Gavrilă Simion
Eco-Museum Research
Institute
(Tulcea)

Institut für Ur- und
Frühgeschichte und
Vorderasiatische
Archäologie (Heidelberg)

Council of Tulcea County

City Hall of Tulcea Town

Vasile Pârvan
Institute of Archaeology
Romanian Academy
(Bucharest)

Deutsches Archäologisches
Institut
Eurasien-Abteilung
(Berlin)

Objects, Ideas and Travelers.
Contacts between the Balkans, the Aegean and Western Anatolia during the Bronze and Early Iron Age.
Conference to the memory of Alexandru Vulpe

10th-13th November 2017
Tulcea, Romania

Organising Committee

Joseph Maran
Institut für Ur- und Frühgeschichte und Vorderasiatische Archäologie (Heidelberg, Germany)

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Main Program

Friday, 10th November

12.00 - 19.00
Hotel Delta
- Arrival, registration and accommodation

19.00 - 22.00
Hotel Delta (Restaurant)
- Dinner

Saturday, 11th November

7.00 - 8.30
Hotel Delta (Restaurant)
- Breakfast

8.30 - 13.00
Hotel Delta (Conference Hall, 1st floor)
- Official opening of the conference and presentations

13.00 - 14.30
Hotel Delta (Restaurant)
- Lunch

14.30 - 19.30
Hotel Delta (Conference Hall, 1st floor)
- Presentations

19.30 - 22.00
Hotel Delta (Restaurant)
- Dinner

Sunday, 12th November

7.00 - 8.30
Hotel Delta (Restaurant)
- Breakfast

8.30 - 13.00
Hotel Delta (Conference Hall, 1st floor)
- Presentations

13.00 - 14.30
Hotel Delta (Restaurant)
- Lunch

14.30 - 19.30
Hotel Delta (Conference Hall, 1st floor)
- Presentations

19.30 - 22.00
Hotel Delta (Restaurant)
- Dinner

Monday 13th November

7.00 - 8.30
Hotel Delta (Restaurant)
- Breakfast

8.30 - 13.30
Hotel Delta (Conference Hall, 1st floor)
- Presentations, final discussions and concluding remarks

13.30 - 14.30
Hotel Delta (Restaurant)
- Lunch

14.30 - 19.30
- Visit the Enisala fortress and the Museum of Archaeology in Tulcea

19.30 - 22.00
Hotel Delta (Restaurant)
- Dinner

Tuesday, 14th November

7.00 - 8.00
Hotel Delta (Restaurant)
- Breakfast

8.00 - Departure

List of Contributors / Participants
(in alphabetical order)

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Tiberiu VASILESCU (Independent researcher, Bucharest, Romania)

Petar ZIDAROV (New Bulgarian University, Department of Archaeology, Sofia, Bulgaria)

Detailed Program of Presentations

Hotel Delta (Conference Hall, 1st floor)

Saturday, 11th November

8.30-9.00 – Official opening of the Conference

- Dr. Sorin-Cristian Ailincăi, Director of the *Gavrilă Simion* Eco-Museum Research Institute, Tulcea
- Horia Teodorescu, President of the Council of Tulcea County
- Dr. Constantin Hogea, mayor of the Town Tulcea
- Prof. Dr. Joseph Maran, Director of the Institut für Ur- und Frühgeschichte und Vorderasiatische Archäologie, Heidelberg
- Prof. Dr. Svend Hansen, Director of the Deutsches Archäologisches Institut, Eurasien-Abteilung, Berlin
- Dr. Radu Băjenaru, Deputy Director of the *Vasile Pârvan* Institute of Archaeology, Bucharest

9.00-13.00 – Presentations. Chairing session: Ernst Pernicka

9.00-9.30 – Anthony Harding (Exeter)
Interconnectedness in the European Bronze Age: from objects to networks

9.30-10.00 – Helle Vandkilde (Aarhus)
Cross Roads and Connected Histories: Weapons & ideas travelling long-distance around 1600 BCE.

10.00-10.30 – Johan Ling, Zofia Anna Stos-Gale (Gothenburg), Lena Grandin, Eva Hjärthner-Holdar (Stockholm), Lene Melheim (Gothenburg)
Scandinavia's role in the Bronze Age copper networks of Europe – application of lead isotope and elemental analyses as a tool to understand movement and exchange

10.30-11.00 – Coffee break

11.00-11.30 – Joseph Maran (Heidelberg)
The Introduction of the Light Chariot – Divergent Responses to a Technological Innovation between the Carpathian Basin and the East Mediterranean

11.30-12.00 – Laura Dietrich (Frankfurt am Main), Petar Zidarov (Sofia)
Mobile archers? On Late Bronze Age weaponry in the Pontic region and its influence on the adjacent areas

12.00-12.30 - Paulina Suchowska-Ducke (Poznań)
Naue II swords and long-distance mobility of warriors

12.30-13.00 - Svend Hansen (Berlin)
Bronze Age Hoards between the Carpathians and the Aegean

13.00-14.30 – Lunch (Hotel Delta, Restaurant)

14.30-19.30 – Presentations. Chairing session: Svend Hansen

14.30-15.00 – Anca-Diana Popescu (Bucharest)
Prestige artefacts during the Bronze Age: the Perşinari silver axes and the precious metal weapons between the Middle Danube and the Fertile Crescent

15.00-15.30 – János Dani (Debrecen)
"Elite technologies / Technologies for the Elite" - Special techniques on Middle and Late Bronze Age weapons from the Carpathian Basin and their relationships

15.30-16.00 - Stefan Alexandrov (Sofia)
Gold and silver in Bronze Age Bulgaria

16.00-16.30 - Hristo Popov (Sofia)
Professional specialization and mobility: (Possible) Hypotheses based on the investigations of the Late Bronze Age Gold Mine at Ada Tepe, South Bulgaria

16.30-17.00 – Coffee Break

17.00-17.30 – Lorenz Rahmstorf (Göttingen)
In search of scales, weights and weight-regulated artefacts in the Balkans during the 3rd and 2nd millennium BC.

17.30-18.00 – Janusz Czebreszuk, Mateusz Jaeger (Poznań)
Origin of adaptation of the Baltic amber in the Carpathian Basin and in the Aegean. Comparison of two cultural processes

18.00-18.30 – Tibor-Tamás Daróczi (Cluj-Napoca)
Bronze Age ritual meadow- and sylvanscapes. Of Aegean sacred 'gardens' and Eastern Carpathian Basin funerary woodlands

18.30-19.00 - Oliver Dietrich (Berlin)
Tekirdağ and Troja. The distribution limits of southeastern European socketed axes

19.00-19.30 - Cristian Schuster (Bucharest)
Salt Resources, Production, Transportation, and Routes between the Southern Carpathians and the Danube in the Bronze Age

19.30-22.00 – Dinner (Hotel Delta, Restaurant)

Sunday, 12th November

8.30-13.00 – Presentations. Chairing session: Anthony Harding

8.30-9.00 - Ernst Pernicka, Bianka Nessel (Mannheim)
Supply and movement of metal in the Carpathian basin in the Early and Middle Bronze Age

9.00-9.30 - Wolfgang David (Manching)
Evidence for Balkan and Aegean-Anatolian contacts in the regions of the Middle and Upper Danube during the 2nd quarter of second millennium BC in the light of new researches of the last two decades

9.30-10.00 – Carola Metzner-Nebelsick (München), Louis Nebelsick (Warsaw)
From here to there - long range connections to and from the Carpathian Basin in the Late Bronze Age

10.00-10.30 – Liviu Marta (Satu Mare)
Late Bronze Age hoards containing axes with disc. Personal belongings given as offering / materialization of social collective practices

10.30-11.00 – Coffee Break

11.00-11.30 – Florin Gogâltan (Cluj-Napoca), George G. Marinescu (Bistriţa-Năsăud)
Kurt Horedt's "Siebenbürgen und Mykenä". After more than 50 years

11.30-12.00 - Alexandra Ţârlea (Bucharest)
How to look smashing while smashing your enemies. The construction of the warrior's image in the Romanian Bronze Age between local choices and supra-regional influences

12.00-12.30 - Ole Christian Aslaksen (Gothenburg)
Waterborne and riverine communication in the southern Balkans of the 2nd millennium BC: a comparative study of mobility, encounters and identity formation processes

12.30-13.00 - Florian Ruppenstein (Freiburg)
Migration events in Greece at the end of the second millennium BC and their possible Balkanic background

13.00-14.30 – Lunch (Hotel Delta, Restaurant)

14.30-19.30 – Presentations. Chairing session: Joseph Maran

14.30-15.00 - Maja Gori (Bochum)
Κατὰ γῆν καὶ κατὰ θάλασσαν. Intertwined networks in the western Balkans at the end of the 3rd mill. BCE.

15.00-15.30 - Helena Tomas (Zagreb)
Early Bronze Age travels between the Eastern Adriatic and the Aegean: Cetina Culture and its maritime endeavours

15.30-16.00 - Sabine Pabst (Marburg)
Material Remains indicating Mycenaean Trade and Cultural Contacts in the Eastern Adriatic Hinterland – New Studies on Late Bronze Age Metal Artefacts

16.00-16.30 - Mario Gavranović (Vienna)
"Neighbours from the East" - connections between the Western and Eastern Balkans in the Late Bronze and Early Iron Age

16.30-17.00 – Coffee Break

17.00-17.30 – Eugen Sava (Kishinev), Elke Kaiser (Berlin), Mariana Sîrbu, Eugeniu Mistreanu (Kishinev)
Die Siedlungen mobiler Viehzüchter: Die mikroregionale Erschließung einer spät-bronzezeitlichen Kulturlandschaft im Süden der Republik Moldova

17.30-18.00 - Neculai Bolohan (Iași)
Landscapes and settlements in the Lower Danube area during the Late Bronze Age

18.00-18.30 - Nikolaus Boroffka (Berlin)
On the Late Bronze Age / Early Iron Age in southern Romania

18.30-19.00 - Daria Ložnjak Dizdar (Zagreb)
The paths of Argonauts - the western border of Basarabi complex

19.00-19.30 - Blagoje Govedarica (Berlin)
The ornamented whetstones in the Iron Age of Eurasia

19.30-22.00 – Dinner (Hotel Delta, Restaurant)

Monday, 13th November

8.30-13.00 – Presentations. Chairing session: Helle Vandkilde

8.30-9.00 - Zofia Anna Stos-Gale (Gothenburg)
The Aegean and the Black Sea connecting south east Europe and Anatolia in the Bronze Age: evidence from metal finds in Bulgaria, Greece and western Turkey

9.00-9.30 - Krassimir Leshtakov (Sofia)
Bronze Age fluctuations in the Eastern Balkans: old theories and new evidence

9.30-10.00 - Martin Hristov (Sofia)
Anatolian influences from the EBA in Southeast Europe: some examples from Thrace

10.00-10.30 - Radu Băjenaru (Bucharest)
Same shape, different meaning? About several types of shaft-hole axes spread from the Lower Danube to Anatolia during the Early Bronze Age

10.30-11.00 – Coffee Break

11.00-11.30 - Philipp W. Stockhammer (München), Bogdan Athanassov (Sofia)
Travelling Objects - Travelling Ideas? Thoughts on itinerant objects from the Late Bronze Age settlement from Bresto (Southwestern Bulgaria)

11.30-12.00 - Bogdan Athanassov, Kalin Dimitrov (Sofia), Dimitar Chernakov (Rousse), Raiko Krauß (Tübingen), Hristo Popov (Sofia), Vladimir Slavchev (Varna), Ernst Pernicka (Mannheim)
A New Look on the Late Bronze Age Oxhide Ingots from the Eastern Balkans

12.00-12.30 - Sorin Cristian Ailincăi (Tulcea)
Early Iron Age Stamped Pottery in Southeastern Europe. Analysis, Chronology and Interpretation

Poster - Viktória Kiss (Budapest)
The Balatonakali burial revisited – eastern and western contacts of western Hungary in the Early Bronze Age

12.30-13.30 - Final discussions and concluding remarks (Chair session: Joseph Maran)

13.30-14.30 – Lunch (Hotel Delta, Restaurant)

14.30-19.30 - Visit the Enisala fortress and the Museum of Archaeology in Tulcea

19.30-22.00 - Dinner (Hotel Delta, Restaurant)

ABSTRACTS

Interconnectedness in the European Bronze Age: from objects to networks

Anthony Harding (University of Exeter, Archaeology Department, United Kingdom)

The evidence that the world of the Bronze Age was an interconnected one mounts month by month. Everyone now knows about the movement of individual people, such as the Amesbury Archer or the Egtved girl, thanks to advances in stable isotope analysis. This work is of course crucial, but it should not blind us to the fact that artefacts have abundant stories to tell that equally indicate how objects moved across small and large distances; and since objects are a proxy for the behaviour of people, they contain compelling information about the movement of people as well.

In the last 10 years, much work has been done on modelling artefact distributions through network analysis. The most powerful of these analyses have provided insights into how such distributions might have operated. While it can be argued that network approaches have not lived up to their promise, and that the identification of nodes and links is a subjective matter, there are good grounds for believing that certain situations in the Bronze Age archaeology of Europe really can be seen as networks of movement and influence, rather than simply as individual dots on the map.

Cross Roads and Connected Histories: Weapons & ideas travelling long-distance around 1600 BCE

Helle Vandkilde (Aarhus University, School of Culture and Society, Denmark)

Since the early work of Ebbe Lomborg a Bronze Age connection between Southern Scandinavia and the Carpathian Basin has been recognized and studied. While focusing mostly on the 16th century BCE, the present paper first seeks to describe the state of the art in terms of chronology and, especially, the scope of cultural mobility with the Carpathian Basin as principal crossroad and shared repository of knowledge. Weaponry stands strong in the data along with metals and amber, but new ideologies more difficult to grasp clearly also formed part of an intensifying Bronze Age connectivity covering large tracts of Afro-Eurasia. As a final point, warriorhood, and thus warfare, will be hypothesised as drivers of innovation and as ingredients in the quite substantial social change that characterized the 16th century BCE. Overall, the paper makes use of archaeological and natural science data (insofar as existent) and also draws on sociological insights. Regarding methods, the study is multi-sited as well as multi-scalar.

Scandinavia's role in the Bronze Age copper networks of Europe – application of lead isotope and elemental analyses as a tool to understand movement and exchange

Johan Ling (University of Gothenburg, Department of Historical Studies, Sweden)
Zofia Anna Stos-Gale (University of Gothenburg, Department of Historical Studies, Sweden)
Lena Grandin (Swedish National Heritage Board, Geoarchaeological Laboratory – GAL, Sweden)
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Lene Melheim (University of Gothenburg, Department of Historical Studies, Sweden)

The question of metal supplies is one of the core issues of Bronze Age research in Scandinavia. Whether the metals used to create the distinguished Nordic metalwork was imported, or produced from the abundant indigenous copper ores has until recently been an unresolved problem. Our multidisciplinary study has, on the basis of lead isotope and elemental analyses, concluded that the so far analyzed bronzes could not have been made from Scandinavian copper ores, although potentially available.

Current analytical results furthermore conclude that there are chronological variations in the supply of copper metal related to various ore types and geographical areas. The interpretation of new data-sets suggests a new and much more complex picture of possible connections between Scandinavia and Europe in Bronze Age than was previously anticipated. In addition to a steady supply of copper from Alpine ores, also sources in more southern and eastern parts of Europe can be suggested. In any case this would have demanded a rather complex trans regional social organization and connections with maritime networks and hubs for long-distance travel and exchange.

The chronological variation of metal supply is likewise in part contemporary to transitions from one morphologic type of implement to another. Accordingly, such changes are apt to reflect general patterns in the Bronze Age societies comprising aspects of social organization, production, exchange and consumption

The Introduction of the Light Chariot – Divergent Responses to a Technological Innovation between the Carpathian Basin and the East Mediterranean

Joseph Maran (*Ruprecht-Karls* Universität, Institut für Ur- und Frühgeschichte und Vorderasiatische Archäologie, Heidelberg, Germany)

The wide distribution of the "horse-chariot-complex" in the centuries between 1900 and 1600 BCE in parts of Europe, Central Asia, the Near East and Egypt serves as an excellent example for the relatively swift spreading of a complex technology and raises the question of the mechanisms of its transfer. From the 1960s onwards the prevalent research opinion assumed a Near Eastern origin of the light chariot and a diffusion in the

course of trade relations from there to Egypt, the Aegean and Europe. This diffusionist perspective was challenged as of the 1990s by the early 14C-dates for chariots from burials of the Sintashta culture which prompted the formulation of an alternative research opinion according to which the horse-chariot-complex had emerged in the Eurasian steppes of the border zone between East Europa and Central Asia. This went along with a revival of migrationist interpretations that had been dominant in the years before and after the 2nd World War and that were based on an amalgam of archaeological evidence and conclusions of Indo-European linguistics. According to these migrationist explanations Eurasian "chariot warriors" had invaded the Near East, Greece and the Carpathian Basin and were able to establish themselves in the conquered regions as an aristocracy due to the supremacy of their weapons. In this lecture it will be argued that especially the migrationist, but also the diffusionist perspective are for various reasons unsuitable to account for the intricacies of the transfer of the horse-chariot-complex. Both perspectives have distracted from the central aspect that societal responses to the horse-chariot-complex varied considerably from region to region. This will be demonstrated by contrasting the responses to the light chariot in the Balkano-Carpathian zone with the ones in the Aegean and the East European/Central Asian steppes. The strikingly different responses in-between regions point to marked differences in the ideological connotation of these vehicles and contradicts the idea of an invasion of "chariot warriors". While key elements of the horse-chariot-complex may indeed have been developed not in the Near East, but in the wide zone between the Carpathian Basin and Central Asia, the potential of such chariots as a strategic speed weapon only materialized in Near Eastern societies. They had a long tradition of using wheeled vehicles in fighting and had political structures totally different from the ones of societies in the East European-Central Asian steppes which are likely to have used light chariots not as a weapon, but exclusively for inner-societal agonistic purposes.

Mobile archers? On Late Bronze Age weaponry in the Pontic region and its influence on the adjacent areas

Laura Dietrich (Deutsches Archäologisches Institut, Römisch-Germanische Kommission, Frankfurt am Main, Germany)
Petar Zidarov (New Bulgarian University, Department of Archaeology, Sofia, Bulgaria)

The archaeology of Bronze Age warfare constitutes an important research field in the recent years. Not only the warriors´ identities and their weapons, but also battle fields and battle tactics moved into the focus of research. In the Late Bronze Age of the Northern Pontic region and the Eastern Carpathian Basin warfare was studied until now through the analysis of metal weapons deposited in numerous hoards. Battle axes and swords, spears and daggers shaped the image of pedestrian warriors and only to certain extent - the dynamic development of battle tactics. Settlement research however proves that this image is rather biased due to the unequal interpretation of archaeological con-

texts. The present paper aims to show this by analysing the projectile points of the Late Bronze Age Noua-Sabatinovka-Coslogeni cultural complex. They are produced mostly of bone and antler and appear together with horse gear in large numbers in settlements, but in considerably limited numbers in hoards or graves. Metrical analysis points at their improved efficiency in comparison to earlier projectile points made of flint and several groups with different grades of efficiency can be distinguished. More mobile battle tactics, which may imply also the invention of new forms of lighter bows, seem to become visible behind this find group.

Naue II swords and long-distance mobility of warriors

Paulina Suchowska-Ducke (*Adam Mickiewicz* University in Poznań, Collegium Historicum, Institute of Archaeology, Poland)

Europe's history is one of steadily increasing connectivity and interaction between societies. This paper will show that crosscultural interaction and mobility between societies in the European Bronze Age were more intense than is commonly acknowledged, and that the Bronze Age must be considered a formative epoch of European history. Its central hypothesis is that important historical phenomena, such as the famous raids by the Sea People, the material splendour of the Nordic Bronze Age and the rise and downfall of the Mycenaean city states, can only be understood by examining the strong economic codependences across the continent, from Scandinavia to the Mediterranean.

The guiding question is whether and how it is possible to find common explanation grounds for these formative events, based only on the material evidence and scarce historical sources. The approach taken here is a GIS-based mapping and analysis of a large geographical cross-section of the archaeological evidence. Thanks to denser communication networks, technological innovations diffused rapidly in the Bronze Age, lowering cultural barriers and intensifying trade and exchange. A prime example of this is the diffusion of flange-hilted swords of type Naue II, a pan-European weapons technology that bears witness to profound changes in warfare and society.

Bronze Age Hoards between the Carpathians and the Aegean

Svend Hansen (Deutsches Archäologisches Institut, Eurasien Abteilung, