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Conceptual Paper

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The Wall-Street Why Shouldn't Archaeologists and Architects Create a "Reconstructed" Wall Around the Archaeological Site Provadia-Solnitsata, North-Eastern Bulgaria?

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Abstract

The present paper aims at providing argumentation for my demand of stopping the building of a "reconstructed" wall around the Provadia-Solnitsata site, north eastern Bulgaria. Two kinds of arguments I put forward. The first one is technical- the malpractice of the excavator, which I have detected in the applied excavation procedure that consists of overlooking important archaeological and stratigraphic features of the site. The second one deals with the conceptual framework that allows manipulation of archaeological contexts, and which is born by the interaction between the conceptual constructs such as 'Fake Archaeology' and 'Post-Truth'. My basic argumentation is grounded on developing a theoretical framework of the so-called 'archaeological cognition'. I provide some cases of typical behaviour of professional archaeologists and lay visitors when they encounter unfamiliar situation the archaeological context(s). I seek the explanation of this typical human behaviour in Foucauldian terms of 'technologies of the self' and the 'personal will to know his/her proper past', which in turn makes both professionals and lay people very sensitive to the slightest manipulation of archaeological record. This type of human sensitivity constitutes the grounds on which I develop further the argumentation of my demand for stopping the building of this wall that through its false physical presence will prevent the proper perception of the complex archaeological contexts of this site.

Keywords: Human perception; Archaeological context; Archaeological cognition; Archaeological landscape

Introduction to the Main Problematic

There is a paradox that exists within the fundamental concept of archaeological investigations, which has been marginally noticed if at all, but which plays a major role in defining the boundary that separates the good from bad practices of conducting archaeological investigations. The holy truth of textbook archaeology states right from the beginning that archaeological excavations destroy archaeological sites. But there is no mention of the fact, that through excavations archaeological contexts become unearthed and made visible both to professionals and the ordinary visitors. Instead, in mainstream archaeology, the notion of context becomes politicized with a tint of Marxist flavour [1]. In the introductory essay, the editors of this volume outline the collation of the bourgeois living style with the professional research that is related to an extreme relativism of possibilities for 'de-contextualization' and 're-contextualization' of archaeological context(s). On the

same and some of the next pages they present Freud's passion for collection of antiques and his studies of subconscious as analogies between the archaeological past and traumatized past of a patient. The suggestion is that unearthing the past is a traumatic experience and, in general, the past opposes through its imagined violence, barbarity, and sacrifice the 'Culture' and 'Civilization'.

In my understanding, the only true statement in this way of explanation of the past, which involves experiences of a present-day person, is the 'immediacy' of recognition of any archaeological context, that presents itself as a semi-automatic mechanism of human mind. The subconscious plays significant role in it but is controlled by the higher order personal cognitive achievements. If had to be stated correctly in their (not in Freud's) terms, there is a good analogy to be made between excavating the stratigraphy of an archaeological site and the "stratigraphy" of the subconscious.



Yet the process itself of discovering subconscious layers may not be traumatic nor pleasant experience and, in the end, it may turn out to be quite educative event in the way of enriching personal knowledge not only about the past but also about the present. It is that both kinds of archaeologies can create new knowledge, which concerns not only the realm of personal experiences, but also the possibility for discoveries of past cultures and their relation to the present-day knowledge of the self, society and nature.

It is exactly this possibility that has been overlooked, while attention remains focused on violence generated by the acts of subconscious that, in turn, have been transferred to interpretation of an imagined "archaeological" past. Subconscious is being viewed both as the force that negates and structures the ideological framework of post-modernity and archaeology of the social life, which provides a means of social engineering that discovers prototypical examples of past human behaviour. The wishful thinking of post-modernity becomes anchored to the exemplary cases that relate past, present and future, leaving no space for the Foucault's notion of rupture or closure of time [2]. The latter notion opposes the post-modernist views of the past and suggests a continuation of human knowledge through ruptures or 'time-marks' based on local and global discourses, and hence is easily transferable to the notion of archaeology of continuation of human occupation at a given locale through the past and present personal perception of archaeological contexts.

From this perspective I write this paper with the aim of critically outlining the technical (fieldwork and excavation techniques) and theoretical backgrounds that facilitate the seeking of archaeological truth by denouncing archaeological malpractices, presented in two case-studies that relate the notions of 'Fake Archaeology' and 'Post-Truth'. Because I assign greater importance to theoretical (conceptual) framework of this theme, I will develop it with greater attention. But I will also outline the main technical problems of malpractice of excavation procedure that are made deliberately during fieldwork (based on false theoretical premises), and that are coupled with the lack of proper professional observation (due to insufficiency of true training) of important archaeological features and stratigraphy during archaeological excavations.

Malpractice of Archaeological Excavations in Provadia-Solnitsata and Kamenovo

The basic problem of these excavations consists of lack of professional skills of the excavator for proper observation of the stratigraphic situation and of deliberate interpretation (based on ideological reasons) of the stone remains of the construction elements of the Thracian (Roman?) mound built on top of the prehistoric settlement [3]. The lack of professionalism is also visible from the short text of the presentation of the excavations in the annual 'Archaeological Discoveries and Excavations in 2017'. In it the authors presented an aerial photo with a general view of the site from above without any marks on it, that otherwise would have had to point to the discussed in the text archaeological features (Ibidem). The very act of showing such a detailed image

is considered by the authors as having high scientific value but the absence of marks on it turns it into its opposite and reveals the lack of professionalism in presenting archaeological evidence.

In addition to it, the title of is made suggestive: 'Stone defensive wall' but is not followed by any explanation of the archaeological contexts of the site that support his hypothesis. A general schematically drawn profile of the site is also given, where "hiatus layer IV a" separates the prehistoric settlements from the later occupation traces from Antiquity and the Roman (?) period. The old, still dominant uni-linear evolutionary concept is visible in the presentation of this profile. For example, a closer look at the drawn profile shows that the hiatus and the above layer play significant role in the stratigraphy and the human history of this site. From stratigraphic point of view, the so-called hiatus layer and the Antiquity layer immediately above are the only horizontal layers in this site, and they consist of similar sediments (with slightly different colour) as the sediments used for the building of the mound above. Both show human intention of the consecutive phases of re-occupation of the site. When people from Antiquity came, they levelled the surface of the site with the nearby alluvial sediment surrounding the site. The same did Thracians or Romans

The boundaries of these two layers reveal the following processes that happened on the mound. Because being pressed from the heavy mass of the above sediments the hiatus and Antiquity layers remained relatively intact and they preserved quite well their horizontal shape. Contrary to this, the situated above them layers have been submitted to the strong influence of seismic activities and weathering conditions that caused their undulated form, visible in the profile. However, the instability of the mound comes not only from the heavy load of the piled above sediment but also from below the high level of underground water that almost reaches surface layers during wet seasons. The prehistoric layers consist predominantly of alluvial clay fractions mixed with sand that tend to be soaked by water. The separate cultural layers are prone to slide one upon the other, depending on the differences of the amount of moisture sucked in. This process, when combined with the tremor caused by seismic activities, bends the prehistoric layers without mechanical mixture between them. Similar undulating pattern of the profile also features the top layers of the mound and have been documented by the excavator. Contrary to this, the slightly undulated shape of the prehistoric sediments is visible both horizontally and vertically and should have been seen and documented by the excavators.

As it often happens the ancient builders of the mound were much more knowledgeable compared to the present-day archaeologists, and they previewed the necessity for building a stone construction that had to maintain the heavy load of the piled sediments on the mound above. The fact that the entire stone construction is a single and necessary building structure of the mound is also visible from the general aerial photo of the site. It is situated on the top of the prehistoric settlements and cuts into

their cultural layers. If the stone foundations were present there at the time of the middle Holocene, when the climate was much more humid than in the Iron Age and in Antiquity, the stone foundations would have shown typical bending or curvatures that correspond to the undulated pattern of the prehistoric cultural layers. Also, the pattern of the spread of the fallen stones around the mound shows outward movement, which is likely to be caused by the regular landslide peeling down the surface of the mound that made its shape steep looking like a conical pyramid. The only building structure that preserved the mound standing so high for that long time is the stone structure beneath it.

This lack of professional observation of the processes of movement of prehistoric cultural layers is also visible in the previous presentation of the excavations in the Kamenovo, north eastern Bulgaria [4]. It concerns the burials near the Eneolithic specialized flint workshop. At the annual archaeological conference held in NIAM-BAS, 2018 the authors showed a picture where the bones of the deceased (Eneolithic) were slightly displaced, while a stone axe of a later age (Early Bronze Age) was lying horizontally, next to the bones. In my view this 'impossible' archaeological situation reveals that the axe was added to the context with the aim to make it more dramatic. This practice of "artistic" falsification of archaeological contexts can be directly observed in the presentation of most excavation reports in this volume. Different levels of faking or "theatrical staging" of the past become typical element of archaeological practices and interpretations round the world. These practices include specially made and wrongly used scientific methods of identification of materials, surface analyses, dating techniques, and, more importantly, false interpretation schemes. Of these the last one weighs on most heavily in my argumentation and exerts the utmost influence in the realm of the so-called 'Fake Archaeology'. Thus, on the case-study of the building of a solid stone wall around the Provadia-Solnitsata site I will develop my conceptual framework that answers the question why this stone wall shouldn't be build.

Scientific Foundations of Archaeological Cognition

It has already been established that people do not observe directly an object or a scene, but they use their cognitive abilities to manipulate the perspective that allows its perception. They do this by varying the foreground and background elements in the scene that surround it through using colour, shape, size and the sequences of the frames through which they focus on it. This involves a complex process of multiple representations that define several most likely appearances of an object. The capability of working with several images of an item is characterized by immediacy of neurological response. For example, a person can immediately distinguish not only that he/she has been approached by an elephant or a mouse but can make the vital difference whether this animal is angry, hungry or friendly. On the one hand, the ability to make right choices is a learned behaviour where the better trained person can better recognize a given situation. On the other hand, this mechanism is innate and allows some archetypical representations to be recognized by young children. This mixture of the mechanism of learned behaviour and innate ability for recognition of 'false' situations makes the idiosyncrasy of the human responses when encountered with unfamiliar situations.

One such typical unfamiliar situation is when a person approaches an artefact in a museum exhibition and an archaeological context in the field. Learned behaviour is much more useful in the case of the exhibited artefact, because the trained archaeologists, art historians already know the context and the history of this object. Both categories of archaeologists and lay people are equally surprised when encounter an archaeological context. Although archaeologists have been trained to recognize it properly, it is the field of study that is prone to making mistakes. Because of this possibility of easily making mistakes, archaeological contexts are often subjected to manipulation by their excavators. On the one hand, this is due to the personal attachment to the site that an archaeologist builds during the excavations and wants it to be a sensational one: the oldest, the most beautiful, etc. On the other hand, this manipulation of smaller and wider archaeological contexts such as the entire Struma valley, southwestern Bulgaria happens, because the current ideological constructs influence and define the present-day archaeological authoritative knowledge.

For example, the region of Bulgaria and the valley of the Vardar River, North Macedonia are considered as the oldest route of spread of early farming in the Balkans and Europe [5,6], despite the ample evidence that this is not the case. A slightly different hypothesis about Neolithization of the Aegean and Southeast Europe but also manipulative in its methodical and ideological framework has been put forward by [7]. Lay visitors to archaeological excavations behave in quite different ways. They lack the training of archaeologists and, despite it, have personal (idiosyncratic) response to any faked or manipulated archaeological "environment". The "strange" thing in it is that they almost immediately recognize the false elements in the context, as if they have an innate mechanism that orients them properly in any archaeological environment.

The question is how is it possible? It is known from experimental studies that in human mind a hidden activation unit of mental representation exists. The general particularity of mental representations that has been noticed and studied experimentally is that when a person looks at an object or scene his/her observation falls naturally into two complementary to one another parts. These include input data (stimuli) and output data (images, sounds, smell, tactile detection, bodily reactions, etc.). Yet such a direct causal relationship is not enough, otherwise our internal images would be only reflections of the outside world's phenomena. For example, a tiger would always be perceived as a menace. Complicated emotional, moral and cultural stories would not be possible to be told or understood. Thus, in the explanatory theory of how human mind represents the outside phenomena, a hidden unit activation pattern appears as mediator between the input and output data. It classifies data not only according to their resemblance to external phenomena but chooses the right one for a given situation that relates to the personal, educational, cultural, religious, etc. background of any individual. The functionality of this mediator has been simulated experimentally through the working of artificial intelligence.

