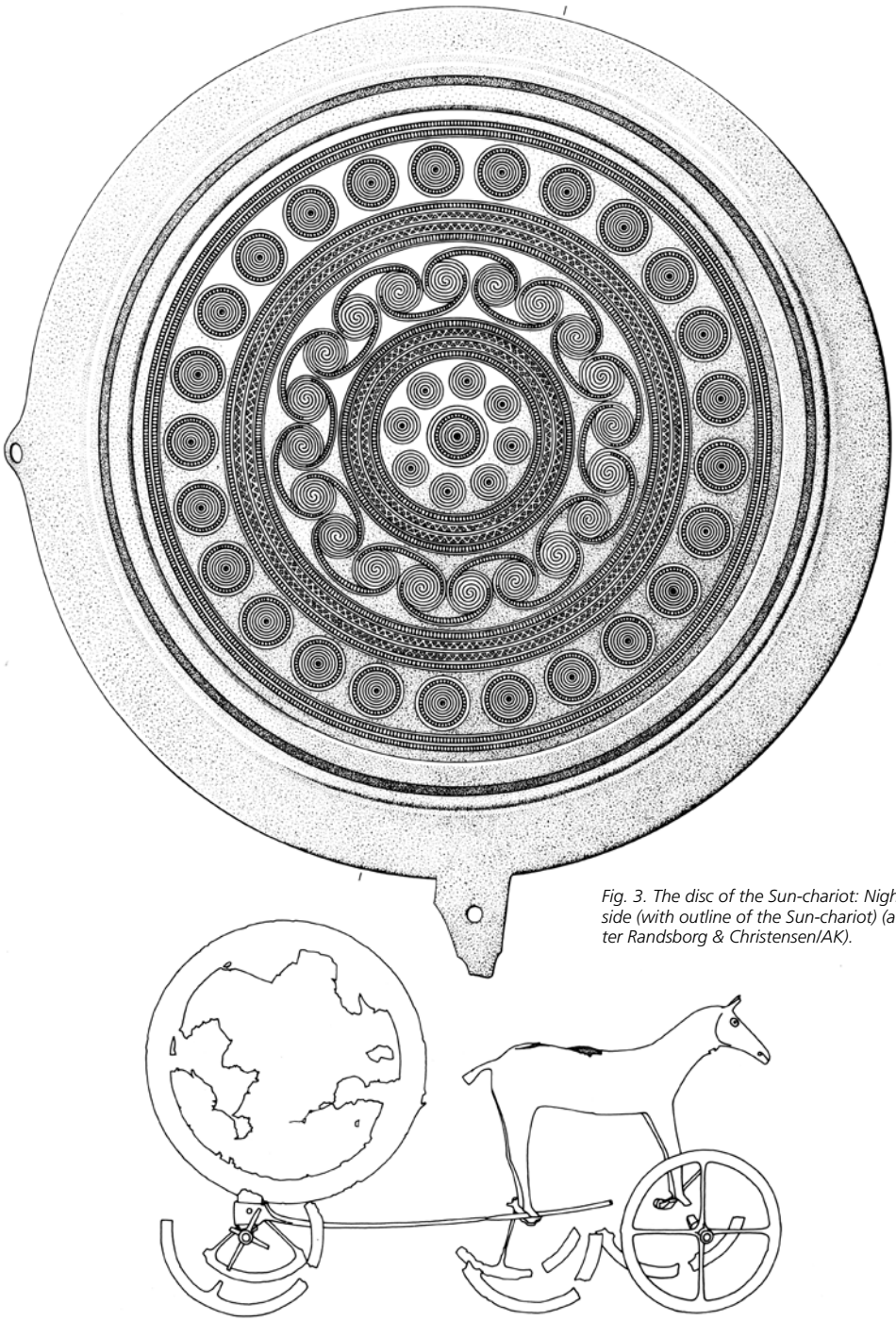

*Fig. 3. The disc of the Sun-chariot: Night-side (with outline of the Sun-chariot) (after Randsborg & Christensen/AK).*

(Table I). Next follows a zone of 16 concentric circles linked in pairs by a forward-two-back-one ribbon, no doubt symbolizing astronomical progression and repetition. A final zone holds 27 concentric circles. A number of rays are added in a thin outmost zone.

