

REVIEW

of: the dissertation, for the awarding of the educational and scientific degree "**Doctor**" (**Dr**)=**PhD** to **Bogdan Stoyanov Atanasov**, doctoral student of independent training in the scientific specialty *Archaeology*, in the doctoral program *Archaeology* of the NBU, Professional Direction (PD) 2.2 History and Archaeology, on the topic "***Technology and society at the end of the 2nd millennium BC in the Western Black Sea. The settlement from the Late Bronze Age near Durankulak***". Sofia, 2024, with scientific supervisor Prof. Ivan Gatsov Dr DSc

Reviewer: Prof. Kalin Porozhanov Dr DSc – Department of History at Faculty of Law and History of “*Neofit Rilski*” South-West University - Blagoevgrad (SWU), based on an Order of the Rector of the New Bulgarian University (NBU) No 3-PK-61/06.12.2023 for the Scientific Jury.

I. Brief biographical information for the candidate.

Bogdan Atanasov studied *History* (1991-92) and *Archaeology* (1992-93) at Sofia University. In 1994-99, he graduated from the *Archaeology and Art History* major at the Athens State University. From 2000 to 2005, he was a PhD student at the *Institute for Historical Studies at Rupprecht-Karls-University*, Heidelberg. Since 2006, he has been a lecturer in the Department of Archaeology of the NBU, currently holding the academic position of *chief assistant*. Since 2016, he has been the director of the *Laboratory of Archaeometry and Experimental Archaeology* of the NBU.

II. Characteristic of scientific production of the candidate.

By Order No. 113/13.01.2010 of the rector of the NBU Bogdan Stoyanov Atanasov was enrolled as a doctoral student of independent training in the Doctoral Programme *Archaeological Analysis and Archaeometry* at the Department of Archaeology, with the thesis topic "***Technology and society at the end of the second millennium BC in the Western Black Sea. The settlement from the Late Bronze Age near Durankulak***" and scientific supervisor Prof. Ivan Gatsov Dr Dsc.

On August 4, 2010, he defended his dissertation before a Scientific Jury and became a *doctor* only at the NBU, due to new requirements adopted in the new Law on the

Development of the Academic Staff in the Republic of Bulgaria (ZRASRB). In compliance with the regulations of the new ZRASRB, in the current year 2024, a new defense of the dissertation is being held to obtain the **educational and scientific degree of doctor**.

In the minimum requirements for an educational and scientific degree *doctor* from the Regulations for the Implementation of ZRASRB, a minimum of 80 points is specified, and the PhD student achieves 110 points from: Group A, Indicator 1 = 50 points (dissertation) + Group C Indicator 7 = 60 points (6 articles x 10 points).

The author has 5 participations as head or deputy head of archaeological research (from 2006 to 2023, inclusive). Leads and participates in 6 scientific projects. There are 6 publications on the subject of the dissertation - in specialized publications: 3 are in Bulgarian, 2 - in German and 1 is in English. Of these, 3 are independent, and 3 are co-authored. These are steps by which the dissertation is built. The 7th step is publication of the dissertation itself.

III. Main contributions in the candidate's scientific activities.

The work consists of two parts - I. TEXT and II. TABLES. The first part TEXT is presented as follows: title page, followed by dedication and contents (total of three title pages), Introduction and acknowledgments (I-X pp.), exposition in 10 sections/chapters: Chapter I. (1-64 pp.); Chapter II. (65-96 pp.); Chapter III. (97-112 pp.); Chapter IV. (113-115 pp.); Chapter V. (116-285 pp.); Chapter VI. (286-291 pp.); Chapter VII. (292-312 pp.); Chapter VIII. (313-314 pp.); Chapter IX. (315-319 pp.); Chapter X. (320-322 pp.); Conclusion (323-327 p.); Cited literature (328-349 p.); The second part TABLES (comprising a total of 32 pieces).

THE INTRODUCTION (I-VI p.) begins with a short but analytical commentary on the reasons that led to the spectacular changes in the Mediterranean at the end of the 13th and especially in the 12th century BC. In this context, the location of the LBA site on the Big Island in the Durankulak Lake (in short, *Durankulak* as a *terminus technicus*) is also being sought. The Durankulak site was excavated in the 1970s and 1980s, but there are only a few preliminary reports and no full archaeological publication of the results. This necessitates Bogdan Atanasov to make "excavations" in the documentation and materials of the excavations in order to achieve a maximally objective presentation and evaluation of the object – a work that deserves admiration. The author asks questions that take into account differences in the manifestations of societies in the 13th, 12th, 11th centuries of the Eastern

Mediterranean and the site located in the European Southeast, the answers to which he will seek in the exposition of the text.

