

*Valentina VOINEA*

**CAUSES OF THE END OF THE ENEOLITHIC IN THE  
AREA OF THE WEST - PONTIC COAST. THE  
SETTLEMENT FROM THE ISLAND OF “LA OSTROV”,  
ON LAKE TAŞAUL (NĂVODARI, CONSTANŢA COUNTY)**

The progress that we have seen during the last decades in the sphere of the inter-disciplinary theory has left its mark on the archaeological investigation and interpretation methods too. It is not surprising that the theme of natural catastrophes, narrated metaphorically since ancient times, returns to the attention of researchers, after being considered, for a long period of time, a naïve interpretation of a fantastic literature<sup>1</sup>.

In this context, the causes that determined the end of the ancient Gumelnița civilization appear to us much more complex than it was initially thought, and the hypothesis of the violent penetration of some north-Pontic tribes<sup>2</sup> is still contested today. More than any other region, the area of the north-Pontic shore impresses both through the spectacular funerary discoveries from Varna (MACHT 1988; LE PREMIER OR, 1989), Durankulak (DURANKIULAK, 2004) and Devnia (TODOROVA H.,

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<sup>1</sup> The controversies concerning the amplitude and the duration of the Neolithic transgression in the Black Sea are far from being solved; the theories vary from the diluvial theory, proposed by the geologists W. Ryan and W. Pitman, in the work *Noah's Flood: the new scientific discoveries about the event that changed history* (1998), recently supported also by P. Dimitrov (DIMITROV P., 2003), to the hypothesis of some slow geomorphologic changes, accelerated only during the last millennium, owing to the anthropic factor (GENOV I., PEYCHEV V., 2001). In the manifest-article *Use of systematic, Paleoflood and Historical Data for the Improvement of Flood Risk Estimation. Review of Scientific Methods*, several researchers have emphasized the imperative necessity of designing an ample project which could allow the systematic processing of the latest data obtained from inter-disciplinary research – either geological, hydraulic, palinological, malacological etc. – concerning the climatic evolution and the geomorphologic changes that took place during the Holocene (BENITO G. et alii, 2004). Otherwise, the truncated, partial presentation of the investigations risks distorting more and more the scientific truth.

<sup>2</sup> In 1981, P. Roman wrote: In the eastern half of Muntenia and in Dobrudja, and south of the Danube down towards Varna, partly over a Cernavodă I basis, and partly over a void produced by the dislodgement of these populations (s.n.), we see the settling of the tribes that penetrated during the Usatovo movement, whence a new culture resulted, which received its name from another representative settlement from Cernavodă (II), situated on a low terrain, close to the Danube (ROMAN P., 1981, p. 40). E. Comşa considered that the lack of the late Gumelnița settlements around the coast could be explained by the penetration of the north-Pontic tribes, which have dislocated and assimilated the local communities (COMŞA E., 1991, p.174).

1971a), as well as through the fast disappearance of the flourishing Eneolithic settlements, without the cultural metamorphoses that were so habitual in other regions. What exactly led to the end of these flourishing communities, and how did their disappearance influence subsequently the evolution of the Gumelnița settlements from the neighbouring regions?

Prior to the presentation of the data referring to the end of the Eneolithic in the region mentioned above, we deem appropriate a study – the analysis of the last habitation level of the Gumelnița settlement of the island of “La Ostrov”, Lake Tașaul (Năvodari). As the recent discoveries at this site have been described in the preliminary accounts (MARINESCU-BÎLCU S. et alii, 2000-2001, VOINEA V., 2001), we will dwell now only on those aspects that are connected with the last Eneolithic level.

Even if the waters of the lake have destroyed much of the settlement, the stratigraphy that was best glimpsed in the north-western part of the island offers us important clues concerning the end of the habitation. In the Sα section (8 sectors of 4 by 4 metres, 128 square metres), under the vegetal level, whose thickness does not surpass 0,30 m, we have discovered a compact layer of rocks, chaotically positioned (fig. 1), without delineating foundations as in the case of the constructions from Durankulak (DIMOV T., 2003). The blocks of stone are to be found all over the island, and they are present in the Sβ, Sγ and Sδ (fig. 2) surveys. That is why we rule out the possibility of an anthropic action that would have led to the formation of that layer. After the analysis of the sediments, C. Haită has reached the following conclusion:

*The silt matrix with elements of pebble corresponds to a natural accumulation, in another period of rising of Lake Tașaul’s water level. What we cannot say for sure is to what chronological moment it corresponds.* (HAITĂ C., 2000 – 2001, p. 152).

The stratigraphic position of this rock layer suggests a moment that is close to abandonment, as the blocks of stone cover directly the last habitation level. Thus, vessels that could be made whole again, broken *in situ*, or even complete, have been discovered, on the entire investigated surface, underneath and among the blocks of stone. (fig. 3 – 4).

The last level of habitation, having the texture of a flooded layer<sup>3</sup>, impresses by the richness and the diversity of the biological material (fig. 5 – 6):

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<sup>3</sup> In the study of the sediments, C. Haită wrote: *A last stage in the history of the island takes place after the abandonment of the settlement, and it begins with the accumulation of the level with frequent ceramic fragments; these display a rolled aspect, and their sedimentary matrix has the characteristics of transformations in a damp state.* (HAITĂ C., 2000-2001, p.152)

- blades, “*burinas*”, graters, microlites, little axes, small silex chisels, schist, anchor and weights for the fishing nets, cut out of limestone;  
- needles, spikes, small chisels, polishers, bone spindles, horn handles;  
- spindles, weights, ceramic colanders;  
- copper spikes;  
- bone, stone and pierced shell beads;  
- bone idols, with a rectangular upper side and idols of the type *en violon*.

The pieces display different stages of fashioning and wear: unrefined, whole or fragmentary, with strong signs of wear, burned.

The ceramic material discovered in this level finds its best analogies in the Gumelnița A2 final levels from Hârșova and Carcaliu: dishes with an inwardly inclined edge (LĂZURCĂ E., 1984, pl. VI / p. 431), large platters (HAȘOTTI P., 1997, fig. 105), bowls of small dimensions, with careening or bulging shoulders (HAȘOTTI P., 1997, fig. 102 – 103), vessels with a tall, tronconical neck (LĂZURCĂ E., 1984, pl. IX / p. 434; HAȘOTTI P., 1997, fig. 104), supply vessels with a bulging shoulder and a short, straight margin (LĂZURCĂ E., 1984, pl. X / p. 434; HAȘOTTI P., 1997, fig. 103). Along with the typically Gumelnița decoration (graphite painting), there are also, in a low percentage, elements of the Varna tradition: black polished engobe – *pseudofirnis* – and the decoration of the *Ezerovo* type (incised, notched motifs, covered with white or gray paste, alternating with polished surfaces). H. Todorova has dated these decorative elements, seen in a much larger percentage in the settlements from the regions of the Varna – Beloslav lakes, during the Varna 2 c – 3 c phases (TODOROVA H., 1971b; TODOROVA H., TONČEVA G., 1975, p. 45).

Also worthy of remembering are a few decorative elements used both at the end of the Gumelnița A2 phase, and during the Gumelnița B1 / Varna III phase. We mention the luxury category of the bi-tronconical, bulging shoulder vessels, for the decoration of which two techniques were associated: graphite painting – motifs organized in registers, on the neck – and “parantheses”-like impressions, positioned in horizontal rows, on the bulging part of the belly. Pieces similar to the ones from Năvodari (MARINESCU-BÎLCU S. et alii, 2000-2001, pl.12 / p. 146), with or without little conical ears, have been discovered on the entire area of the Gumelnița – Karanovo VI cultural complex: in the coastal region, in Kozareva – a tell in the vicinity of Kableshkovo – (GEORGIEVA P., 2003, fig. 4: 1-4 / p. 228), in northern Thrace, in Karanovo (HILLER St., NIKOLOV V., 1997, Tafel 137:4, 8), in the vessel complex of Smjadovo (POPOV N., 1987; MACHT, 1988, Kat. 18 - Abb.4 / p. 86), in Dolnoslav (MACHT, 1988, Kat. 23 – Abb.46 / p.88), north

