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Time-Keeping System in Ancient Southern Georgia (4th-3rd Century BC)

Introduction

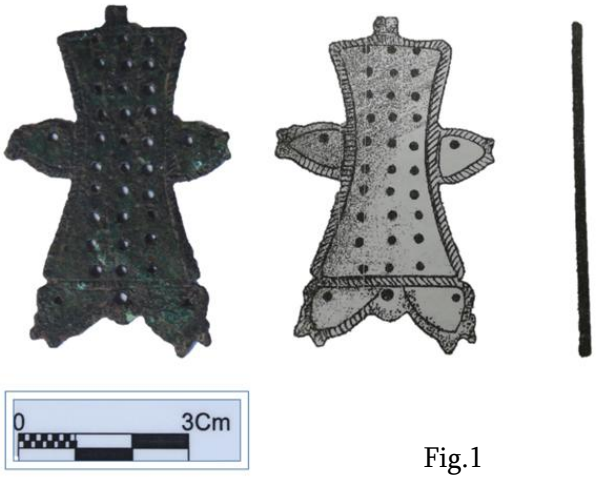


Fig.1

In 2002, during the excavations of 4th-3rd century BC burials in the village of Atskuri (southern Georgia), a in the burial № 02–1 bronze pendant was discovered. The item is an elongated, waist-constricted plaque (Fig. 1)[1], with only a part of the suspension loop surviving in its upper part. In the central, narrow area, the object features transverse projections forming stylized representations of fish heads, with perforations marking their eyes. Similar paired fish heads are done at the lower end, orientated downward. The body of the plaque is decorated with three longitudinal rows of perforations, totally consisting of 30 holes. Including the perforations placed on the fish heads, the plaque bears 35 holes in total. The thirty-fifth perforation is positioned in the lower part of the object, between the fish figures. The plaque is bordered by a delicate band composed of two parallel strips, and the interior is filled with oblique lines (Licheli 2011: 29–30).

Similar artefacts have been discovered at several other sites across the territory of Georgia (Fig. 2)[2]. Among these are the bone plaque unearthed at Grakliani Gora[3]. Even though the artifact is fragmentary, the perforations clearly follow a deliberate pattern. Same kind of bone plaque was also found at Nastakisi, that has 30 perforations on its body (Bokhochadze, Mirianashvili, et 1982, p. 101). The same number of perforations (30) is done on bronze

[1] Licheli V. 2011. "Burial Inventory from Atskuri." Interdisciplinary Archaeology I. Tbilisi.
[2] The pictures are taken from the publications about the item, which are all referenced in the article.
[3] The information about the item: the head of archaeological excavations at Grakliani Gora Prof. V. Licheli.

trapezoidal pendants recovered from Burial №9 at Sairkhe (Nadiradze 1990: 62–63) and from Burial №49 at Papigora necropolis in the Algeti Gorge (Margishvili 1992: 41). A bronze pendant of similar form, decorated with paired eagle motifs and likewise bearing 30 perforations, has been discovered at the Sakraveli necropolis too (Amiranashvili 1997: 15).

