A *Spondylus Gaederopus* Linnaeus, 1753 spiny oyster pendant from the Neolithic settlement of Sânandrei-*Ocsăplaț* (Timiş County, western Romania)

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Abstract: *In the researches undertaken in 2012 on the site of Sânandrei, level 5d was discovered a pendant made from a valve of a seashell of* Spondylus gaederopus *Linnaeus, 1758. The level 5d have been dated between 5483-4857 calBC and belongs to the Banat Culture , phase IIB-IIC. Unlike the other pendants in Western and Central Europe, the edge of the Sanandrei seashell valve was painted with a black color, and in a hole that was made later hosted a bead made from the same material. Perhaps these details were of particular importance and precise significance for the bearer / wearer of the pendant, going as far as the possibility of changing its original purpose/use.*

Rezumat: *În cadrul cercetărilor întreprinse în anul 2012 în situl de la Sânandrei, în nivelul 5d a fost descoperit un pandantiv lucrat dintr-o valvă a unei scoici din specia* Spondylus gaederopus *Linnaeus, 1758. Nivelul 5d este datat între 5483-4857 calBC și aparține Culturii Banatului, faza IIB-IIC. Spre deosebire de celelalte piese din spațiul vest-central european, marginea valvei de la Sânandrei a fost pictată cu o culoare neagră, iar într-un orificiu, practicat ulterior, a fost introdusă o mărgică lucrată din același material. Probabil aceste detalii aveau o importanță aparte și o semnificație precisă pentru purtătorul/purtătoarea piesei, mergând până la posibilitatea de a modifica menirea/utilizarea inițială a acesteia.*

Keywords: *Pendant,* Spondylus gaederopus*, Neolithic, Banat Culture, Sânandrei, Romania.*

Cuvinte cheie: *Pandantiv,* Spondylus gaederopus*, neolitic, Cultura Banatului, Sânandrei, România.*

The multilayered site Sânandrei-Ocsăplaț is situated in south-west Romania, at approximately 10 km north of the city of Timişoara (fig. 1). From the year 1992 onwards, lengthy research has been performed and has shown that anthropogenic deposits, which are 2 meters thick, are split into 5 layers. From these 5, layers 2 to 5 belong to the Neolithic (F. Draşovean 1994, p. 413; 1996, p. 33; 2009, p. 260; 2014a, p. 36; 2014b, p. 137; F. Drașovean, F. Marțiș 2014, p. 67). During the research that was performed in 2012, a pendant has been discovered. It had been crafted from the valve of a seashell belonging to the *Spondylus gaederopus* Linnaeus 1758 (C. Linnaeus 1758, p. 690, nr. 275; WORMS). Due to the rarity of such a piece, we've found it necessary to include it into the scientific circuit.

◈ The context of discovery

The piece was found in the S4 surface, square 74, buried in the 5d layer among the unburnt ruins of a house that was situated at the basis of the culture deposits. Unfortunately,

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because of the fact that the ruins were a shapeless mass of yellow clay, that had also been leveled by the ones that had lived on the upper layer (5c) and the floor's initial coating was only partially preserved, we can only mention that the position of the piece was on the floor, incased within it or at the level of wreckage. This very important detail would have allowed us to make further deductions and have more knowledge about the meaning and symbolic value of the piece. Even with all these unclear aspects, we are certain that the pendant belongs to the 5d layer.

◈ Cultural assigning and chronological framing

The 5d layer is the oldest layer from the tell-type settlement in Sânandrei and belongs to the Banat Culture, phases IIB-IIC. The latter's features, at least for the northern side of Banat, are still to be mentioned. From a chronological standpoint, the 14C data that we have acquired place the 5d layer within the 5483-4857 BC interval (at 95,4% probability), *mean* 5085 BC (F. Draşovean 2014a, p. 36, 45, fig. 6, 6a; 2014b, p. 137, fig. 6). When we compared these data with those of the Vinča culture from the type-site of Vinča-*Belo-Brdo* (W. Schier 1996; D. Borić 2009, p. 232-234; F. Draşovean 2014a, p. 36, 2014b, p. 136, fig. 5-5d; A. Whittle *et alii* 2016, p. 19) we concluded that these are situated at the end of the B2 phase. This dating is also confirmed by absolute data from Banat that place this layer in the same interval as the 6a layer from Parţa and before the 3b layer from Uivar, assigned to the C1 phase (W. Schier 2014, p. 29, tab. I; F. Draşovean *et alii* 2017, p. 643, fig. 6, tab. I).

◈ Pendant description

The piece is crafted from the left valve of a *Spondylus gaederopus*, Linnaeus, 1758 (Phyllum: *Mollusca*, Class: *Bivalvia*, Order: *Pectinidae*, Family: *Spondylidae*, Type: *Spondylus*). In spite of anthropogenic interventions, the valve is almost fully preserved (fig. 2a, 2b). For a better description of the piece, we will be using the polar system of splitting the surface of the valve (R. Veropoulidou 2011, fig. 5). The outside layer has been well smoothened and all calcite has been removed from the surface (for the internal structure of Spondylus valves: A. Gardelková-Vrtelová, M. Marián Golej 2013). The smoothening process was just as active on the ventral side where the outside layer had been almost completely removed, with the exception of sectors 3a-6a. Even so, on the 01a axis, on the surface of the hinge, we can still observe the fissures of teeth and the ligament canal. In sectors 06b and 07b we notice the impression of the posterior adductor muscle with a diameter of 26 mm (fig. 2b). After these interventions, on the 01-05 axis, the piece has a length of 102 mm while on the 03-07 axis a width of 95 mm with a maximum thickness of 19 mm. The valve has been pierced in more than one place (fig. 2a). One of these holes has a round shape with a 14 mm diameter and is located on the central side, slightly toward the upper right margin in the sector delimited by the 01b axis and the 08b axis. This hole has been achieved through perforation after which its margins were smoothened. Because of the smoothening process, the direction from which the perforation began cannot be observed anymore. On the edge of the valve, close to the 03 axis, sector 'a', we have another orifice of an elongated shape with a width of 9 mm and, diametrically opposed to it, on axis 07, sector 'a', another one with the same shape with a width of 10 mm. Because of wear and tear, the edges of the holes that are situated toward the valve's exterior are elongated. Another hole has been made from the ventral side in sector 7a, in close

proximity to the valve's edge. A small, discoid-shaped bead had been inserted from the interior up to the exterior surface through this hole (fig. 3a and 3b). It has a diameter of 3 mm and it's also been crafted from *Spondylus*. On the ventral side of the valve, in the 02a sector, two other attempts at perforation with a sharp implement can be observed (fig. 2b). On the dorsal margin, in sectors 2a and 4a-6a and on the ventral one, in sectors 2a-3a and 6a-7a, a black-colored band is noticeable (fig. 2b), similar in its macroscopic aspect with the one used for painting the ceramics in layers 5d and 5c.