The night side has the same central motive (1+8 concentric circles), but only 25 in the final zone. The zone in between holds 20 spirals linked in pairs in such a way, that by following the lines one goes in, then out, jumping over two spirals every time. In this process, a mushroom-shaped image is formed, which possibly signifies "night", likely in the form of Moon sickles. Incidentally, the large central concentric circles are also seen in the form of the eyes of the divine horse drawing the sun across the sky.

Looking at the decoration of the disc, one at first notes that the day side is the most vivid, the night side calmer: the spirals on the night side almost appearing as pairs of concentric circles. Looking next at the numbers, contours of a mathematical system appears, including multiplication and likely division as well: 1 = 1x1, 8 = 2x2x2, 16 = 2x2x2x2; 27 = 3x3x3; 16 = 4x4; 25 = 5x5. Or, in other words, a system building on multiplication of the same number, 1x1, 1x1x1, 1x1x1x1, etc.; 2x2, 2x2x2, 2x2x2, etc.; 3x3, 3x3x3, etc.; 4x4, etc.; 5x5, etc.; and so on. One also notes multiplications of different numbers: 2x4, 5x4, and 3x9.

At first glance, no astronomical numbers like the ones on the Hasfalva and Balkåkra "drums" appear. Another problem is the centre: Should the 1+8 concentric circles be considered as 1+8=9, or rather, as two zones, the one with only a single motif (the large concentric circle), and a following with 8 smaller concentric circles?

Maybe the solution to the problem is found in the female belt-plates, where the central point may be seen as equivalent to the large concentric circle on the disc of the Sun-chariot (cf. Fig. 4). However, the point can not - at least not immediately - be part of the counting since it is not carrying spirals or concentric circles.

Actually, the points on the finest belt-plates in all likelihood represent an anthropomorphic dimension of the Sun god, namely the tall hat with a brim of the deity, emerging on the belt-plates from the very disc of the Sun (cf. Randsborg 1993). That the belt-plates, due to the point, may also be used as sun-dials is another story.

## The Langstrup Belt-Plate

The finest belt-plate ever found comes from Langstrup on Sjælland (Neergaard 1890-1903; AK I 201) (Fig. 4). It has, apart from the point, four zones with 15+22+26+32 = 95 spirals in all. Still, a numerical pattern does not seem to emerge. However, if one - in a lucky strike of imagination! - multiplies by the number of the factor of the zones, the sum of the spirals turns out to be 15x1+22x2+26x3+32x4 = 265, or exactly the number of days in 9 months of the Moon-year (265½), or, incidentally, also the length of the average human period of pregnancy. The Moon-year, with a Moon-month of 29½ (29) days, was used in Antiquity, for instance by the Romans until Caesar's reform.

Is this all by coincidence? The Langstrup belt-plate is the largest (28 cm in diameter), certainly the most beautiful, best executed, and, likely, also the best calculated belt-plate among perhaps 100 or more such evocative items. A fragment of a belt-plate of Langstrup quality was found in a deposit at Stokholt in Scania, among other items, together with a pair of figurines of gods of Near Eastern model, with tall hats with a brim (Randsborg 1993, Fig. 60). Likely, the women with belt-plates must have played an important role in the Sun cult.

Going one step further, and again multiplying with the zonal factors, but now incorporating the point of the Langstrup belt-plate as Factor 1 (but with the value of 0), a sum of 0x1+15x2+22x3+26x4+32x5 = 360 appears. This is exactly the number of days in the Near Eastern calendar of 360 days, a very useful number, divisible by 12, 10, 9, 8, 6, 5, 4, 3, and 2. Should anyone like to add 5 days to obtain a Solar-year, five groups of lines sit on the point (Fig. 4)!