The complex processes were simplified to linear and non-liner functions and how they describe a simple behaviour of a person that looks at geometric forms and recognizes them [8]. Even with these simple acts the mathematical model would require large computational power and it has been concluded that human mind can do parallel computations. But even this supposed ability for computation is not enough to satisfy requirements for precise and instantaneous response to complex phenomena. Additionally, the neurological networks through the evolution of human mind created multiple connections that are innate and provide the ability to make a distinction between true and false statements and acts. These include not only visual stimuli but all the subtleties of human communication and perception. This allows even small children to learn quickly whether a tiger in each situation is a danger or a friend. With accumulation of knowledge and experience a person can almost instinctively make a distinction between true and false statements, acts, manipulations, etc.

A good example of this human capability is the group behaviour of the visitors to archaeological sites. When they visit genuine archaeological contexts such as Gobeklitepe, Troy, Knossos, Pompeii, etc. several small clusters of people tend to group themselves within the larger group of visitors led by a single tourist guide. Perhaps this fact is due to the natural process of forming closer relations with other people that share the same cultural and educational background, which provides the possibility to communicate more easily the new knowledge and emotions that the archaeological contexts invoke in the participants of the visit. This is not the case with the group visits to the "renovated" fortress of Tsarevets, the town of V. Tarnovo, Bulgaria. The newly built defensive wall and the other "installations" cannot attract sufficiently enough the attention of the visitors and they walk in large homogeneous groups, gaping around without focusing on any monument. The first type of group and personal behaviour may be called active attention and learning, while the second one-passive.

Archaeology as an Art Installation

Human mind perceives through complex representation of archetypes but tends to organize the acquired information into normative conceptual frameworks. The long evolution of human mind led to development of neurological networks that can 'classify' large amount of incoming data into rule-based/normative sequences of phenomena. Through the norms and rules people can define, describe and explain the world around them. Thus rule-based cognition stays at the bases of the human capability of active learning and makes possible situating people as individuals 'being-in-the-world' [9,10]. This evolutionary achievement of human mind opens the door for the highly volatile, idiosyncratic response of any person that encounters an unfamiliar situation. This fact is due not only to the individual particularity of cognitive channels of receiving different modes of information but is also due to processes of higher

conscious control, such as education, cultural background, religious beliefs, social status, profession. This otherwise unnoticeable characteristic of situated knowledge acquisition has been exploited long time ago by the story- and myth-tellers, and by the authors from early literature onwards to the so-called postmodern times. Archaeology makes no exception of it. It has been compared with theatrical performance, which may be viewed as intensive conscious co-presence of personal experiencing of past phenomena [11]. Behind this formulation the already popular view of extreme relativism stays, according to which archaeology's subject-matter deals not with the reconstruction of past realities but of building all possible personal and social relationships with what has been left from the material cultures of the past. The first and the second clauses in this summarized statement of relativistic understanding of the past are wrong. If accepted the statement that archaeology must be freed from its primary obligation of proper discovery of past remains and their careful reconstruction, preservation and public display, then archaeology's major subject-matter will be made obsolete. The second clause in this way of conceptualizing the past copies professional understanding of literature with one major difference.

This difference stems from the fact that the author of a piece of literature or a play staged on a theatrical platform is that the author steps on relativistic terms of negotiation with his/her public. Such a negotiation has a great deal of fictive (imagined) terms which make possible developing all sorts of different kind of relationships between the author and its public, and which tend to change over time. Examples are numerous and suffice it to remind the history associated with the opera 'Carmen', which has not been accepted by the French public and critics for over a hundred years. These relationships, however, may be considered as both intimate (personal) and social. Literature tries to build personal attitudes towards social realities and 'grand political' narratives of the day. For example, 'Carmen' deals with problems of identifying Roma people in imaginative terms of free people and problematizes women's rights. From this point of view the field of literature may be as diverse as human imagination and even when the plot in a piece of literature may be wrong, the characters in it not welldefined, the author may still be admired for some qualities that the public views in his/her work.

By far this is not the case with archaeology which keeps the relationship with its public always intimate and deeply personal. In Foucauldian terms it may be said that there exists an immanent to human mind drive towards the 'will to know his/her proper past'. The origins of humankind, culture and civilization make from people pilgrims who form the regular public, visiting urban museums and making them to flock in visits to archaeological monuments, sites and landscapes. This drive is comparable to the pilgrim's personal devotion to his/her religion and even deeper than that. As all floral and faunal species on the Earth have the impulse of preserving their species, similar drive makes from each human an individual that wants to know his/her proper origins that humanize his/her personal existence.

The intimacy of the personal experiences with the past largely depends on the visibility of the archaeological context(s) at a given site, the state of its preservation, the possibility of auditory and bodily sensual experiences of the wider landscape around the site, the presence of informative images and short explanatory texts that can easily be viewed and read on tables situated near the site. At first sight these preliminary conditions provide mere general information and spatial orientation in what is where and outlines the route that elements could be reached and viewed. The Provadia-Solnitsata site meets most of these requirements. It is situated in the middle of a vast plain with excellent acoustic properties and almost amphitheatrically situated archaeological contexts, laying one above the top of the other that form a conical shape of the mound. The surrounding landscape overlaps one-toone with the archaeological contexts. This complex consists of a plain and a mound, raised above it that underpin the past human presence in the form of huge for prehistory production complex of salt and the tell-site above the living environment that overviews the productive one.

In Foucauldian terms of technologies of the self the success of past inhabitants in maintaining for centuries large-scale production of salt has a direct influence on the visitor's mind. The economic success in the past transfers itself into individual strategies for success in the present. If there were placed photos of the richly decorated prehistoric storage vessels from the site, they would have suggested the sense of beauty of the old masters and craftsmen that will not only reflect but exert influence on the present-day idea of beauty. The site offers an excellent possibility for proper reflection on continuity of human occupation. This idea is illustrated by the neat sedimentological boundary that separates the prehistoric layers with the ones above and reveals that although people stopped living on that place, they would recognize and take care of the site mowing regularly the grass, uprooting the young shoots of trees on top of it, and keeping it as a clear place and timemarker in the surrounding plain.

Later this special place has been recognized as living and sacred environment and either Thracians or Romans built the mound above, while people from Antiquity used the space for creating buildings that have the meaning of transferring an urban environment into the rural and wild ones. In this complex archaeological situation, the building of a solid stone wall around the site, apart from serving as an example of archaeological fieldwork malpractice will stop viewing the complex system of viewpoints and changing perspectives that allow perception of the entangled archaeological record of the site. Not always, however, the building of new, auxiliary to the main idea of a given archaeological site elements have negative effect on the means used to properly displaying it to the public. This is the case with the Venus from Willendorf II. At a first glance, in Naturhistorisches Museum, Vienna, the figurine is strangely exhibited in a dark hut with small beams of light directed to it when a visitor enters it. This hut protects it from the intense co-presence of the surrounding urban environment [12], but, in addition, provides the idea of the present-day limited possibility for perception and understanding of artistic expressions of the remote past the masterly made figurine.

Quite different is the representation of the figurine at the archaeological site of its discovery. A large modern sculpture of the otherwise small figurine has been made. Normally, large sculptures are situated in urban centres that celebrate achievements in modern culture, politics, science, etc. When looking at it from a distance, the sculpture of the Willendorf II figurine stays somewhat solitary in the wild. Because the site itself (only a profile) is not well visible, the sculpture accentuates its location among the other archaeological and cultural heritage monuments spread on both sides of the Danube River, the touristic routes for cycling and the productive environment of vineyards that separate the small villages around. Thus, this newly created monument and the small museum near it give the idea that this mountainous passage has been recognized as cultural and productive environment in the remote past. It is a kind of a mental bridge that has been established between the exhibition in the centre of the large urban centre of Vienna and the small archaeological site, situated at a considerable distance from it, but which reveals the culturally refined and masterly made figurine a significant cultural achievement and a time-marker of the remote, often considered as wild, past [13,14].

Conclusion

In the days of 'post-truth', fake archaeology makes no difference from many other domains of direct manipulation of any evidence that point to genuine human behaviour, no matter whether it concerns past or present. This tendency is so strong that it often leads to entire destruction of the existing evidence. For example, F. Bordes, the famous excavator of Palaeolithic sites in France, directly changed the succession of the stratigraphy of some sites in order to keep up unchallenged the unilinear evolutionary scheme of human and cultural evolution (Middle-Upper Palaeolithic transition) (Jean-Guillaume Bordes, personal communication). In Bulgaria, the artistic re-arrangement or building entirely faked archaeological contexts is also a widely used practice. In this paper, I confine myself to critically presenting only two cases of fieldwork malpractices. As it has been pointed out in the text, this unhappy situation is due to two main reasons. The first one is the lack of professional training which leads to lack of proper observation of archaeological situations during the excavation process.