By studying the Sânandrei piece and by comparing it with already performed experiments (M. Miller 1996; 2003, p 371-372; A. Velazquez Castro *et alii* 2011, p. 203-216; T. Theodoropoulou 2011, p. 96-97) but also with the known crafting stages and "de la chaîne d'usure" (S. Bonnardin 2012, p. 33-35), we can deduct the stages of crafting and repair of this valve. The first stage involved the breaking of the thorns from the ventral side of the valve, probably through percussion, and the scrubbing of the shell against an abrasive surface (perhaps against a honing plate) in order to remove all asperity. It's likely that this stage also included the polishing of the ventral side in order to remove the hinge teeth. Polishing was also used for removing the layer of calcite from the marginal area and part of the layer of aragonite all the way beyond the pallial line but also the lateral sides of the shell's hinge plate. These processes gave the valve an oval shape. After completing this stage, the next step involved the makings of the lateral holes and the central hole. Unfortunately, because of the polishing process but also because of the wear and tear state of the piece, it couldn't be established from which side the perforation commenced. For technical reasons, we can assume that the perforation began from one side and, after the valve was pierced, it continued from the opposite side with the enlargement of the orifice. On the ventral side, as we have mentioned before, there are also two perforation attempts that have been abandoned, probably because of faulty positioning on the valve's surface (fig. 2b, 3b). These attempts help to indicate that the other holes have been created starting from the interior. By studying the lateral holes and the wear and tear present on their edges, we conclude that the fourth hole, that hosted the discoid-shaped bead, has edges that are in better condition than the rest (fig. 3b). This even though the hole is situated in close proximity to the grooves created by the ties that connected the valve to the belt. This fact leads us to believe that the hole was made longafter the piece had this purpose.

We cannot know for sure whetherthe edge has been painted black right after the initial sanding or after creating the forth hole and inserting the bead.

◈ Conclusions

The *Spondylus* shell, together with lithic materials, are some of the first examples of change taking place over large distances in European prehistory. The oldest discoveries of objects that have been crafted from this seashell date back to the Paleolithic and continue until the half of the first millennium. These objects were intended to be pieces of jewelry due to the aspect of the seashell (C. Jeunesse 2002, p. 52; E. Álvarez-Fernández 2011; A. Windler 2013; D. Antonović*et alii* 2016). Most discoveries of such nature are of objects dating back to the Neolithic and Eneolithic, when objects made of this shell are widespread from the west of Europe to the northernsteppes of the Black Sea (N. Nieszery 1995, p. 175; J. Müller 1997; M. Séfériadès 2000, p. 424-425; C. Jeunesse 2002, p. 52; M.A. Borello, R. Micheli 2004, p. 70 sqq; A. Windler 2013; J. Chapman, B. Gaydarska 2015).

In south-eastern Europe, the first *Spondylus*-crafted objects were discovered on early Neolithic sites in Greece (M.H. Wijnen 1981; J. Müller 1997; M.A. Borello, R. Micheli 2004; A. Windler 2013),yet they were most widespread in the fifth millennium (E. Comșa 1973; C. Willms 1985; J. Müller 1997; H. Todorova 2000, p. 415-416; C. Schuster 2002; V. Dimitrijević, B. Tripković 2006; Zs. Siklósi, P. Csengeri 2011; V. Veropoulidou 2011; A. Windler 2013; J. Chapman, B. Gaydarska 2015; A. Windler 2017, p. 89 sqq). Many of the discoveries belong in the funeral inventory (J. Pavúk 1972; E. Comșa 1973; N. Nieszery 1995, p. 173-191; J. Müller 1997; C. Lichter 2001, p. 43, 48, 58, 60, 68, 73, 107-108; M.A. Borello, R. Micheli 2004, p. 76-78; Zs. Siklósi, P. Csengeri 2011; S. Siklósi 2013, p. 108-109, 128, 132, 140-141, 149, 158, 178, 193-195, 196-197, 199-207).

In the Danube area, the first objects crafted from Spondylus were brought by the first Neolithic groups. They were discovered as part of funeral inventory at the Iron Gates, at Vlasac. After dating, it was established that were crafted at the end of the seventh millennium and the beginning of the next one (D. Borić *et alii* 2014, p. 27; O. Bajčev, I. Stojanović 2016, p. 104; A. Windler 2017, p. 101-102). After this period, in the early Neolithic, *Spondylus* objects become more prevalent (M. Gimbutas 1976, p. 248-250; D. Srejović 1981, p. 58; M.H. Wijnen 1981, p. 53; G. Lazarovici, Z. Maxim 1995, p. 154; L. Domboróczki 1997, p. 26-27; N. Kalicz, J. Koós 1997, p. 33; C. Lichter 2001, p. 43; M. Séfériadès 2000, p. 424; N. Kalicz, J.G. Szénászky 2001, p. 28; R. Krauβ 2014, p. 262; D. Antonović *et alii* 2016), followed by a further increase in their numbers in the middle Neolithic, when they're found in both settlements and necropolises (F. Milleker 1938; S. Vencl 1959; J. Banner 1960, pl. XXX/32, pl. XLV/65; A. Benac 1971, p. 97-101; J. Pavúk 1972; E. Comșa 1973; N. Kalicz 1985; J. Müller 1997; N. Kalicz, J.G. Szénászky 2001, p. 28-45; C. Lichter 2001; C. Schuster 2002; N. Kiparissi-Apostolika 2005; B. Tripković 2006, p. 93-94; Zs. Siklósi, P. Csengeri 2011, p 199-202; F. Ifantidis 2011; J. Chapman, B. Gaydarska 2015; O. Bajčev, I. Stojanović 2016; A. Windler 2017, p. 102-103).

In the eastern Carpathian basin, the oldest *Spondylus* objects were discovered at Gura Baciului (G. Lazarovici, Z. Maxim 1995, p. 154), Lepenski Vir III (D. Srejović 1969, pl. XIII, XIV; Starčevo (S. Vitezović 2012; 2016) and Endröd (J. Makkay 1990, fig. 4/3) and belong to the early Neolithic[1]. In the middle Neolithic they become more prevalent and were discovered at Alba Iulia-*Lumea Nouă* (D. Berciu 1966, pl. V; E. Comșa 1973, p 71; M. Gligor 2009, p. 103-104), Limba (C.I. Suciu 2009, p. 201), Tărtăria (N. Vlassa 1963, fig. 6/3), Parța I (F. Resch, K. Germann 1995), Gornea (G. Lazarovici 1979, pl. XIIE/1-2), Ószentiván (S. Siklósi 2013, p. 144), Tiszalúk-*Sarkad* (H. Oravecz 1996), Fűzesabony-*Gubakút* (L. Domboróczki 1997), Mezökövesd-*Nagy-fertö* (P. Csengeri 2004), Botoš-*Živaničeva Dolja* (S. Marinković 2010), Vršac area (B. Tripković 2006, p. 93; O. Bajčev, I. Stojanović 2016), Zsadány (N. Kalicz, J.G. Szénászky 2001, p. 31), Szilvásvárad-*Istálók-Höhle* (N. Kalicz, J. Makkay 1977, p. 158, pl. 106/1,2), Battonya-*Parász-tanya* (N. Kalicz, J.G. Szénászky 2001, fig. 4, 6/1-11, 7, 9), Battonya-*Gödrösök* (G. Goldman 1984, Bild 2/1; N. Kalicz 1998, p. 106, Abb.9; N. Kalicz 1998, p. 31, fig. 7/2, 3; N. Kalicz, J.G. Szénászky 2001, fig. 5/2-5; M.L. Séfériadès 2003, fig. 8), Battonya-*Formóza* (N. Kalicz, J.G. Szénászky 2001, fig. 5/1), Kompolt-*Kistér* (E. Bánffy 1999, pl. 12/17-24), Nagykálló (N. Kalicz, J. Makkay 1977, pl. 139/3-4), Kisköre-*Damm* (J. Korek 1989, p. 55).

[1]According to sources (J. Chapman 1981, p. 318), among discoveries that were attributed to the early Neolithic, we have mentions of discoveries at Srpski Krstur and Dudeștii Vechi (Beșenova Veche). There are reservations in regards to placing them in the early Neolithic (J. Korek 1989, p. 55; N. Kalicz, J.G. Szénászky 2001, p. 27-28).

The piece from Sânandrei is part of a category in which a whole *Spondylus* valve has been used and, by observing their position in graves from western and central Europe, is considered to be a belt accessory, more precisely a belt buckle[2]. Discoveries from Europe belong in two categories: valves "V-Klappe", "V-notched", "hooked-shaped buckle", "bi-winged", "entaillés Spondylus" and "Spondylusklappen", "runde Spondylusklappen", "pendant", "Spondyle biforee" (N. Nieszery 1995, p. 178-181; J. Müller 1997; N. Kalicz, J.G. Szénászky 2001; F. Ifantidis 2011). The piece from Sânandrei belongs *grosso modo* in the second category. Without intending to exhaust all similarities, we mention that similar pieces have been found in the culture of Linear Pottery at: Aiterhofen, graves 32, 68, 143 (N. Nieszery 1995, p. 181, fig. 95A), Sengkofen, grave 8 (N. Nieszery 1995, p. 181, fig. 95), Mangolding (N. Nieszery 1995, p. 181, fig. 95), Ensisheim, grave 13 (C. Jeunesse 1993, p. 59, fig. 3/1)[3], Worms-Rheindűrkheim, grave 6, Trebur, grave 63 (C. Jeunesse 2002, footnote 5), Wulfen, discovered in a burial ground (R. Laser 1959, p. 87-88, pl. 5a), Dřevečice (S. Vencl 1959, fig. 273/2), Zábrdovice (S. Vencl 1959, fig. 273/6); Moravský Krumlov (S. Vencl 1959, fig. 274/3), Rovanci, pit 46 (A. Bardec'kyj *et alii* 2016), Iža (J. Pavuk 1972, fig. 42), Blatné (B. Novotný 1958, pl. XXIX/3), Dispilio (F. Ifantidis 2011, p. 128, fig. 9, down), Vedrovice (V. Podborski 2002, p. 229-230, fig. 2/16-17), Vinča, depth 6.4m (V. Dimitrijević, B. Tripković 2006, p. 245, fig. 7/1), Odžaci-*Mostogna* IV (S. Karmanski 1977, pl. VII/1)[4], Obre II (A. Benac 1971, p. 97-99, pl. XXV/1-2), Cys-la-Commune (M.A. Borello, R. Micheli 2004, p. 78, fig. 4/3, 8; Musée d'Archéologie Nationale), Botoš (S. Marinković 2010, p. 31-33); Mezökövesd-*Nagy-fertö* (P. Csengeri 2004, p. 70, fig. 10, 11), Battonya-*Gödrösök* (G. Goldman 1984, Bild 2/1; N. Kalicz 1998, p. 106, Abb.9; N. Kalicz 1998, p. 31, fig. 7/2, 3; M.L. Séfériadès 2003, fig. 8), Vésztö-*Mágor* (K. Hegedűs, J. Makkay 1987, p. 99, fig. 22), Aszód (N. Kalicz1998, Abb. 9/up-right), Szilvásvárad-*Istálók-Höhle* (N. Kalicz, J. Makkay 1977, p. 158, pl. 106/1,2), Mezökövesd-*Nagy-fertö*, grave S 120, site 73 (P. Csengeri 2004, fig. 10-11), Kajdacs (N. Kalicz 1998, p. 31, fig. 7/1), Őcsöd-*Kováshalom* (P. Raczky 1987, p. 75, fig. 26), Zsadány (N. Kalicz, J.G. Szénászky 2001, p. 31), Kompolt-*Kistér* (E. Bánffy 1999, pl. 12/17-24), Szarvas 8/1 (D. Jankovich *et alii* 1989, pl. 6/10), Parța I (F. Resch, K. Germann 1995, p. 355, fig. 1/3, 5), Lumea Nouă (D. Berciu 1966, pl. V) and Tărtăria (S.A. Luca *et alii* 2017).