## Back to the Sun Chariot

Using the two factor-models on the Sun Chariot, the following sums emerge.

(A - Factor 1) The golden day-side with the central field calculated as one zone:

*Fig. 4. The Langstrup deposit, Zealand (after Randsborg & Christensen/AK).*

9x1+16x2+27x3 = 122 ornamental units, in other words exactly 1/3 of a Solar year (4 months) in days. The night-side has 9x1+20x2+25x3 = 124 units, a number of no special meaning.

(B - Factor 2) Considering the large central concentric circle as a zone in its own right, we obtain 1x1+8x2+16x3+27x4 = 173 for the day-side, also a number without special significance. However, the night-side carries 1x1+8x2+20x3+25x4 = 177 units, or exactly 6 Moon-months in days (29½ days per month).

Thus, the reference is to the Sun-calendar on the day-side, and to the Moon-calendar on the night-side of the Sun Chariot, which seems the perfect calculation.

As a great surprise, the Moon is actually incorporated in the numerical Early Bronze Age cosmology of the North, even though - iconographically - it is invisible, or hidden, both on the bronzes and in the rock-carvings.

## Belt-Plates and Calendars

It is now obvious to look at the other and less magnificent belt-plates than Langstrup. Unfortunately, the number to be used in the study is not great, since many belt-plated are fragmentary due to poor preservation of their thin bodies. Nevertheless, a highly satisfactory pattern emerges, since some two dozen well-executed belt-plates, nearly all with a point shaped like a tall brimmed hat, dsiplay "calendar numbers" (full months in the three abovementioned calendars) (Table II). A deviation of +/-1 is accepted, like also rare half-months. Poorer belt-plates do not carry calendar numbers (Table III); they are mere imitations of the supreme ones.

The Sun Chariot and the contemporary belt-plates thus demonstrate that the elite of the elites of the Early Bronze Age in Denmark possessed a unique and precise astronomic and calendar knowledge, doubtlessly imported from the South. This knowledge is already one or more steps ahead of the simple lines of sight observed for the Neolithic (as at Stonehenge, England), or on the above Nebra disc from Central Europe (Meller 2004).

In fact, the supreme belt-plates, like Langstrup, as well as the Sun-chariot, are mainly from the large island of Sjælland (Table II) (Fig. 5). Hardly any are from Skåne and only a couple from the island of Fyn (Funen). Only a couple are from Northwest Jylland (Jutland). Thus, the knowledge found and discussed here has been restricted not only to an elite within the elite, but also geographically. The famous oak-coffin graves of Jylland-Slesvig (Schleswig), extremely well preserved as regards dresses and other organic materials - including the famous mini-skirted "Egtved Girl" - only belong to a Level 2 or 3 in this magnificent social setting. For instance, the simple belt-plate of the Egtved grave has not been blessed by cosmological numerical knowledge.

No doubt, this supreme and hard-won cosmological knowledge was the most important a petty Nordic Bronze Age kingdom could possibly have possessed. Copper, tin, and gold also came from far a field, but even more cherished were no doubt the supreme tables, which demonstrated the cosmological and calendar knowledge. Yet other tables were no doubt used to calculate the exact number of spirals (of different size) in the individual zones of the discs.

Finally, and equally surprising, the number of spirals on the finest belt-plates often has a common divisor. Small numbers of 2 or 3 might be accidental, but [1], 2, 3, 4, 5, 6, 7, and even 17 are documented: Maybe this reveals a fascination with order on a level differing from the calendar one, possibly employing even very high numbers. Very large and comprehensive systems might even have included the correlations between the Sun- and the Moon-calendars. Such knowledge is generally attributed to Meton from Athens of the fifth century BC, but may be older. Meton calculated the correspondence to be of 19 solar years and 235 Moon-months (or 6940 days) (cf. the very complicated - and perhaps less convincing - observations on the decoration of the golden Bronze Age hats, built on simple summations, not formulas as here (Menghin 2000)).

## Matematics and Europe

The new cosmological knowledge does not stop here, though. That the Bronze Age people had measuring sticks and calculated with fixed units of weight has been known for long (e.g., Randsborg & Christensen 2006, 30 & 77f.). Even the concept of 0 (zero) must have been known, as we saw above. Perhaps, the circumference of a circle was also known (= $2\pi r$, where r = radius), and thus an approximation of $\pi$ (= 22/7). Such would be needed for the calculation of the decoration of the belt-plates. The Pythagorean thesis of the 6$^{th}$ century BC - the sum of the squares of the katetes = the square of the hypotenuse of a right-angled triangle - must also have been known in some form. All this is quite surprising, since we have no knowledge of the numbering system, perhaps one of 10, nor of the actual numbers, as we have in contemporary Greek Late Bronze Age society (with Linear B).

As is well known, Linear B used a vertical stroke for 1, a horizontal one for 10, a circle for 100, a circle with four "horns" (vertical and horizontal) for 1,000, and the same with a horizontal dash in the middle for 10,000. One ought to go looking for similar simple

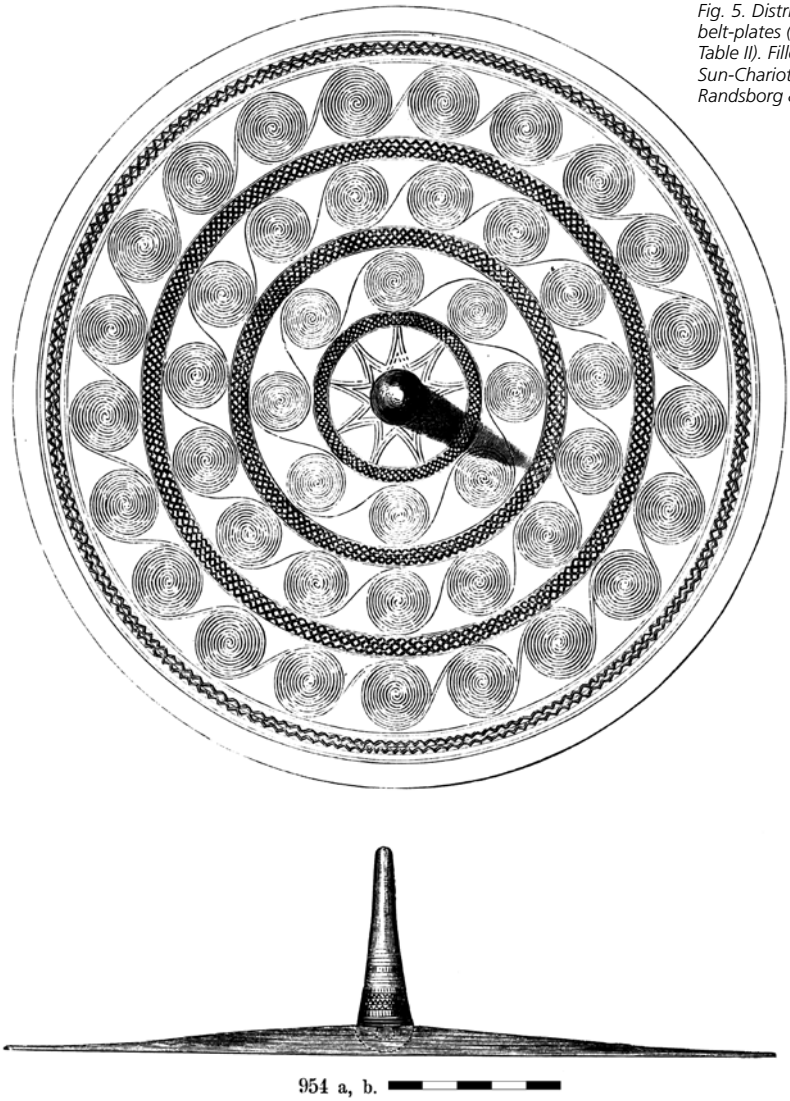


*Fig. 5. Distribution map of supreme belt-plates (rings) of Period II (cf. Table II). Filled ring = the Trundholm Sun-Chariot (cf. Figs. 2-3) (after Randsborg & Christensen).*

signs and symbols on materials from the Early Bronze Age in Denmark.

It is indeed highly interesting that women carried the calendar knowledge around, since they were rather poorly equipped with gold and bronzes compared to the men. No doubt, the women played important public roles in life. In this connection, their daggers should be mentioned - a unique feature among European Bronze Age females.

## Other Artefacts

Artefacts with "calendar knowledge" also appear later in the Bronze Age in Denmark, including female so-called hanging vessels of bronze from about 1000 BC and later, beautifully decorated and likely meant to hold amulets (Randsborg & Christensen 2006, 78ff.). Here both formulas and simple counting are seemingly involved, but the area needs be studied in detail. Also the large thin usually

oval shields that have always puzzled archaeologists, since they were useless in fighting, carry "calendar numbers" in their decoration.

One of the mentioned shields, from Tårup Bog on the island of Falster (Broholm 1943f./ IV, 259 Pl. 70; Randsborg & Christensen 2006, 85 & Fig. 35), carries ornamentation almost recalling Asgård in later Nordic mythology, if one is permitted a stroke of imagination (the shield boss as the roof of an oval hall building surrounded by several fences with gateways trough which a number of bosses are progressing). Some quite small bosses are likely ornamental, but a pattern seems to appear from the larger ones.

The number of large bosses in the ornamental zones of the shield is 262, or practically 9 Moon months of 29 days (in fact, 261). 9 additional, also large bosses are coming through the "outer gateway". If these are included, we attain 271, or nearly 9 months (in fact, 270) in the Ancient Near Eastern calendar of 360 days. Furthermore, there are 201 middle sized bosses in the full ornamental circles on the Tårup shield. To these come two shorter ornamental arches with 190 middle-sized bosses. Two additional very short arches have together 57 bosses, also of middle size. Finally, 40 similar bosses are found at the ends of two arches of large bosses. All in all, we thus have 201+190+57+40 = 488 middle-sized bosses, or exactly 19 Sun-months in days.

The shields, obviously artefacts of the cult, are likely of Continental origin, and as the much earlier "drums" from Hasfalva and Balkåkra, the "calendar sums" of ornamental units appear through simple counting, not by using the rather advanced formulas of the Sun-chariot and the contemporary belt-plates of the Early Bronze Age "universities" of the North.

## Conclusions

The cosmological and calendar knowledge of the Bronze Age of the North is beginning to emerge. Many questions remain, but this intellectual achievement is highly impressive for such a distant age and remote corner of Europe. Every gram of copper, tin, and gold actually had to be imported into Denmark, which underlines a particular need of society for international communication and constant supplies, even though the first copper axes probably entered the area already in the Mesolithic.

The interest in calendars could well stem from a need to perform rituals and carry out activities on certain days of the year. Nevertheless, such needs could also have been met by recorded simple lines of sight, as at Stonehenge and on the Nebra disc (cf. Meller 2004). In the end, the stimulus for the surprising Bronze Age knowledge of calendars is probably external to Denmark. Actually, the establishment of the much later Runic alphabet (of the 2nd century AD onwards) seems a lesser accomplishment. Incidentally, Runic inscriptions - inspired by the Latin alphabet - also came in different qualities: from true texts to something like mindless imitations, just as the numbers on the Early Bronze Age belt-plates.

Finally, let us remember that cosmology and religion and what we today term science were one in the Bronze Age. The separation of religion and science in the Classical world, as well as in the later Nordic one, did yet not exist. In recent times, even today, believers in the monotheistic religions - in particular Islam - worshipping invisible deities are still challenging a scientific world-view. People would never have done so in the enlightened Bronze Age, with its simple and all-embracing "heliocentric" picture of the World.

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Table I. Summary table of ornamental and calendar properties of supreme items: "Drums"/ thrones, and the Sun-Chariot from Trundholm. - Sun-Chariot: Numbers of ornamental units, multiplication by primary (1) and secondary (2) zonal factors. - Types of calendar: Ancient Near Eastern (ANE), Solar, Lunar (with Lunar minus half a day), and number of months (with correct number of days = +/- 1, only). - Some suggestions are less certain. - Indicated in italics is the common divisor number, if any, for each item. Randsborg del.

| Locality | Ornaments | **Months** |
|---|---|---|
| /Item type | Count - Multiple I-II | (Correct no. of days) |
| | | |
| Hasfalva/"Drum" | 337 | **Solar 11** (336) |
| Balkåkra/"Drum" | 275 | **Solar 6** |
| | | |
| Trundholm/Chariot | | |
| - day-side A1-2 | 52 – 122 – 174 | None – **Solar 4** – **Lunar-½day 6** |
| - day-side B1a-2a | 52 – 173 – 225 | None – None – **ANE 7½** |
| - day-side B1b-2b | 52 – 121 – 172 | None – **Solar 4** (122) – None |
| - night-side A1-2 | 54 – 124 – 178 | None – None – **Lunar 6** (177) |
| **-** night-side B1a-2a | 54 – 177 – 231 | None – **Lunar 6** – **Lunar 8-½day** (232) |
| - night-side B1b-2b | 54 – 123 – 176 | None – **Solar 4** (122) – **Lunar 6** (177) |
| | | |
| ANE = Ancient Near Eastern calendar | | |

Table II. Summary table of ornamental and calendar properties of supreme belt-plates with 3 (or 4) decorative zones (except one of the Lavø specimens with only 2). - Numbers of ornamental units, multiplication by primary (1) and secondary (2) zonal factors. - Types of calendar: Ancient Near Eastern (ANE), Solar, Lunar (with Lunar minus half a day), and number of months (with correct number of days = +/- 1, only, except in a couple of particular cases, 2). - A few suggestions are less certain. Indicated in italics is the common divisor number, if any, for each item. Randsborg del.

| Locality | Ornaments | **Months** |
|---|---|---|
| /Decorative zones | Count - Multiple I-II | (Correct no. of days) |
| *Sjælland* | | |
| Lavø | B45 – 74 – 119 | **ANE 1½** – **Lunar 2½** – **Lunar/ANE 4** (118/120) |
| /2 - AKI53 | | *- All sums divisible or almost divisible by 15* |
| Lavø | 58* – 126 – 184 | **Lunar-½day 2** – None – **Solar 6** (183) |
| /3 - AKI53 | | *- All sums divisible by 2, and divisible or almost divisible by 3* |
| Langstrup | B95 – 265 – 360 | None – **Lunar 9** [= human pregnancy] – **ANE 12** |
| /4 - AKI20 | | *- All sums divisible by 5* |
| Jægersborg | 58 – 124 – 182 | **Lunar-½day 2** – **Solar 4** (122) – **Solar 6** (183) |
| /3 - AKI371 | | *- All sums divisible by 2* |
| Jægersborg Hegn | B53 – 120 – 173 | None – **ANE 4** – **Lunar-½day 6** (174) |
| /3 - AKI426 | | *- All sums divisible or almost divisible by 6* |
| Skalstrup | B10+ – 46 – 74 | None – **Solar 1½** – **Lunar 2½** |
| /2 - AKI498I | | *- All counted nos. and all sums divisible by 2* |
| Rye | 59** – 123 – 182 | **Lunar 2** – **Solar 4** (122) – **Solar 6** (183) |
| /3 - AKII669 | | *- All sums are divisible or almost divisible by 3* |
| Højby | B60 – 132 – 192 | **ANE 2** – **Lunar 4½** (133) – **Lunar 6½** |
| /3 - AKII845 | | *- All sums divisible by 6* |
| Lykkebjerggård | 60 – 138 – 198 | **ANE 2** – **Solar 4½** (137) – **Solar 6½** |
| /3 - AKII884 | | *- All counted nos. and all sums divisible by 6* |
| Vognserup | B68 – 153 – 221 | None – **Solar 5** – **Lunar 7½** [= 30 weeks] |
| /3 - AKII1043I | | *- All sums divisible by 17* |
| Svenstrup | 59* – 133 – 191 | **Lunar 2** – **Lunar 4½** – **Lunar 6½** (192) |
| /3 - AKII1160 | | *- All sums divisible or almost divisible by 19, and by 29½ (but in halves)* |
| Svenstrup | B105 – 293 – 398 | **ANE 3½** – **Lunar 10** (295/290, if Lunar-½day) – **Solar 13** (397) |
| /4 - AKII1160 | | *- All sums divisible or almost divisible by 21* |
| Gl.-Tappernøje | (B)59 – 136 – 195 | **Lunar 2** – **ANE 4½** – **ANE 6½** |
| /3 - AKII1266 | | *- All sums divisible or almost divisible by 3, and by 4* |
| Sværdborg | B103 – 298 – 401 | **Lunar 3½** – **Lunar/ANE 10** (295/300) – **Lunar/ANE 13½** (398/405) |
| /4 - AKII1295 | | *- All sums divisible or almost divisible by 29½ (but in halves)* |
| *Fyn* | | |
| Skydebjerg Lunger | B58 – 131 – 189 | **Lunar-½day 2** – **Lunar-½day 4½** – **Lunar-½day 6½** |
| /3 - AKIII1781 | | *- All sums divisible by 29 (in halves)* |
| Kratholmgård | B65 – 148 – 213 | None – **Lunar 5** – **Solar 7** (214) |
| /3 - AKIII1846B | | *- All sums divisible or almost divisible by 3* |
| Hesselagergård | 54++ – 123 – 177 | None – **Solar 4** (122) – **Lunar 6** |
| /3 - AKIII2011B | | *- All sums divisible by 3* |
| *Jylland* | | |
| Sønderhå | 67 – 145 – 212 | None – **Lunar 5** – **ANE/Solar 7** (210/214) |
| /3 - AKXI5039A | | *- All sums divisible or almost divisible by 3* |
| Langvad | 28 – 44 – 72 | None – **Lunar(/Lunar-½day) 1½** – **Lunar-½day 2½** (73) |
| /2 - AKXI5542 | | *- All sums divisible by 2 and by 29/29½ (but in halves)* |
| Hverrehus | B66 – 150 – 216 | None – **ANE 5** – [**Solar 7** (214)] |
| /3 - DBI728 | | *- All counted nos. and all sums divisible by 6* |
| *Skåne* | | |
| "Skåne" | 44*** – 101 – 145 | **Lunar/Lunar-½day 1½** – **Lunar-½day 3½** (102) – **Lunar-½day 5** |
| /3 - Minnen954 | | *- All sums divisible by 29(but in halves)* |

Table II. B = "brim" (on the hat-shaped point); *Point missing; **Point repaired; ***9-pointed star as "brim". +Not inspected, thus not fully certain. ++Not fully certain: based on old drawing, present preservation poor. [ANE = Ancient Near Eastern calendar.]

Table III (next page) *Regnar Pedersen, Nysum 1508; **"Step-brimmed" point is a repair. +Not fully certain: based on old drawing, present preservation poor. [ANE = Ancient Near Eastern calendar.]

Table III. Summary table of ornamental (and calendar) properties of ordinary belt-plates with 2 or 3 decorative zones. - Numbers of ornamental units, multiplication by primary (1) and secondary (2) zonal factors. - Types of calendar: Ancient Near Eastern (ANE), Solar, Lunar (with Lunar minus half a day), and number of months (with correct number of days = +/- 1, only). - Only very few calendar properties appear, all possibly by chance. Indicated in italics is the common divisor number, if any, for each item. Randsborg del.