Chapter 1. HISTORY OF RESEARCH AND OBJECTIVES OF THE WORK (1-64 p.)

1.1. History of the studies of the end of the Bronze Age in the Eastern Balkans appreciates the fact that this site is the only one with known architecture from the end of the Bronze Age on the entire Western Black Sea Coast. The following is a critical presentation of the opinions of scholars about the end of the LBA and the beginning of the EIA in the Balkans, related to the "decline" and "progress" of societies. The collected and objectively commented literature on this issue is a decent contribution of the dissertation.

1.2. Questions and objectives of the work presents the main goal: critical processing and publication of the available information about the settlement near Durankulak, because there are not enough well-preserved remains of other settlements and dwellings from the era. In essence, this is a source work based on a complex and interdisciplinary study of the archaeological material under consideration, which should be highly appreciated, incl. and as a contribution. And it continues with the goals: to study why this is the only such object for the Western Black Sea Coast; why are luxuries declining; to shed light on the chronology and end of the LBA.

These are well-thought-out and ambitious goals, for the achievement of which the author assures us that with the theoretical approach applied in the work, he will refrain from extreme migrationist and autochthonist theses. The expected result is covered by the hope of elucidating the processes from the middle of the 11th century BC that led to the beginning of the EIA in the Eastern Balkans.

Chapter 2. PHYSICAL-GEOGRAPHICAL CONDITIONS AND PALEOENVIRONMENT AT THE END OF THE 2ND THOUSAND B.C. OF THE EASTERN BALKANS AND NEIGHBORING REGIONS (65-96 p.)

2.1. Modern physical-geographic conditions introduces us to the specifics of the relief, waters, soils and climate, which characterize the area of the site with the contrast of "Mediterranean summer" and "Continental winter", but ultimately as favorable for the development of agriculture and animal husbandry .

2.2. Climatic conditions at the end of the 2nd millennium BC critically reports various hypotheses about climate changes at the end of the 2nd - the beginning of the 1st

millennium, with the reasoned conclusion that the available data do not indicate a sharp drought at the end of the 2nd millennium BC.

2.3. The level of the Black Sea and Lake Durankulak at the end of the 2nd millennium BC reviews the data, noting that once freshwater fish were consumed from the lake through the LBA, there was no life-threatening negative impact on the saline seawater relative to the freshwater lake. The conclusion is particularly important and helpful, that regardless of the steppe character of the climate in Dobrudzha, the characteristics of its waters do not allow nomadism, but conditions short-term settlements.

Chapter 3. ARCHAEOLOGICAL EXCAVATIONS OF THE SETTLEMENT OF LBA on the Lake in Durankulak (97-112 p.).

3.1. History of archaeological excavations in Durankulak reviews systematic long-term studies, starting in 1974, which continued for nearly 30 years. **3.2. Selection of the archaeological site and goals** of the research explains that after the discovery of the sensational *Varna Chalcolithic necropolis* in 1972, Northeastern Bulgaria and its Black Sea Coast became the object of intensified field visits, as a result of which Henrietta Todorova discovered Late Prehistory, Antiquity and the Middle Ages at Durankulak and began the work of excavating them. The objectives determine the systematic complete study of the remains of all the represented eras. **3.3. The team presents** the number and specifics of the participants from a dozen to a hundred... **3.4. Excavation methods** states that the scientific leader H. Todorova applies the rule - from the center to the periphery (and not the other way around), without profiles - due to the goals of comprehensive excavation of the available parts of all settlement horizons (Chalcolithic, LBA and Middle Ages) of the entire complex site. **3.5. Excavation tools** presents the traditional picks, hoes, shovels+kitchen knives, scrapers+excavator for searching necropolis on the coast. **3.6. Square grid and measuring** describes the traditional making of squares with a side of 5.00 m, which are divided into 4 smaller ones, oriented according to the directions of the world, and the depths are according to a concrete benchmark placed at the highest place. A disadvantage is that the drawings lack depths, which makes it difficult to match architectural phases with stratigraphic layers. **3.7. Field diary** presents writing by days and by squares and working terms used. **3.8. Photographic documentation** (black-and-white films and slides) is particularly important, because through it, it becomes possible to restore information about stratigraphy and functions of structures. **3.9. Graphical documentation** describes the updating and unification of old plans in a general plan for a better understanding of the site, and it is especially valuable to

connect the drawn structures with images from the photographs and determine their stratigraphic place. This is a serious creative and undoubtedly contributing work of the dissertation.