Out of all these analogues, the piece from Sânandrei is almost identical to those from Wulfen, Kajdacs, Blatné[5], Iža, Szilvásvárad, Őcsöd, Battonya, Parța and Tărtăria (fig. 4), all of them belonging to the IB2 type "valve a grande perforation central" according to the typology proposed by Michel Séfériadès (2003, p. 356-363). From a cultural standpoint, these pieces were discovered in sites that belong to the Liniar Pottery culture (the one from Wulfen: R. Laser, 1959, p. 87-88, pl. 5a), Transdanubian Linear Pottery culture (the one from Kajdacs: N. Kalicz, 1998, p. 31-32), the Želiezovce culture (those from Blatné and Iža: B. Novotný 1958, pl. XXIX/3; J. Pavúk 1972, p. 58), the Alföld culture (late stage)/ phase one of the Bűkk culture (the one from Szilvásvárad: N. Kalicz, J. Makkay 1977, p. 208), the earlier stages of the Tisa culture (the

[2]In the western part of the Liniar Pottery Culture area, at Vert-la-Gravelle and Larzicourt, "V-Klapen" can be found next to the head (A. Windler 2017, p. 103). This may indicate that these pieces could also be worn as pendants.

[3] A similar piece made from the fossil of *Megacardita planicosta* was found in the same grave (C. Jeunesse 1993, p. 59, fig. 4).

[4] Karmanski does not mention the gender of the deceased, but M. Seferiades (2010, p. 189) states that the piece was found in a woman's grave.

[5] If we look at the published photograph (B. Novotný 1958, pl. XXIX/3) it's possible for this piece to also belong to type IB2.

one from Őcsöd: P. Raczky 1987, p. 75, fig. 26), the Szkalhat/Tisa culture (Battonya: G. Goldmann 1984, p. 39 sqq; at N. Kalicz 1998, p. 106 is attributed to the old stages of the Tisa culture; J.G. Szénászky 1977; 1983; 1990), the Banat culture (Parţa I: F. Resch, K. Germann 1995, p. 352) and the Vinča culture, the B2-C phase (Tărtăria: S.A. Luca *et alii* 2016, p. 11). Unfortunately we don't know the stratigraphic context from which they come from in detail with the exception of objects from Wulfen, Battonya (*Gödrösök*, *Parasz-tanya* and *Formóza*), Őcsöd and Tărtăria.

The Neolithic sites from Battonya are geographically the closest to the Sânandrei site, situated 50 km to the north. In this area, in the *Gödrösök*, *Parasz-tanya* and *Formóza* locations, the largest number of IB2 and IB3 pendants was discovered. At the *Gödrösök* site, one was discovered in House 1 (G. Goldman 1984, Bild 2/1; N. Kalicz, J.G. Szénászky 2001, fig. 5/2=fig. 5/3=fig. 9/3). Based on the pottery inventory, it was attributed to the late stage of the Szakalhat culture/transition to the Tisa culture (G. Goldman 1984, p. 39-54). F. Horvath calls this stage the Tisa I phase or the "forming phase", also named "proto-Tisa"[6]. In absolute chronology, it starts in 5030 cal BC[7], situates itself in Vinča B2 and the beginning of the C1 phase (F. Horvath 2005, p. 67).

Also in the area of the Battonya settlement, in the *Parasz-tanya* location, the largest number of this type of pendants has been discovered (N. Kalicz, 1998, fig.9/3; N. Kalicz, J.G Szénászky 2001). Unfortunately, we only know the discovery particulars for one of the pieces, the one that was unearthed from House 2 (N. Kalicz, J.G. Szénászky 2001, fig. 4/5=fig. 8/6=fig. 9/6). From a cultural standpoint, this site belong to the Szakalhat culture [8] (J.G. Szénászky 1977; 1983; 1990, p. 160; G. Goldman, J.G. Szénászky 2009, p. 86).

In another site at the border of the Battonya settlement, at *Formóza*, another pendant has been discovered (N. Kalicz, J.G. Szénászky 2001, fig. 5/1=fig. 8/5=fig. 9/5), but unfortunately there's no mention of the context.

A pendant that is identical to the one from Sânandrei has been discovered in the earliest layer from Őcsöd, in the proximity of House number 7[9]. This layer is attributed to the Őcsöd A phase which belongs to the formative stage (I) of the Tisa culture and is characterized by a strong tradition of Szakalhat elements (P. Raczky 1987, p. 82). The 14C data of the Őcsöd A phase are situated in the 5181-4931 BC interval (A. Fűzesi *et alii* 2017, p. 34).

The Sânandrei piece shares great similarities with another pendant that was discovered at Tărtăria under the G1/200 pit in layer III (S.A. Luca *et alii* 2017, p. 15-16) that belongs to the Vinča culture (S.A. Luca *et alii* 2016, p. 11). The authors mentioned that this layer is dated through five 14C dates coming from the C.XLIV (one) and C.XLV (four dates) complexes. Their calibrated values situate themselves in the 5082-5797 BC interval (S.A. Luca *et alii* 2016, p. 11-12) and were "framed by us, largely in phase B of Vinča culture, maybe phase C of the culture" (S.A. Luca *et alii* 2016, p. 11). Recently though it's been established that the two complexes from which the data was compiled (D. Diaconescu 2017) do not belong to layer III, as previously

[6]Which corresponds to the Tisa I phase at N. Kalicz, P. Raczky 1987; N. Kalicz 1998, p. 106.

[7] According to 14C data from Szegvár-Tűzköves.

[8] 14C data that were taken from pit 13 (Bin-1966) and from houses 4 (Bin-1967) and 5 (Bin 1971; Bin-1970), show a very early horizon (J.G. Szénászky 1983), between 5427 and 5213 calBC (95.4% probability for Bln-1966) and 5321 and 5056 calBC (95.4% probability for Bln-1970). These data have led to the placing of the beginnings of the Szakalhat culture in the V-VI clusters that cover the 5300-5200 BC interval (F. Horváth, E. Hertelendi 1994, p. 118).

[9] Collegial information from Prof. Dr. Pál Raczky, whom we'd like to thank.

thought, but to the inferior layer (IV). The latter is "dated by us in Vinča A, probably A3/B1" (S.A. Luca *et alii* 2016, p. 11). Until these stratigraphic inconsistencies get sorted out, we are compelled to maintain some reservation when dealing with the reasoning behind dating the piece from Tărtăria[10]. Despite all this, we accept the cultural integration to Vinča. However, if we take into account the analogies present in all nearby similar objects like those from Battonya, Őcsöd and Sânandrei, it is highly likely that the pendant belongs to roughly the same time period, to be precise, the end of the sixth millennium and the beginning of the next one[11].

Besides these pieces and their stratigraphic positioning, as we've mentioned before, there were other, similar pendants discovered at Parţa I. Unfortunately, these came from the gravel bed of the Timiş river, which, at every flood, would erode the site further. The stratigraphy was established through research conducted between the years 1978 and 2001. Seven layers have been identified (7-1) out of which 7-5 belong to the Neolithic period (G. Őcsöd A phase Lazarovici *et alii* 2001, p. 68-70, 85-180). The 14C data indicate that these layers belong to a time interval situated between 5357 and 5077 BC (*mean* 5239 BC) and 5211 and 4857

[10] The closest analogues to the Tărtăria piece have been found in the deposit from Čepin-*Ovčara*: "seems to bethe closest to find from Tărtăria, both from a chronological and structural point of view" (S.A. Luca *et alii* 2017, p. 16). We have drawn these parallels based on the relative resemblance of the Tărtăria piece with the pendants from this deposit (B. Tripković *et alii* 2016, fig. 4/1, 6), the contemporaneousness between the two discoveries has been established by placing the 14C data from the two sites side by side (S.A. Luca *et alii* 2017, p. 16). In order to analyze the precision of this chronology, we shall start from the position of the deposit in the stratigraphic sequence at Čepin, the one that was discovered in a pit situated"next to a house belonging to the latest settlement horizon of the Sopot culture" (B. Tripković *et alii* 2016, p. 358), a fact that places this deposit in the final stage of this site's evolution. By taking this fact into account and by studying the stratigraphic positions of the 14C samples from Čepin, we concluded that the samples come from a number of layers, while the first belongs to the earliest horizon (Z-3750) and the other two (Z-3751 and Z-3264) to layers attributed to the classical period of the Sopot culture (B. Tripković *et alii* 2016, p. 346). Only the fourth 14C datum (Z-3263), with a calibrated value of 4537-4223 cal BC (87.5% probability), that date a burned house from the last settlement layer belonging to the late Neolithic in this site and which "falls mostly within the Eneolithic sequence of Sopot culture" (B. Tripković *et alii* 2016, p. 346), could also date the burial of the deposit in this site (for the absolute chronology of the Neolithic in Eastern Croatia see: M. Burić 2015). And so, neither of the 14C data invoked by our authors support the contemporaneousness between these two discoveries. "from (....) structural point of view "the Tărtăria piece can't be compared with the one from Čepin-Ovčara. The pendant from Tartaria is a singular discovery that is placed in the IB1 type, while the one from Čepin is part of a deposit formed from 15 pendants 58 beads out of *Spondylus* and 386 beads out of *Dentalium* and is placed in the IA1 type, according to M.L. Séfériadès typology (2003, p. 356-363) with multiple analogues (cited above) in burial grounds and settlements from the European Neolithic and Eneolithic. Anoher pendant, identical to the one from the deposit has been also discovered at Čepin (D. Rajković 2014, p. 28, nr. 68; B. Tripković *et alii* 2016, p. 354, fig. 15/a).

[11] The authors of the study about the Tărtăria piece mention that: "All these very close analogies allow us to suggest that the Tisa I culture– at least its classical phase – is contemporary with the discovery from Tărtăria- Gura Luncii [despite the fact that an older piece, belonging to the Szakálhát culture, was also published (...)" (S.A. Luca *et alii* 2017, p. 19). We should mention that, at the current stage of research, the Tisa I phase (at F. Horváth 2005 p. 67-68) corresponds with the Tisa I phase or Proto-Tisa, also named "Szakalhat-Tisa transition" (N. Kalicz, P. Raczky 1987, p. 26, 30), Tisa II (at F. Horvath) corresponds with Tisa I-II (at N. Kalicz, P. Raczky 1987), while Tisa III corresponds with Tisa I-II (classical Tisa) at N. Kalicz and P. Raczky. Thus "the Tisa I culture– at least its classical phase" has no correspondent in the archaeological reality of the Pannonic area and hence neither in the chronologic systems of the Tisa culture.

BC (*mean* 5041 BC) (F. Drașovean 2014a, p. 35-36; 2014b, p. 134-136). The pieces from Parţa I can probably be attributed to this interval in which the Szakalhat culture is present along with the start of phase A of the Őcsöd site and the Sânandrei layer 5. The evolution of the Transdanubian Linear leads us towards the same time interval (for the discovery from Kajdacs: N. Kalicz, 1998, p. 31-32), of the Zeliezovce culture (from those from Blatné and Iža: B. Novotný 1958; J. Pavuk 1972) and the Alföld culture (late stage)/phase I of the Bűkk culture (for that from Szilvásvárad: N. Kalicz, J. Makkay 1977, p. 208), all of them placed during phase B and the beginning of the next one in the Vinča culture. Pendants of the IB type are no longer encountered after this interval.

Getting back to the classification in accordance to typology in "V-Klappe", "V- notched", "hooked shaped buckle", "bi-winged", "entaillés Spondylus" and "Spondylusklappen", "runde Spondylusklappen", "pendant", "Spondylebiforée", these two types of pices, most of them discovered in burial grounds, were considered to be belt pieces objects (J. Pavuk 1972, p. 56-61; N. Kalicz, J.G. Szénászky 2001, p. 31-33; N. Nieszery 1995, p. 178-181; M.L. Séfériadès 2010, p. 189; A. Bardec'kyj *et alii* 2016, p. 190-191; M. Kűßner 2017 p. 49-62; J. John 2011, p. 39-40). Even more so, based on the anthropological analysis of the deceased, it's mentioned that the pieces that belong in the first category are accessories from the men's wardrobe[12] while those from the second category are part of the women's clothing (N. Nieszery 1995, p. 181, 185; C. Jeunesse 1996, fig. 3; M.A. Borello, R. Micheli 2004, p. 77; A. Bardec'kyj *et alii* 2016, p. 187-189). However, this rule did not always apply (J. John 2011, p. 44; M. Küßner 2017, p. 49-50). Yet, if we analyze the archaeological context in which they appear and their territorial distribution, we observe that the IA type (M.L. Séfériadès 2003, p. 356) was discovered mostly in a burial environment while types IB2 and IB3 are encountered mostly in settlements (N. Kalicz, J.G. Szénászky 2001, p. 36, 39, 40-43). Also, in the burial grounds belonging to the Linear Pottery culture it's been found that type II ("V-Klappe", "V- notched", "hooked shaped buckle", "bi-winged", "entaillés Spondylus") is older and this would be a characteristic of this culture in Western and Central Europe[13]. IB discoveries are, with only one exception[14], situated in the Danube's middle basin. Based on these observations, N. Kalicz, and J. Szénászky called them "Hungarischetypus" or"karpatenländischenKlappen" (2001, p. 31). It has also been observed that IB pieces do not belong to only one sole culture. Instead, they are encountered in the Linear Pottery culture, the Szilmeg, Bukk, Esztar, Szakalhat, Vinča and Banat cultures that spread over the entire middle and late Neolithic period. These observations, when compared to the functionality of similar pieces crafted from clay, called "amulettenhänger" or "schildidole" from the Linear Pottery culture[15](N. Kalicz 1998, p. 30-32, fig. 6), call into question the their exclusive purpose as clothing accessories (N. Kalicz, J.G. Szénászky 2001, p. 51). It is believed they were also considered to be amulets (N. Kalicz 1998, p. 36-37, 41).

Without rejecting these possibilities, the Sânandrei piece stands out through the bead's subsequent inclusion in the body, which also suggests a different purpose. Since it is unlikely that the bead was used alone (originally, as part of a necklace), we believe that keeping it singular and including it in another object may indicate its use in ritual practices. The tie

[12]See *supra*, note 2.

[13] Such pieces have been also discovered at Botoš (S. Marinković 2010, p. 34, fig. 37), Dispilio (F. Ifantidis 2011, p. 129, fig. 8), Vršac-*Potporanjske granice* (O. Bajčev, I. Stojanović 2016, tab. I) and Kargadur (D. Komšo 2007).

[14] The one from Wulfen was discovered in a burial ground (R. Laser 1959, p. 87-88, pl. 5a).

[15] These objects were considered to be idols and not parts of wardrobe (N. Kalicz 1998, p. 30-32).

between the two objects could signify the union of all the human relations embodied in each of them, their collapse and perpetuation, as well as the continuation of a well-defined social situation by keeping an object belonging to the deceased and integrating it into the object of a living person, as an expression of maintaining the ties between the deceased and the living[16]. The bead's newly acquired significance exclude the possibility that it had been lost or thrown away between the ruins of the house, and makes us believe that in this new hypostasis it was used as an object with a special social and magical-religious charge in threshold practices related to leaving the house.

After a careful analysis of all that's been mentioned above about the Sânandrei piece, we can draw the following conclusions:

1. The piece belongs to the IB2 type[17] (at M.L. Séfériadès 2003, p. 356) and was discovered among the unburnt ruins of of a house in the 5d layer. The beginnings of this layer have been dated between 5483 and 4857 BC, *mean* 5085 BC, absolute values that place it at the end of the B phase, contemporary with the 6a layer from Parța and before 3b layer from Uivar, attributed to the C1 phase. From a cultural standpoint, the 5d layer belongs to the Banat culture, phase IIB-IIC.
2. The piece was crafted from the left valve of the seashell and, as the wear and tear from the two lateral holes shows us, it was used for a long period of time. When trying to figure out the purpose of this piece, the direction which the lateral holes were smoothened indicate a state of continuous and prolonged tension at an angle that reveals that the piece was part of a system of strings or ropes. It was worn around the waist, not the neck. And so, we consider that, at least initially, the piece was used as part of a belt, having the purpose of a buckle.
3. If the type, which is universally called "Spondylusklappen", "runde Spondylusklappen", "pendant", "Spondyle biforée", appears in the Linear Pottery culture graves in Western and Central Europe most often as a clothing accessory for women, the Sânandrei type is different. The latter is characteristic for the middle Danube area and is encountered in settlements. Hence we don't believe we can extrapolate based on the observation made in the funerary context in those areas when it comes to the Sânandrei piece. We also can't eliminate the possibility that it was indeed a clothing accessory for women.
4. Unlike the other pendants in Western and Central Europe, the Sânandrei valve's edge was painted around the margin with a black color, identical to that used in painting pottery from layer 5. Another detail that singles out the piece is the presence of a hole that was made later on the right side of the valve but also the fact that this hole hosted a bead made from the same material. It is probable that this detail was important and carried some special significance for the wearer of the piece. It's also possible that this detail was part of changing the initial purpose of the object (M. Nikolaidou 2011, p. 225-226).
5. The Sânandrei belt accessory is a prestige piece that reveals the distinct social status of the ones that wore it. We cannot know how the piece was used after the introduction of the bead nor if the reasons that led to this transformation changed the piece's

[16]See also the comprehensive analysis of the fragmentation of Dimini's *Spondylus* rings (J. Chapman *et alii* 2011).