This, however, is the minor problem. The major reason for archaeological manipulation of evidence is a theoretical and ideological one. It is based on the existing tendency of accepting an extreme relativism of assessing any kind of human behaviour that dissolves the genuine one and turns it into artificial construct that suits temporary social, political, cultural, etc. tasks. The cynicism of this theoretical view has been openly revealed to me by a prominent Bulgarian archaeologist, saying that if my archaeological theory stands up for ten years, then it is a good one (H. Todorova, personal communication).

This situation of fake archaeological displays and, especially, building artificial castles and "defensive" walls, which is often

done by the central and local authorities in Bulgaria, including European financial support to these malpractices is, however, easily recognized not only by professionals but also by the lay public. This fact reveals itself when one takes the effort to compare the number of visits to such sites weighed against the visits to genuine sites. For example, Bulgarians rarely visit the fortress in Tsarevets, the town of V. Tarnovo, Bulgaria, while bus tickets for a day trip to medieval churches and other archaeological ruins (the Red Church, for example) should be bought two weeks in advance. It has been shown that this difference is due to the particularities of 'archaeological cognition' that makes any person sensible to any manipulation of the archaeological context. Thus, in the light of the above presented arguments I would like to demand from the public authorities of Bulgaria the building of a solid stone wall around the Provadia-Solnitsata site to stop. To the reasons provided above may be added a new one. The proper archaeological contexts make a difference in human perception, which has a considerable financial dimension, just as in the famous case of the WALL turned into a street.

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Conflict of Interest

Author has no conflict of interest.

References

- JT Schnapp, M Shanks, M Tiews (2004) Introduction: Archaeology, Modernism, Modernity. MODERNISM/Modernity 11(1): 1-16.
- M Foucault (2002) Archaeology of Knowledge. London and New York Routledge. USA.
- Nikolov, Bacvarov, Leshtakov, Samichkova, Hristov, et al. (2017)
 Archaeological excavations at the prehistoric salt-producing and

- urban centre of Provadia Splnitsata. Archaeological Discoveries and Excavations, Sofia: NIAM- BAS, pp. 53-56.
- Y Boyadzhiev, D Chernakov, D Dilov (2018) Archaeological excavations at the chalcolithic cemetery in the village of kamenovo, razgrad district. Archaeological Discoveries and Excavations Sofia: NIAM- BAS, pp. 50-53.
- C Lichter (2002) Central Western Anatolia- a key region in Neolithization of Europe? In: F Gerard, L Thissen (Ed.), The Neolithic of Central Anatolia: Internal developments and external relations during the 9th-6th millennium cal. BC. Proceedings of the CANeW Table Ronde, Istanbul, pp.161-169.
- D Takorova (2015) Early Neolithic ceramic anthropomorphic imagery from the Struma River Valley and the Sofia Plain in the context of Anatolia. Arheologia 1(2): 7-23.
- 7. B Weninger, L Clare, F Gerritsen, B Horejs, R Krauss, et al. (2014) Neolithization of the Aegean and Southeast Europe during the 6600-6000 Cal BC Period of Rapid Climate Change. Documenta Praehistorica 41(1): 1-31.
- 8. DS Touretzky, DA Pomerleau (1989) What's Hidden in the Hidden Layers? Contents can be easy to find with a geometrical problem, but the hidden layers have yet to give up all their secrets. In Depth, Neural Networks, pp. 227-233.
- BG Wilson, DH Jonassen, P Cole (1993) Cognitive approaches to instructional design. In: G. M. Piskurich (Ed.), The ASTD handbook of instructional technology, New York: McGraw-Hill, pp. 21.1- 21.22.
- Ts Tsonev (2007) Early Evidence for Human Cognition. In: E Anati, GP Mohan (Ed).
- 11. G Gianna chi, N Kaye, M Shanks (2012) Archaeology of presence. New York: Routledge, USA, pp. 1-27.
- 12. Ts Tsonev (2016) 3D Reconstruction of Sculptured Emotions in the Copper Age Eastern Balkans. In: E Anati (Ed.), Intellectual and Spiritual Expression of Non- Literate Peoples. Proceedings of the XVII UISPP World Congress 1(7): 327-339.
- 13. The Intellectual and Spiritual Experience of Non-Literate People. Proceedings of the UISPP.
- 14. CISENP Colloquium (2007) Paris 22(23): 135-142.