3.10. From the diary to the publication tells how, through a professional, meticulous "diving and immersion" of the author in the entire available complex of documentation of the site, he arrived at: a systematization of the results of the LBA studies at Durankulak, which allows the information from the diary to fit in table structures; for each building to extract the maximum amount of data, which, regardless of the lack of detailed information about the contents of the inventory in the buildings, reasonably leads to new conclusions. All this is an undoubted contribution of the dissertation.

Chapter 4. THE BIG ISLAND IN THE DURANKULAK LAKE AND THE LOCATION OF THE SETTLEMENT FROM LBA (113-115 p.) briefly presents its location, with its natural and archaeological characteristics.

Chapter 5. ARCHITECTURE AND STRATIGRAPHY OF THE KBE SETTLEMENT IN DURANKULAK (116-285 c.). In essence, this is also the core of the dissertation research. It begins with a correction of the 4 chronological phases in the development of the settlement defined by H. Todorova A, B, C and D, respectively named - orange, green, red and yellow. B. Atanasov reasonably rejects the contradictory data on the presence of the A/orange phase and, keeping the letters and names, defines as the first B/green phase, the second C/red and the third D/yellow phase. I'd say it's a necessary contribution. From 5.1. to 5.20 the author examines the site in detail by areals and by structures.

5.1.Areal I: 5.1.1.**Building I-6** of the green phase is significant in that it shows that the settlement arose as a result of coordinated actions by households that followed rules about where and how their houses; 5.1.2.**Terracing terrace I-49** turns out not to be mentioned in the logbook and in the graphic documentation, and its presentation is based on the photo documentation. It is a straight wall with a length of 10-12 m, which steps on the green phase and turns out to be terraced for the dwellings of the second - red phase. The presence of these and other remains of terraced walls indicate a change in concept – from horseshoe-shaped buildings with an entrance to the lake in the south-east to apse houses with an axis parallel to the lake shore; 5.1.3. **Building I-13** from the red phase; 5.1.4. **Phase D** – the yellow phase is presented above Building I-13 with walls I-14 and IV-20; 5.1.5. **Furnace I-4** for ceramics (SE of Building I-13), from the green period, served the entire settlement; 5.1.6. **Hearth I-1** with a

pavement of stone slabs, with a high probability, referred to the green phase, perhaps preceding Furnace I-4, most logically with a festive-cult, if not with an economic function; 5.1.7. **Building I-8 and Pit I-9** are of uncertain stratigraphic position; 5.1.8. **Stones in squares Q15, P15, Q16, P16 (Structure I-90)** have an unclear stratigraphic position, but if they are from the LBE it is logical that they are part of a terracing wall. 5.1.9. **Areal I - summary** gives a clear picture in *Table 5.17. Stratigraphic position of structures in Areal I*, on p. 144, where a contributing innovation is the admission of an intermediate blue phase, between the first-green and the second-red; coordination of the actions of households in the construction of buildings from the green period is emphasized; the change of buildings into apsidal ones is associated with the innovation of terracing.

5.2. Areal II turns out to be important with the connection between Terracing Wall M-15 and other structures, and the author defines 3 stages in the second-red phase, which is a contributing novelty, in the "reading" of the site.

5.3. Areal III is associated with Structure III of the third-yellow (D) period, which is located atypically NW above Terrace Wall M-15; it has an atypical almost square plan, and its walls are atypically built only of upright slabs.

5.4. Areal IV: 5.4.1. **House IV-24/IV-25** from the green phase has an irregular horseshoe shape and has a peculiarity – a floor built on three levels, with a hearth in the middle, as well as a most likely cone-shaped roof with a smoke hole; 5.4.2. **Wall IV-28 (Annex)** is located immediately on the north side of House IV-24/IV-25 and has assumed economic functions, but, from the available documentation, the author does not see convincing evidence for such a claim; 5.4.3. **Furnace IV-29** is 2 m east of House IV-24/IV-25 and is synchronous with it; 5.4.4. **Building IV-23/IV-24** and the second phase of occupation of House IV examines an accumulation that has raised the level for the house, which logically refers the construction changes to the next-red phase - a contributing element; 5.4.5. **Building IV-20/IV-22** of the red phase, by the presence of a furnace/hearth, the author interprets as a house or a workshop; 5.4.6. **The question of the presence of a building from the yellow phase in Areal IV** is decided negatively; 5.4.7. **Areal IV – summary** offers visualization in *Table 5.34 Stratigraphic position of structures in areal IV* (p. 171), showing that the orange and yellow phases are absent, the early being the green phase, followed by three stages of the next-red phase.