[17] Initially, through the two lateral perforations and the central one, the valve was labeled as IB2 type, however the adding of a third hole to host the bead has placed the object in the IB3 type.

purpose from social/pragmatic to magical. Unfortunately, the discovery context does not allow us to draw more conclusions. If the piece would have been discovered in the house's floor, then the observations would have been different, related to magic and foundation rituals. The position in which it has been discovered eliminates this possibility. It's highly plausible that the piece was either on the floor or between the walls ruins which leads us to conclude that the piece was lost or thrown away or used in a ritual and stored somewhere. If the first situation is hard to accept since we are talking about a prestige piece, the latter makes a lot more sense. In a second phase, after making the third hole and introducing the bead, the piece could have been used as a magical representation with a concrete value (M. Mauss, H. Hubert 1996, p. 96) in the context of threshold rituals and perhaps those of leaving the home, a ritual that would entail, among other things, burying a possession with a social or magical value between the walls (A. Van Gennep 1999, p. 145). We conclude that the piece from Sânandrei was a prestige object initially used as a belt accessory and, after modifications, turned into an object with a special social value due to a newfound social, magical or religious charge.

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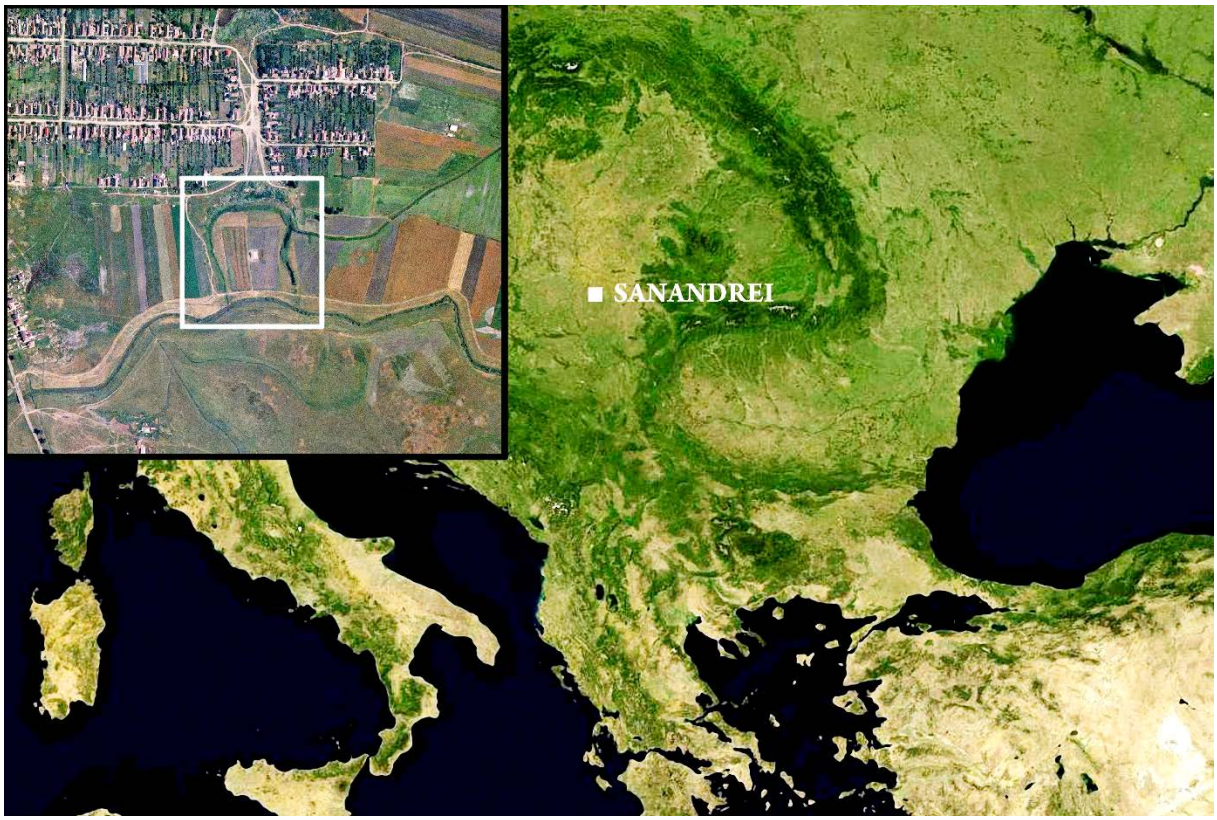

Fig. 1. The marked location of the Sânandrei site on a map of south-eastern Europe (*apud* F. Drașovean, F. Marțiș 2014).
Harta Europei de sud-est cu localizarea sitului de la Sânandrei (*apud* F. Drașovean, F. Marțiș 2014).