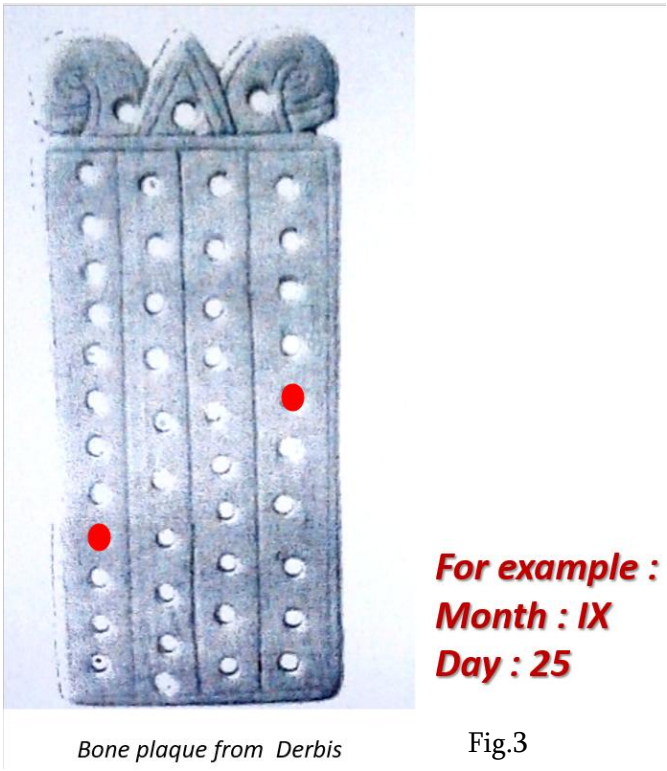
The same type of two bronze objects is also known from Takhtidziri necropolis, from the burials №6 and №37 one of which is decorated with depictions of horse heads (Gagoshidze 2020: 50) All of the above-mentioned artifact's date to the 4th–3rd centuries BC, with the exception of the Nastakisi item, which belongs to the 1st century BC. It must be mentioned, that there exists a common feature, that unites most of these artifacts: the perforations on the body in most cases are number 30, despite the fact that some are damaged and not all holes are survived. Exceptions in this case are one of the items from Takhtidziri (Gagoshidze 2020: 50) which has only 20 perforations and above-mentioned plaque discovered in Atskuri bearing 35 holes (Licheli 2011: 29–30). the number of perforations suggests that they were not a random decorative feature, but rather part of some form of system. Most of its discoverers have regarded these artefacts as lunar calendars, with the thirty holes representing the thirty days of the lunar month.

Parallels from the Levant: The Aroer (Derbis) Calendar

Analogous small rectangular bone plaques have been discovered in large numbers on the territory of Canaan including examples from Derbis, Lachish, Tel el-Far'ah, Gezer, and other sites (Fox 2011: 255). The majority of these objects come from burial contexts and were

unearthed together with various types of amulets. Their bodies also have three rows of perforations, ten in each row (Fox 2011: 255–258).

Among the finds from Canaan, one of the most notable is the bone plaque unearthed at Derbis within the pillared complex at Aroer (Fig. 3)[4]. The upper edge of the plaque is carved in the stylised form of a Proto-Aeolic capital and bears three perforations. The perforations on the main body of the plaque are arranged differently. The surface is divided into four vertical rows separated by incised lines: the leftmost row contains 12 perforations, while each of the remaining three rows contains 10 perforations, giving a total of 30 holes in this section (Fox 2011: 255–258). This object may represent a unique perpetual calendar on which both days and months could be marked simultaneously (Fox 2011: 255–258). Despite its resemblance to the Egyptian calendrical system, it is more likely that the artefact was produced locally. Important evidence for this interpretation is the depiction of the Proto-Aeolic capital, a motif widely distributed on the territory of Canaan. Moreover, the Aroer "calendar" may be rooted in Phoenician–Canaanite lunisolar reckoning. The three perforations on the carved capital at the top of the plaque may have functioned within this calendrical framework to mark those years in which a thirteenth intercalary month was added. The Aroer calendar is also notable for its small size (6.0 × 2.7 cm), which made it easily portable. A small peg was apparently used to indicate the appropriate day and month. Researchers suggest that individuals responsible for the import, export, or distribution of goods may have used such calendars. All artefacts of this type discovered in Canaan and discussed here are dated to the first half of the first millennium BC (Fox 2011: 255–258).



Bone plaque from Derbis

Fig.3

Lunar and Lunisolar Calendrical Systems in Ancient Egypt

As it is known, in ancient times almost all cultural calendrical systems were dependent on the moon cycles, and the calendars like that were based on the idea that 12 synodic months of 29.5 days make a year of 354 days. Hence, lunar calendars do not keep pace with the passage

[4] Fox N. 2011. "A Bone Carved Calendar in Tel 'Aroer." In: Yifat Thareani (ed.), The Iron Age II Caravan Town and Hellenistic–Early Roman Settlement. Jerusalem.

of the seasonal (solar) year and fall short by roughly eleven days annually. Ancient people used various devices to bridge the missing 11.25 days so that the calendar year ends up close in length to the tropical year, the year of the seasons (Longstaff 2005: 9).