5.5. Areal V: 5.5.1. **Building V-37** from the green phase confirms the finding that the foundation of the settlement was the result of an organized action in compliance with general rules where to build and how the houses should look; 5.5.2. **House V-32** from the red phase

turns out to be the best-preserved building from the LBA between the Carpathians and the Rilo-Rhodope massif, which has the following changes compared to the previous green phase: an apsidal axis parallel to the coast and a reduction in the area of the house from approx. 56 by 32 sq.m.; 5.5.3. **House V-30** of the yellow phase indicates a return to the orientation with an entrance to the lake; 5.5.4. **Areal V - a summary** is summarized in *Fig. 5.48 Stratigraphic position of structures in areal V*, where chronologically they are traced: Building V-37 from the earliest-green phase; the best-preserved House V-32, built after terracing from the red phase; Building V-30, Stone facing of Terracing Ramp M-5 from the last-yellow phase.

5.6. Areal VI – arched wall above Terrace M-15 turns out to be without sufficient arguments for dating in the last yellow phase.

5.7. Structure VII – incisions in the rock, east of Structure VIII predate the green or early stage of the red phase; the hearth and the building suggest a building for economic activity. Both conclusions are contributions.

5.8. Areal VIII: House VIII-43 arguably predates the green in the yellow phase, and House VIII-39 - refers to a post-phase called brown, which is interpreted as an inhabited dwelling after the settlement was abandoned. Contributory conclusions.

5.9. Areal IX has an uncertain stratigraphy, assuming that the space at wall IX-61 has an unclear purpose, but with a special purpose. **5.10. Areal (house) X** dates to the green phase, but it remains unclear why there are no later houses in its place, hypothesized as a place for economic activities. **5.11. Areal (premises) XI** has an uncertain dating due to possible additions, assuming economic functions. **5.12. Areal (space) XII** is in the red phase, with economic functions. **5.13. Areal XIII:** premises in the green phase, with an unclear purpose. **5.14. Areal XIV:** premises in the green phase, with an unclear purpose.

Important is the **summary** (p.226-7) of Areas VII, IX-XIV, that they are united by their functions of specialized farm premises. Contributory conclusion.

5.15. Areal (building) XV: is important with the exposed horse bridle *psalion* and with the topographical continuity in the red phase.

5.16. Areal (house) XVI: ceramics of the Koslozheni-Sabatinovka type. **5.17. Areal XVII:** thermal facility - furnace or hearth. **5.18. Areal XVIII:** documentation uncertainty.

5.19. Terracing wall M-15: with many ambiguities... **5.20. Terracing wall M-51:** it is also called a ramp, but with many ambiguities...

5.21. Architecture and stratigraphy of the LBA settlement in Durankulak - summary and parallels. 5.21.1. **The choice available to the settlement** indicates that the houses built on a slope are related to shelter from the northern winds, the use of fresh water

and the easy mining of clay, loess, stones. 5.21.2. **Plan of the settlement and organization of the space** makes comparisons with *Ada Tepe* in the Eastern Rhodopes, where there is also a terraced wall due to the construction of the dwellings; with Koprivlen, on the Mesta River; Chepintsi, Sofia region; Baley, Vidin region; and objects from the NW Black Sea Coast. It is important to note that there are the most similarities with *Ada Tepe*. 5.21.3. **Stratigraphy, architecture of the buildings and structures** presents the main phases in the development of the settlement: orange A (?), green B, intermediate – blue phase, red C and yellow D. **The contributing conclusions** are: 1. Established uniqueness of the site, with the three main phases, for the 2nd millennium BC, in the Eastern Balkans and W/NW Black Sea Coast; 2. If Phase B is local traditional, then Phase C presents terracing and apse houses as adapted innovations from the south (*Ada Tepe*), but also a spread of innovation such as the orthostats from W/NW Black Sea Coast - from north to south - in *Troy VII b* (12.-11. BC), Phase D is interpreted as the departure of the settlement in the 11. BC; 3. That the twelfth century BC turns out to be a time of architectural flourishing in the Eastern Balkans, with the peaceful movement and settlement of Balkan populations in Troy, in contrast to the Eastern Mediterranean, which experienced destruction, increased mobility, and the departure of settlements.