of the Danube, in tells like Căscioarele (VOINEA V, 2003, pl.123), Sultana (ANDRIEȘESCU I., 1924, pl. XXV, 3-4 / p. 88; pl. XXX-XXXI / p. 95), Pietrele (HANSEN S., DRAGOMAN A., et alii, 2005, fig. 19:4 / p. 23), in Dobrogea, at Cernavodă (SCHUCHHARDT C., 1924, Abb. 7 / p. 15) etc.

The chronological inclusion of the last level that was flooded during the final Gumelnița A2 phase is also suggested by the presence, in this layer, of some Cucuteni type C imports – 2 shallow ceramic fragments, with shells in their paste, decorated with the “comb” (VOINEA V., 2001). After the periodization proposed by A. Dodd – Oprețescu<sup>4</sup>, the import dates from the old phase, when the string-like decoration had not appeared yet, being also partially contemporary with Cernavodă Ia (DODD-OPREȚESCU A., 1980, p. 548; 1981, p. 511). The oldest imports of this kind in the Gumelnița area have been seen on the line of the Danube, in the final Gumelnița A2 level in Carcaliu (LĂZURCĂ E., 1984; 1991)<sup>5</sup>, and in the Cernavodă Ia level, next to Cucuteni A4 imports, in the tells from Hârșova (POPOVICI D., HAȘOTTI P., 1988-1989, p. 291; HAȘOTTI P., 1997, pp. 128-129)<sup>6</sup>.

In the same flooded level, a wholly special complex was discovered, unique until now in the Gumelnița area – a double grave<sup>7</sup>. Its hole, covered by cemented silt sediment, pierces the destruction level of a dwelling (L.I) of the lower layer, and in the filling, there are pieces of baked adobe. The clear stratigraphic situation determines us to attribute this grave to a habitation sequence. If the NNE-SSW orientation is found in the majority of the

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<sup>4</sup> The oldest Cucuteni C ceramic material, discovered in the Cucuteni A4 environment in Dragușeni and Fedeleşeni, is characterized by shallow paste, mixed with minced shells, striped decoration, made with the “comb” (an indented matrix, possibly the edge of a shell), associated with impressions. The motifs – festoons, beams, undulations, spirals – cover most of the exterior surface, especially the neck and the shoulder. Beginning with the Cucuteni A-B2 phase, the decoration of the type C category simplifies, string-like motifs appear, *au repoussé* buttons. In the Cucuteni B phase, we witness a process of assimilation to the Cucuteni fashion of the C type of ceramics: the degreasers diversify, the oxidizing baking appears more and more often, and the string-like decoration evolves – and the predominant motif, the beam, is rendered in various techniques. (DODD-OPREȚESCU, 1980, pp. 548 – 550)

<sup>5</sup> E. Lăzurcă has included the Cucuteni type C ceramics in the old phase, “*as it is decorated only with comb-made impressions and with sting marks, and the ones with the string are completely absent*” (LĂZURCĂ E., 1984, p. 17)

<sup>6</sup> At the basis of the Cernavodă Ia level (the L4 dwelling), Cucuteni A3-A4 and Cucuteni type C ceramic imports have been discovered.

<sup>7</sup> As they were discovered in different campaigns, the two skeletons have initially been registered, out of prudence, as G. 1 (1999) and G. 2 (2002). After the total dismantling of the two structures made of stone blocks, we observed that the two bodies had been put in the same hole, in a “two-storied” grave.

contemporary funeral discoveries, the placing of these two bodies was not so usual:

- the first skeleton, in a crouching position on the left side, had its arms bent, placed in front of its head, and it was set on a stone bed (fig. 7-8); in the filling of the hole, ceramic fragments have been discovered, originating from three vessels that could not be made whole again, a horse phalanx, polished on one side, with traces of red ochre, a silex tip and a small axe (MARINESCU-BÎLCU S. et alii, 2000-2001, p. 125); according to the preliminary archaeological study, the skeleton belonged to a man who was over 60, of a sub-average stature (BĂLTEANU A.C., 2004-2005);

- the second skeleton has appeared under this stone structure, lain on its back, with its lower limbs bent towards the right, the right arm bent from the elbow and lifted up at the face's level, the left arm stretched along its body (fig. 9); inventory – ceramic fragments, a tip, a grater and a silex blade, a schist spindle (fragmented). The hole's filling covered another structure, also made of stone blocks, directly over the schist elevation (fig. 10) (MARINESCU BÎLCU S., VOINEA V. DUMITRESCU S., 2003, p.211).

For the region of the west-Pontic coast, an *intra-muros* funeral was recorded only in the Batareiata point (situated north-east of Varna); on the occasion of construction labour, people have discovered here a grave with no inventory, with the skeleton in a crouching position, sitting on the left, with the head oriented towards the north (MIRČEV M., 1961, pp. 120 – 122). The cultural attribution was done on the basis of the pieces discovered near the grave, in a destruction level (burnt bones, baked adobe); the ceramics displayed analogies with the one discovered in the layer VII from Durankulak, dated to the Hamangia IV phase (SLAVCEV VI., 2000-2001, 2003).

It is possible that the double grave from Năvodari was not singular, because, among the fauna remains, sparse human bones have been discovered – 7 long bone fragments, and two metapodes, with no anatomical connection between them (MOISE D., 2000-2001, pp. 155 – 164).

The lack of an abandonment level between the stones and the flooded layer, the richness of the archaeological material dispersed on the entire investigated surface, as well as the presence of the double grave suggests the fast abandonment of the settlement, probably caused by a quick flood. Following the excavations in the zone of Lake Taşaul, Daniela Popescu and Caraivan Glicherie have propounded the next re-enactment of the landscape for the period at issue:

*The level of the Black Sea was with about 20 m lower than today's level. On the current place of Lake Taşaul, the river Casimcea flowed on a deeply incised valley, with steep slopes, ending in a fluvial-marine liman,*

*probably barred by a coastal belt, situated much more in the offing. (...) During the period 7000 – 3000, an intense alluvial process of the coastal sector situated south of the Clisargic promontory takes place, in the context of the continuous rise of the sea level, nearing the current height. The coastal belt was probably situated between the two promontories, represented today by the islands of Ada and La Ostrov, but at much lower heights (between -15 / -10 metres). The Casimcea River was rather strong, and pierced the coastal sand barrier (POPESCU D., GLICHERIE C., 2002-2003, p. 57).*

This data comes in concordance with the ichthyological analysis made on an osteological batch, taken from the flooded level: it has been noticed that the both the number of osteological remains and the dimensions of the determined individuals are superior for the fresh water taxa. Of the total of 154,673 kg, estimated on the basis of the reconstruction of the dimensions, 88 % represent fresh water fish: carp, catfish, pikeperch, perch, average or large perch (RADU V., 2000 – 2001, pp. 167 - 168)<sup>8</sup>. Fishing was done chiefly in fresh water, as the Eneolithic settlement was probably situated on a promontory near the mouth of the Casimcea River. The rise of the water's level, corroborated with the vertical, descending movement of the tectonic block, to which we add an important water presence from the Casimcea Valley – all these geomorphologic transformations could determine the flooding of the settlement (HAITĂ C., 2000-2001, p. 152).