For example, the ancient Greeks used a lunar calendar of 354 days, adding an extra 90 days every 8 years (this was calculated on the basis that 11¼ x 8 = 90 days) and Egyptians added 5 days to each year (Longstaff 2005: 10). By approximately the 8th century BC, the Egyptian civil calendar had been standardized so that each month contained thirty days and the year consisted of twelve months. To still keep track of these missing days, Egyptians also developed luni-solar calendars, which were connected to the sun god Ra (Longstaff 2005: 10–11). Moreover, Egyptians established that approximately 365 days elapsed between successive heliacal risings of Sirius and between the annual inundations of the Nile. Particularly significant is the Egyptian practice of dividing each month into three ten-day units (Longstaff 2005: 10–11). The perforations of Atskuri and other analogous pendants that had been discovered in Georgia are arranged in that way too – 3 rows of 10 perforations. This assumption is already noticed by I. Gagoshidze in his work about the Takhtidziri necropolis (Gagoshidze 2020: 50-51).

Astral Symbols Connected to the Pendants

In Burial No. 49 at the Papigora necropolis in the Algeti Gorge, the so-called "calendrical" object was accompanied by a ring bearing a stylized depiction of the sun on its bezel, bronze crescent-shaped pendants, a bronze pin depicting a mounted horseman, and glass pendants in the form of birds (Fig. 4)[5] (Margishvili 1992: 35–43). At Sairkhe, a burial containing

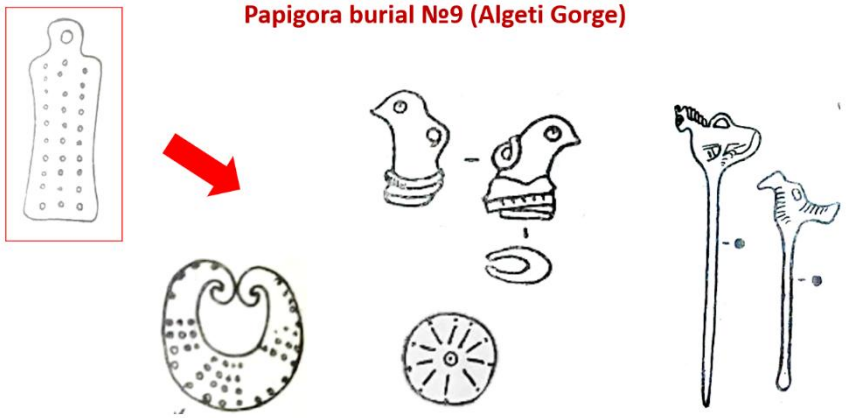


Fig.4

[5] Margishvili S. 1992. Rich Burials of the Classical Period from the Algeti Gorge. Tbilisi.

Fig. 5

an object of the same type had a crescent-shaped pendant and an earring decorated with paired bird motifs as the inventory (Fig. 5)[6] (Nadiradze 1990: 62–63).

At Grakliani Gora, crescent-shaped pendants were also unearthed from same period burials (Fig. 6)[7]. Similar lunar pendants the "calendrical" item at the Sakraveli cemetery too (Amiranashvili 1997: 15–17). Crescent- and moon-shaped pendants were particularly widespread on the territory of Georgia during the Hellenistic period; for example, they are attested in the jar burials of Daphnari (Kiguradze 1976: 33) and in the pithos burials of Dablagomi (Tolordava 1980: 6–17). In terms of both form and conceptual meaning, these pendants can reasonably be interpreted as astral representations of the moon. Of special importance is the ring with a solar depiction from Papigora Burial No. 49, which represents a rare finding within the territory of Georgia. Close analogies are known from the necropolises of Ardisubani, Etso, and Neron-Deres (Gagoshidze 1982: 129). The existence within a single funerary complex of solar imagery, crescent pendants, and objects having thirty perforations cannot be regarded as accidental; rather, it could reflect the presence of some type of calendrical symbolism.

Fig. 6

Representations of horses were widely distributed on the territory of Georgia in the Classical period, appearing both as mounted figures and as single motifs. In earlier phases, the horse was closely associated with solar symbolism and probably was an attribute of solar

[6] Nadiradze J. 1990. Sairkhe – The Oldest City of Georgia. Tbilisi.
[7] Photos by V. Licheli.

deities; however, by the Classical period, it could also acquire lunar associations and played a notable role within Zoroastrian symbolic systems (Khidasheli 1982: 80–81). Bird imagery was also quite common in the Classical period on the territory of Georgia, occurring both as pendants and as engraved belt decorations. According to ancient Georgian mythological traditions, the bird was a symbol of the sky (Khidasheli 1982: 64–65). In Atskuri Burial No. 02-1, the calendrical object was discovered with a bronze ring depicting a horse (Licheli 2011: 30). Moreover, the Atskuri necropolis has shown a great number of horse representations and other motifs that may be interpreted as astral in character (Fig. 7)[8]. Most of these find's date to the 6th–4th centuries BC and, according to current research, are closely connected with the Achaemenid culture (Licheli 2011: 25–48).

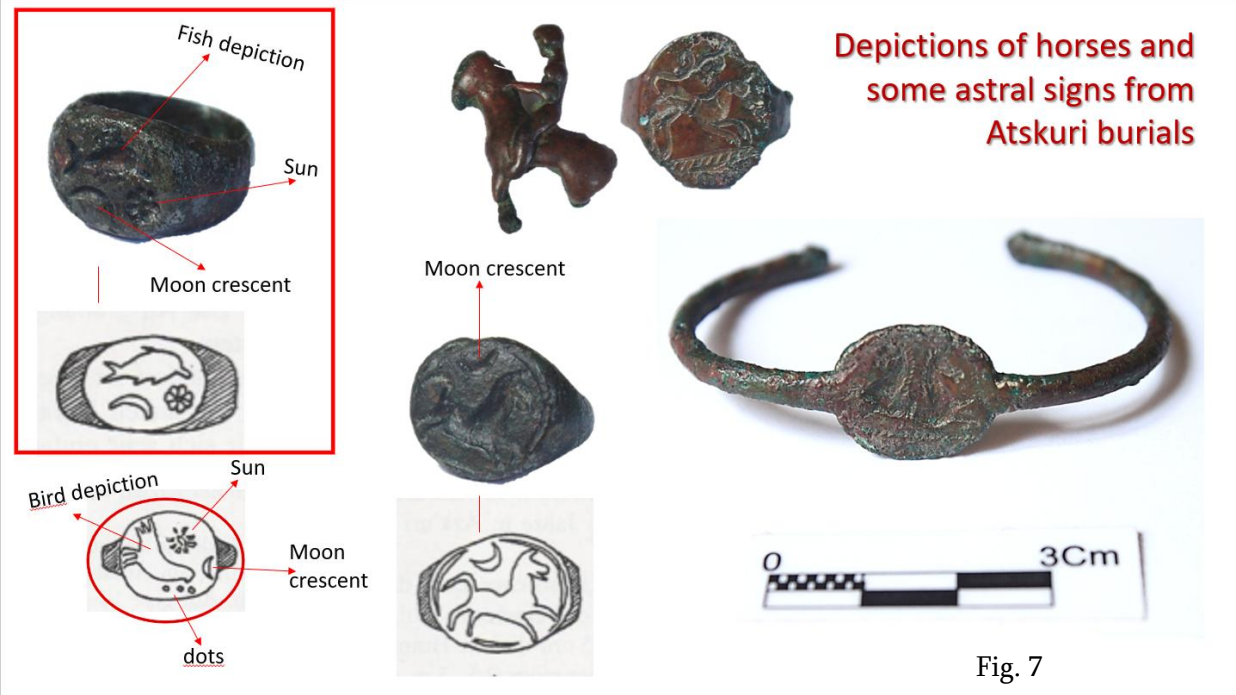


Fig. 7

Particularly noteworthy are the solar and lunar representations from Atskuri. In Burial No. 90-3, for example, a bronze ring was discovered whose bezel depicts the sun, the moon, a bird, and three dots next to them (Fig. 7) (Licheli 2011: 45). Moreover, it is possible that the 3 dots on the ring are denoting the Egyptian monthly division of the calendrical system. The sun and moon may reflect a stage of time-keeping based on the above-mentioned fact. This ring is also linked with the Egyptian luni-solar calendar with a local element – a bird. Moreover, it is possible that the 3 dots on the ring are denoting the Egyptian monthly division of the calendrical system.

[8] Pictures are taken from V. Licheli publications about Atskuri.

The Symbolism of the Fish on the Atskuri Pendant

The stylized depiction of fish on the so-called Atskuri “calendrical” pendant has its own significance. According to Georgian ethnographic evidence, the fish was a symbol of fertility in ancient beliefs (Khidasheli 1982: 61–63). In regard to the semantic meaning of the fish motif, it should be noted that on belts discovered on the territory of Georgia engraved with ritual scenes connected to agriculture, hunting, and related activities, the fish depictions appear frequently, for example, on the belts from Samtavro and Treli Gorebi (Khidasheli 1982: 61–63). So, the fish depictions are very often connected to the fertility scenes.