Fig. 2a. The exterior side of the piece made from a *Spondylus gaederopus* seashell valve.
Partea exterioară a piesei făcută din valva scoicii *Spondylus gaederopus.*

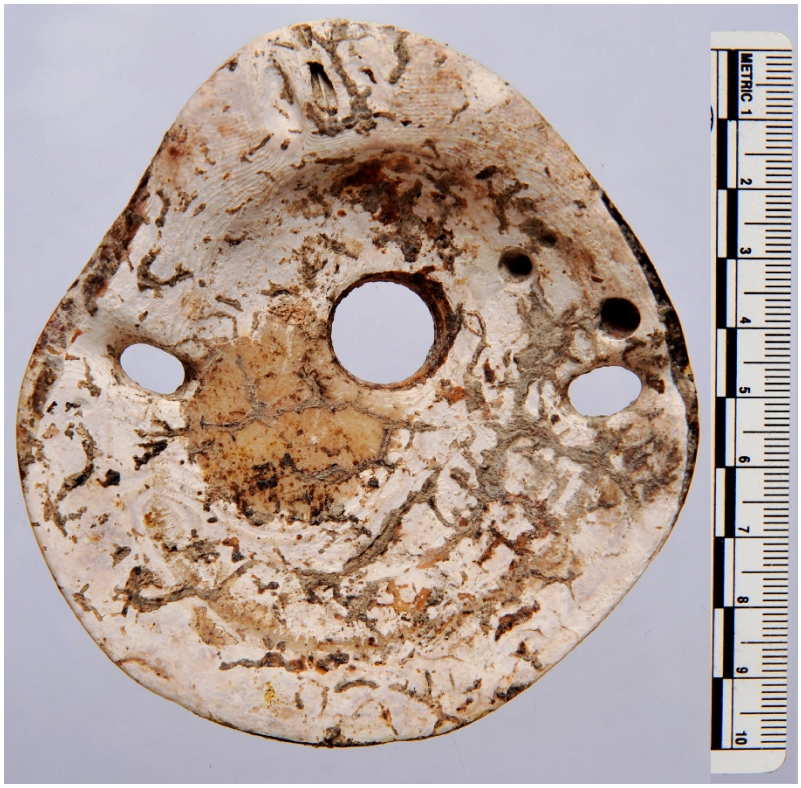

Fig. 2b. The interior side of the piece made from a *Spondylus gaederopus* seashell valve.
Partea interioară a piesei făcută din valva scoicii *Spondylus gaederopus.*

Fig. 3. a. The exterior side of the valve with the bead inserted in the object's body. Detail. **b.** The interior side of the valve with the bead inserted in the object's body. Detail.
a. Partea exterioară a valvei cu mărgica inserată în corpul piesei. Detaliu. **b.** Partea interioară a valvei cu mărgica inserată în corpul piesei. Detaliu.

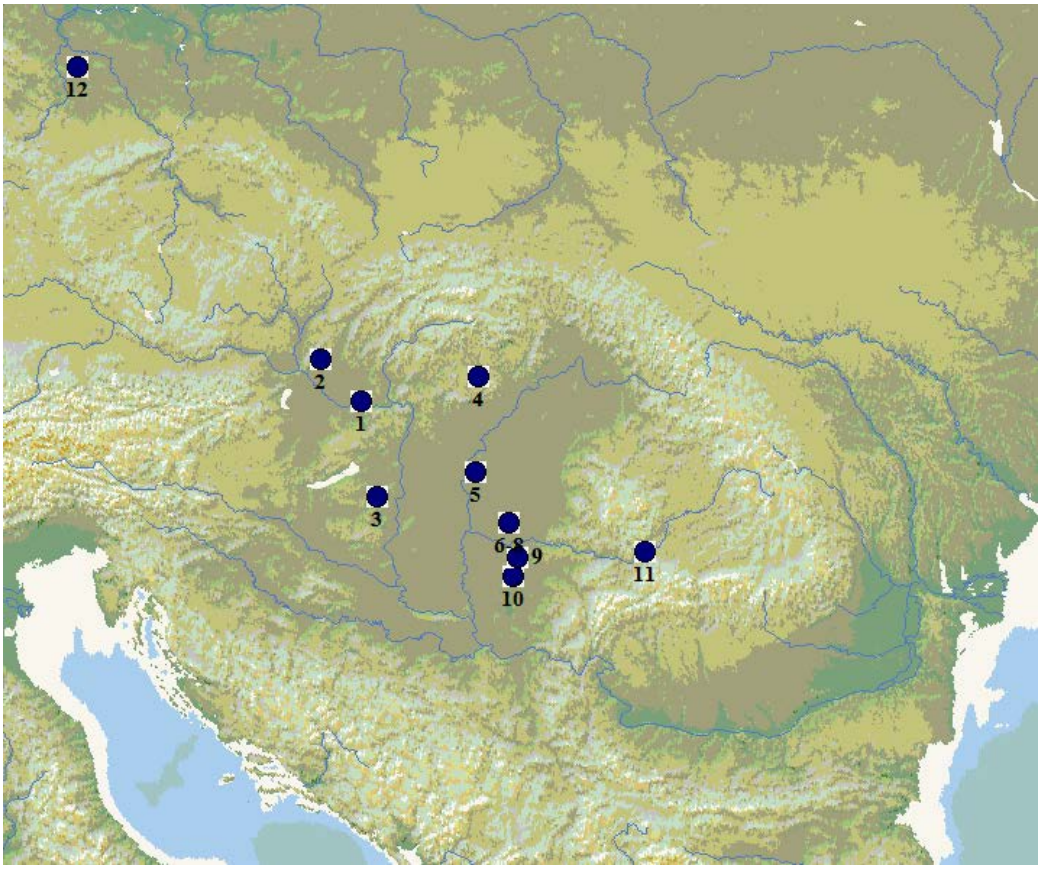

Fig. 4. A map showing the location of IB2 and IB3 type objects: 1, Iža; 2, Blatné; 3, Kajdacs; 4, Szilvásvárad; 5, Őcsöd; 6-8, Battonya (*Gödrösök*, *Parasz-tanya* and *Formóza*); 9, Sânandrei; 10, Parţa; 11, Tărtăria; 12, Wulfen.
Hartă cu răspândirea pieselor de tipul IB2 și IB3: 1, Iža; 2, Blatné; 3, Kajdacs; 4, Szilvásvárad; 5, Őcsöd; 6-8, Battonya (*Gödrösök*, *Parasz-tanya* și *Formóza*); 9, Sânandrei; 10, Parţa; 11, Tărtăria; 12, Wulfen.