The same geographical position – at the mouth of a river, close to the sea – went also for the majority of the “lake” settlements<sup>9</sup> of the west-Pontic coast, dating from the end of the Eneolithic and/or to the early Bronze Age (according to Bulgarian periodization): at the mouth of the rivers Djavolska, Ropotamo, Patovska, Batova, in the Kamcia valley – from the juncture point of the Louda and Goljama Kamcia rivers, up to the point where they flow into the sea – and in the Provadyska valley, the most populated of them all (LAZAROV M., 1993; IVANOV I., 1993; 1994; DRAGANOV V., 1995). Only a rapid rise in the seawater's level could have led to the simultaneous flooding of the Eneolithic settlements clustered in this valley: Ezerovo I (Train station), Ezerovo II, Strachimirovo 1 (east), Poveljanovo, Morflotte

<sup>8</sup> The marine species – sturgeon and dorado – appear very rarely, as fishing in the open sea was of scant importance; because the dorado is harder to fish in the open sea, V. Radu suggested that it was captured on the Casimcea River's canals that flow into the sea, in the area of a lagoon (RADU V., 2000-2001, p. 168).

<sup>9</sup> The underwater research undertaken in Arsenala have demonstrated the lack of grounds for the term of lake settlements; what was initially thought to be palafitte dwellings have turned out to be suddenly flooded constructions, with a wooden superstructure that was well-preserved in the sedimentary accumulations (MARGOS A., 1978; ZMEIKOVA I., 1991; IVANOV I., 1993; LAZAROV M., 1993)

(Varna I) and Arsenală. I. Ivanov was inclined to accept the idea of a large scale cataclysm, which would have ended the existence of the Eneolithic settlements of the Varna area, and he brought as arguments the following elements: the layer of rocks that directly overlaps the late Eneolithic pieces and the presence of the pollen in the flooded level, covered by the rock layer (IVANOV I., 1989, p. 56).

How did this phenomenon come into being?

According to the chronology that was established by the Bulgarian researchers, the end of the settlements' existence came at the end of the Eneolithic, during the Varna I final phase. Owing to the rise of the seawater's level, the coastal area was abandoned for over 200 years (4100 – 3850 BC), with the exception of the late settlement of Sozopol (DRAGANOV V., 1995, p. 236). By confronting the C14 data that were published for the "lake" settlements (BOJADŽIEV J., 1995, tab. 5 / p. 183) with the chronological table of the Romanian Eneolithic (BEM C., 2000-2001, pp. 44-45, fig. 7 / p. 49), we obtain, for the 4000 – 3900 cal. BC interval, the following synchronicities:

Gumelnița A2c – beginning of Gumelnița B1 – Cernavodă Ia - Cucuteni A3 / A4 – Varna III.

Even if, at first sight, the synchronicities may seem impossible, a thorough analysis of the C14 data, in relation to the ceramic imports coming from a Cucuteni environment (Cucuteni A3 and Cucuteni type C – the old phase), make this contemporaneity comparison possible. While the Gumelnița communities from Dobrudja and north-eastern Muntenia kept their old traditions, as the ceramic material is predominantly of Gumelnița A2 tradition, in the rest of the Romanian plain, we notice more and more elements of a western persuasion (probably coming in from a Sălcuța-Krivodol environment), which determines the transition to the Gumelnița B1 phase. This explains the presence of the Cucuteni A3 imports, both in a Gumelnița A2 level, in Brăilița, Lișcoteanca (the sites of *Moș Filon* and *Moyila Olarului*), Rîmnicelu, Cireșu (HARTUCHE N., 1980), Carcaliu (LĂZURCĂ E., 1984; 1991), Hârșova, Târgușor - *Sitorman* (HAȘOTTI P., 1997, p. 101), and in a Gumelnița B1 level, in Gumelnița and Căscioarele (DUMITRESCU VI., 1964).

The stratigraphic situation from Hârșova rules out the possibility of some violent invasions; between the Cernavodă Ia and Gumelnița A2 levels, there is no stratigraphic pause, as the first dwellings from Cernavodă were built over a layer of levelling with ceramics from Gumelnița. At a simple analysis of the artifacts discovered in these dwellings, the Gumelnița tradition is obvious, showing a peaceful cohabitation of the two communities.

In the area of the west-Pontic coast, nothing suggests a violent penetration of the eastern tribes; over the level of the final Eneolithic (Varna III), flooded in most of the investigated settlements, a period of abandonment has followed, a period during which the destroyed dwellings have been covered in an alluvial layer, rich in sea shells. During the period of the early Bronze Age – by the periodization of the Bulgarian researchers – the habitation was resumed, but for a short while only, as the “lake” settlements were again flooded. In the interval of time comprised between the end of the Eneolithic and the beginning of the Bronze Age, the eastern presences from the west-Pontic space boils down to funerary discoveries and isolated pieces (ISTORIA DOBRUDJA, 1984, p. 57). Situated in the central area of Dobrudja, the Casimcea grave (HAȘOTTI P., 1997, p.130-131) delimits the direction of the sporadic eastern penetrations, beyond the Danubian line, towards the interior of Dobrudja and from here, further on, down to the coastal area. Among the funerary discoveries from the west-Pontic region, we mention the tumulus grave from Reka Devnia (MIRČEV M., 1961, p.117 – 120) and the 17 graves<sup>10</sup> from the Durankulak necropolis, dated to the Cernavodă Ic phase (Renie) / Protojamnaja (DURANKULAK, 2004). To this, we add fortuitous, uncertain discoveries – a tumulus grave in Agigea, a grave in Baia-Hamangia (HAȘOTTI P., 1997, p. 131) and other graves with an uncertain inclusion<sup>11</sup>, discovered in Sarichioi (OBERLÄNDER-TÂRNOVEANU E. and I., 1979).

While the “lake” settlements from the Varna region have been flooded, south of Burgas, in the Sozopol harbour, a late Eneolithic enclave has been maintained. The underwater investigations that were undertaken here have allowed for the reconstruction of the terrain’s configuration – the settlement, dating from the end of the Varna III culture and the beginning of the Cernavodă I culture (4100 – 3850 BC), was situated near the mouth of the Patovska River, in a marshland, where the Varna III communities could survive for a longer period of time (LAZAROV M., 1993, p. 10; DRAGANOV V., 1995, pp. 236, 239).

What were the causes of these population displacements – locals and aliens?

The inter-disciplinary studies complete more and more, like in a puzzle, the general picture of the climatic changes from the end of the Atlantic. The chronological interval 6050 – 5600 cal. BP / 4100 – 3650 BC

<sup>10</sup> The graves G. 12, G. 15, G. 24, G. 119, G. 128, G. 162, G. 164, G. 166, G. 181, G. 190, G. 448, G. 982, G. 985, G. 99, G. 1028, G. 1061, G. 1126.

<sup>11</sup> Lacking elements for certain dating, the authors have included the graves “*in a culture from the end of the Neolithic and from the beginning of the Bronze Age*” (OBERLÄNDER-TÂRNOVEANU E. și I., 1979, p. 64)



was characterized by a pronounced warming of the climate, with long, hot summers (TOMESCU M., 1998 – 2000, p. 268). In order to stress the amplitude of these phenomena, we mention only a few timely conclusions, concerning the modifications of the paleo-environment from different micro-regions.

In eastern Macedonia (the Drava basin), the lowest alluvial accumulations on the Xeropotamos River have been recorded at the end of the final Neolithic and during the period of the early Bronze Age, following a rainfall deficit (LESPEZ L., 2003). Again for the Balkan Peninsula, we mention the palinological data, obtained from sediments taken from two sub-alpine lakes (altitude: 2320 – 2340 m), situated in the Rila Mountains (Bulgaria); we mention the same aridity of the area after 6000 BC, and the percentage of coniferous trees decreases, in favour of the deciduous species (TONKOV S., MARINOVA E., 2005).

North of the Danube, in the region of Maramureş (L. Preluca Țiganului, Munții Gutâiului), the palinological analyses indicate an altitudinal expansion of the hornbeam (*Carpinus*) after 5750 BC, in the context of a climatic warming (FEURDEAN A., 2005). In the central European area, after the period of *optimum climatic* (7500 – 6300 BC), some major climatic modifications are registered; in the context of the warming of the climate during the period 6300 – 6000 BC, the forest limit northwards of the Swiss Alps reaches the maximum altitude of 2260 m (WICK L. et alii, 2003). The palinological, malacological and sediment analyses made for L. Neuchâtel indicate a strong warming during the interval 6000 – 5000 BC, associated to an increase in the erosion rate (SCHWALB A. et alii, 1998).