Chapter 6. AGRICULTURE AND HUSBANDRY (pp. 286-291) begins with the suggestive conclusion that hoards were buried deliberately and regularly in the context of cultic and social practices and that the discovery of sickles in them indicates that agriculture had greater symbolic and ideological importance in the period at the hoard peak (13.-11. BC) than before or after it.

It is also important to observe that agricultural crops from the LBA do not differ particularly from the same ones during the EBA. The use of a plow is also important, which is indirectly proven by traces of load on the bones of draft animals.

The order of importance of animals raised and used is 1-cattle, 2-pigs, 3-sheep, 4-horses, indicating a population with a settled agricultural and livestock holding. And here comes the contributing conclusion, in Durankulak agriculture is the main livelihood, and animal husbandry has auxiliary functions. In this context, it is reasonably explained that the settlement thinness of the LBA is due to displacements for agriculture and not for livestock.

Chapter 7. CERAMICS AND CHRONOLOGY (292-312 pp.) presents the author's results of the specialized critical treatment and description of the known ceramics from the

site, with the aim of maximizing its use as an archaeological source, with the brief conclusion: *"In summary of the review of the us pottery from Durankulak, it can be said that it shows both typical forms of the LBA, and those that are found at the beginning of the EIA in Dobrudzha and Ludogorie. The lack of data on the stratigraphic position of the vessels does not allow us to understand whether the elements characteristic of EIA originate from the latest phase of the settlement (the yellow one) or from later excavations"* (p.309).

Chapter 8. SMALL FINDINGS (313-314 p.) is distinguished by their unrealistically small number. Among them, 1 psalion of stag horn is striking, which unequivocally confirms the use of a bridle/s.

Chapter 9. FLINT OBJECTS (315-319 pp.) presents the results of the study of 213 flint artifacts, of which 170 are from the Bronze Age, 23 from the Chalcolithic, and 20 are unidentifiable. They give reason to conclude that they are indisputable evidence of their use in agricultural activity - bronze sickles are common in Durnakulak, but flint sickles are also harvested.

Chapter 10. METAL OBJECTS (p. 320-322), despite their brief mention in the documentation as "spikes, needles, buttons, plates and simply metal fragments" (p. 320), were not found for further analysis and comment.

CONCLUSION (323-327 p.) successfully presents and records, specifically the site of Durankulak, and more generally - the Western Black Sea Coast and even the Eastern Balkans, as part of the settlement, production, trade, social, cultural-historical and political changes in the Eastern Mediterranean, at the end of the 2nd millennium BC. This is an excellent result of the analysis and interpretation of a huge archaeological and cultural-historical material carried out by Bogdan Atanasov, for which he deserves congratulations.

THE CITED LITERATURE (pp. 328-349) lists the numerous Cyrillic, Latin, and Greek titles used in the text, over 20 pages.

The second part of the dissertation II.TABLES covers 32 tables explaining the first part I.TEXT.

The **ABSTRACT** meets the requirements. I accept and confirm the contributions presented by the dissertation, adding to them the additional ones noted in this review.

In my opinion, there is **no plagiarism in the dissertation**.

IV. Critical notes and recommendations:

Despite all the positive evaluations and contributions of the dissertation, I cannot but notice that the text lacks letters, punctuation marks and other technical omissions and misunderstandings in many places.

V. Conclusion:

The listed merits and contributions of the dissertation on "***Technology and Society at the end of the 2nd millennium BC in the Western Black Sea. The settlement from the Late Bronze Age near Durankulak***". Sofia, 2024, as well as the other scientific manifestations of the author **Bogdan Stoyanov Atanasov**, a doctoral student of independent training in the scientific specialty *Archaeology*, in the doctoral program *Archaeology* of the NBU, PD 2.2 History and Archaeology, give me grounds and **I VOTE POSITIVE** for him to be awarded the **educational and scientific degree "doctor" Dr=PhD** (of History).

29.02.2024

Reviewer:



Prof. Kalin Porozhanov Dr, DSc.