| Locality | Ornaments | Months |
|---|---|---|
| /Decorative zones | Count - Multiple I-II | (Correct no. of days) |
| "Denmark" | 27 – 44 – 71 | None – [**Lunar(/Lunar-½day) 1½**] – None |
| /2 - NMB3237 | | *- All sums divisible or almost divisible by 9* |
| Ølby | 34 – 56 – 90 | None – None – **ANE 3** |
| /2 - AKI299 | | *- All counted nos. and sums divisible by 2* |
| Lykkebjerggård | 27 – 44 – 71 | None – [**Lunar(/Lunar-½day) 1½**] – None |
| /2 - NMB17587 | | *- All sums divisible or almost divisible by 9* |
| Vognserup | 32 – 52 – 84 | None – None – None |
| /2 - AKII1043I | | *- All sums divisible by 4* |
| Skydebjerg Lunger | 31 – 50 – 81 | **Solar 1** – None – None |
| /2 - AKIII1781 | | *- All sums divisible or almost divisible by 3* |
| Vellinge | 31 – 50 – 81 | **Solar 1** – None – None |
| /2 - AKIII1868 | | *- All sums divisible or almost divisible by 3* |
| Lækjær | 36 – 58 – 94 | None – **Lunar-½day 2** – None |
| /2 - AKXI5085 | | *- All sums divisible by 2* |
| Haverslev | 31 – 51 – 82 | **Solar 1** – None – None |
| /2 - Priv. collection* | | *- All sums divisible or almost divisible by 3* |
| Løvdal | 27 – 43 – 70 | None – None – None |
| /2 - Thisted Museum | | *- All sums divisible or almost divisible by 3* |
| Hverrehus | 26 – 42 – 68 | None – None – None |
| /2 - DBI730 | | *- All sums divisible by 2* |
| Bustrup | 31 – 50 – 81 | **Solar 1** – None – None |
| /2 - DBI741 | | *- All sums divisible or almost divisible by 3* |
| Borum C | 30 – 48 – 78 | **ANE 1** – None – None |
| /2 - DBI791 | | *- All sums divisible by 2* |
| Linå | 18 – 30 – 48 | None – **ANE 1** – None |
| /2 - DBI794 | | *- All sums divisible by 6* |
| Egtved | 27 – 44 – 71 | None – [**Lunar(/Lunar-½day) 1½**] – None |
| /2 - AKIX4357 | | *- All sums divisible or almost divisible by 9* |
| "Denmark" | 62 – 139 – 201 | [**Solar 2** (61)] – None – None |
| /3 - NMB2652 | | *- All sums divisible or almost divisible by 3* |
| Frankerup** | 52 – 113 – 165 | None – None – **ANE 5½** |
| /3 - AKII1173 | | |
| Frankerup | 50 – 108 – 158 | None – None – None |
| /3 - AKII1173 | | *- All sums divisible by 2* |
| Sværdborg | 55 – 118 – 172 | None – **Lunar 4** – None |
| /3 - AKII1295 | | |
| Vellinge | 51 – 110 – 161 | None – None – None |
| /3 - AKIII1868 | | *- All sums divisible or almost divisible by 3* |
| Vellinge | 44 – 98 – 142 | [**Lunar(/Lunar-½day) 1½**] – None – None |
| /3 - AKIII1868 | | *- All sums divisible by 2* |
| Fjelsted | 52 – 110 – 162 | None – None – None |
| /3 - AKIII1917 | | *- All sums divisible by 2* |
| Hesselager | $63^{+}$ – 140 – 203 | None – None – **Lunar-½day 7** |
| /3 - AKIII2014A | | *- Counted nos. and all sums divisible by 7* |
| Skagen/Råbjerg | 56 – 129 – 185 | None – None – None |
| /3 – NMMDCCCXXI | | *- All sums divisible or almost divisible by 8* |
| Vranum | 53 – 119 – 172 | None – [**Lunar/ANE 4** (118/120)] – None |
| /3 - DBI695 | | |
| Thorsted | 46 – 97 – 143 | [**Solar 1½**] – None – None |
| /3 - AKX4762 | | |