Agriculture played an important role in the life of ancient societies, and the securing of a successful harvest was of great importance. Achieving this required not only proper cultivation but also the careful selection of appropriate seasons. In this context, the possession of calendrical knowledge would have been essential. The depiction of fish imagery, seen as a fertility symbol, on the Atskuri "calendar" pendant may be associated with agricultural timekeeping practices. The terminology of ancient Georgian month names, such as "Tibatve" (which means "month of mowing") (June) and "Mkatatve” (which means the month of "harvesting crops") (July), is also indicative of a close relationship between calendrical systems and agricultural practices.

Particularly important are the five additional perforations placed on the Atskuri calendar. As noted above, the Egyptians added five extra days to the year in order to obtain the full 365-day solar cycle. This correspondence may represent another meaningful parallel between the Atskuri “calendrical” object and the Egyptian calendrical system (Gagoshidze 2020: 51).

Conclusion

Finally, it appears evident that the Atskuri bronze pendant, by its different features, shows close parallels with the Egyptian calendrical system. On this side it is also interesting that these are discovered scaraboids on the Atskuri necropolis (Fig. 8)[9], and their stylistic characteristics originate from Egypt. Although scaraboids were widely produced throughout the Mediterranean, the Near East, Central Asia, and other regions beyond Egypt, the concept, form, and style of this class of objects unquestionably originated in Egypt (Alekseeva 1978: 1–119).

It is noteworthy that the IV–III centuries BC, the period to which many of the Atskuri finds belong, are also characterised by the abundance of Achaemenid-type artefacts at the necropolis. Close contacts between Atskuri and the Achaemenid world are further indicated

[9] Photos by V. Licheli.

Fig. 8

by the presence of V–IV century BC architectural remains at the Atskuri settlement. In terms of construction techniques, these buildings closely resemble known Achaemenid residences, such as those at Sari-Tepe, Karacamirli, Gumbati, and Sabatlo (Licheli 2015: 258). In this context, the entering of Egyptian elements into southern Georgia may have happened through the contacts with the Achaemenid world, particularly during the period when the Achaemenids controlled Egyptian territories. Nevertheless, the possibility of more direct contacts with Egypt cannot be entirely excluded.

On the basis of the evidence discussed above, the Atskuri bronze pendant can reasonably be interpreted as a calendrical item. This study introduces a new interpretation of the Atskuri pendant as an early calendrical object that integrates local fertility symbolism with the Egyptian and Achaemenid elements. At the same time, the fish depiction on the Atskuri calendar deserves special attention. This motif should reflect a local symbolic component, by the fact that fish representations were widespread in ancient Georgia and are associated with fertility symbolism.

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