The effects of this warming have made their presence felt in the coastal areas too, determining the process of the marine transgression. That is why the Neolithic transgression in the Black Sea's basin must not be regarded as an isolated phenomenon, as similar events, for the same chronological interval (6000 – 5500 BC) were recorded in distant regions – in the coastal area of the Indian Ocean (DALONGEVILLE R., PRIEUR A., 1995)<sup>12</sup>.

In the area of the west-Pontic coast, the late Atlantic period (6300 – 6000 BC) was characterized, as the pollen diagrams made for the Varna, Durankulak, Shabla – Ezeretz Lakes indicate, by the receding of the mixed coniferous forests and by the expansion of the lands cultivated with cereals

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<sup>12</sup> The French archaeological mission, led by R. Boucharlat has begun, starting with 1984, ample archaeological and inter-disciplinary research in the area of the oriental coast (the Indian Ocean) of the United Arab Emirates. During the first period of the shore's evolution (6000 – 5500 BC), the ocean's waters have invaded the coastal area, altering the fluvial accumulations.

(*Triticum monococcum*, *Triticum dicoccum*, *Triticum aestivum*, *Hordeum vulgare*) (BOZILOVA E., FILIPOVA M., 1991; RYAN B.F., 1997). The deterioration of the mixed coniferous forests can be explained by the expansion of the agricultural terrain, as the anthropic factor had a considerable role in the desiccation of the climate (deforesting, repeated cultures in the same area). Also, the influx of salinity suggests, for the same period, a rise of the seawater's level (CHRISTOVA R., 2003, p.40, tab. 1/p. 37).

Even if the problem of the presence of the stenothermal fish and of the molluscs of the *Spondylus* type in the Black Sea continues to remain unsolved, the data concerning the temporal and spatial repartition of the *Spondylus* ornaments come in concordance with the climatic changes. Resuming the entire problematic connected with the presence of the *Spondylus gaederopus* species in the Black Sea, H. Todorova has again emphasized the amplitude of the natural phenomena and their catastrophic effects on the Eneolithic communities from south-eastern Europe<sup>13</sup> (TODOROVA H., 1995, p. 90). According to the author, during the first half of the 5<sup>th</sup> millennium BC, the west-Pontic shore, having a rocky aspect, as well as the seawater – warm, rich in oxygen, and with a higher salinity than the current one – met the ideal conditions for the development of the *Spondylus* mollusc species. Subsequently, beginning with 4300 BC, the *Spondylus* species starts to gradually disappear, thus explaining the scarcity of the shell ornaments in the Gumelnița area, compared to the ones discovered in the necropolis from Hamangia (TODOROVA H., 2000). What would have been the causes for this disappearance? On the one hand, the rapid rise in the Black Sea's water level, as a result of the strong climatic warming, as the average yearly temperature was 3° higher than the current one, has led to a lower level of salinity; on the other hand, the rocky basis of the coast has been sanded, through important sedimentary accumulations.

Consequently, the eastern penetrations must be regarded in the context of the climatic changes from the end of the Eneolithic. The newcomers have preferred, at first, the Dobrudjan steppe, because they moved

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<sup>13</sup> H. Todorova considered that the climatic transformations have initially attacked (first half of the 5<sup>th</sup> millennium BC) the south of the Balkan Peninsula, occupied by Dimini, Maliq and Dikili Tash – Slatino communities. During the second stage, corresponding to the Varna III phase (Gumelnița B1 in Muntenia), the process was much more ample – *the catastrophe was of colossal scope* (TODOROVA H., 1995, p. 90) – as it comprised vast territories of northern Thrace, north-eastern Bulgaria, Muntenia and the area of the west-Pontic coast. The desiccation of the climate, the increase in temperature, followed by the marine transgression and the flooding of the low river meadows – all these transformations have determined the destruction of many Eneolithic settlements.

south on the Danubian line, at the end of the Gumelnița A2 phase, as is proven by the discoveries from Hârșova (POPOVICI D., HAȘOTTI P., 1988-1989, p. 293; HAȘOTTI P., 1997). The Cernavodă penetrations have taken place after or at most during the moment of the flooding of the west-Pontic coast's settlements. The disappearance of the Dobrudjan settlements has ruptured the balance of the cultural exchanges, determining the gradual decrease of the old Gumelnița centres north of the Danube, situated in the Gumelnița B1 phase.

Similar phenomena also happen south of the Danube, as the area of northern Thrace was gradually depopulated. While in the west of the Balkan Peninsula and in the area of Transylvania, new Sălcuța and Bodrogkeresztúr settlements flourished (the III – IV phases), in Thessaly, Thrace, Muntenia and the west-Pontic zone, the natural catastrophes sped up the end of the Dimini, Dikili Tash-Slatino, Gumelnița – Karanovo VI cultures. To this, we add the foreign population penetrations, migrating in several successive waves, and coming from the east. The hypothesis of some population shifts is also strengthened by the discoveries from the Rhodope Mountains – the Yagodina culture, defined on the basis of discoveries from caves, and attributed “*possibly to emigrants from Thrace*” (TODOROVA H., 1995, p. 90).

While the Gumelnița area shrunk, and the traditional forms (Gumelnița A2) were only kept south of the Danube, the Sălcuța culture extended towards Banat and east of the Olt River, and the direction of the cultural exchange was moved to the west. Many Sălcuța settlements date from the IIc and III phases, a period during which the Gumelnița civilization had vanished (ȘIMON M., 1989). By corroborating the climatic and the geomorphologic transformations with the modifications that emerged in the inter-cultural relations, we find a plausible explanation concerning the end of the Gumelnița civilization. The shift of the populations towards the hilly area and towards the west causes the Krivodol – Sălcuța – Bubanj cultural complex to become the centre of cultural “dissemination”; the mining centre of Ai Bunar enters a decline, whereas Rudna Glava and the Transylvanian area, occupied by the Bodrogkeresztúr communities impose themselves. The old traditions “are reborn” in the Sălcuța environment, but the traditional forms are metamorphosed; instead of the multitude of shapes and decorations, of plastic themes, instead of the skilfulness of the “artist” who, with a minimum of means, managed to “animate” his work, the utilitarian forms and the rigid imitations that followed a canon are all that remain.

Far from giving final answers to such a complex problem, our approach emphasizes a few aspects:

- The climatic changes that took place at the end of the Atlantic have determined chain processes, which surpass the cultural limits;
- The ceramics' typology, reduced to sites or micro-regions, risks offering an erroneous chronological succession. That is why reconsiderations of old periodizations are in order, in concordance with the C14 data and the ceramic imports. The partial Gumelnița A2c – Gumelnița B1 - Varna III contemporaneity demonstrates the existence of several regional aspects, with distinct evolutions, depending on each region's features.
- The cultural symbioses, the peaceful cohabitations make increasingly inoperative the notions of culture and phase – sometimes established *a priori*, only on typological bases.

In the end, with no fear of exaggeration, we stress the stringent necessity of an ample project of multi-disciplinary investigation of the west-Pontic territory, as this region showed perhaps the best the general transformations from the end of the Eneolithic.

### Muzeul de Istorie Națională și Arheologie, Constanța

#### Anexe foto



fig. 1 – Sa, st. 1 – 4, US. 3001-3002-3003-3004



fig. 2 S8 NE profile



fig. 3 - Sa , st.3, US. 3007



fig. 4 – Sa, st. 8, US. 1089



fig. 5-6: the last Eneolithic level, flooded – Sa, st. 5, US 1028



fig. 7 - grave G. 1/skeleton nr. 1



fig. 8 – grave G. 1, stone block structure, under skeleton nr. 1



fig. 9 – grave G. 1 / skeleton nr. 2



fig. 10 – grave G. 2, stone block structure, under skeleton nr. 2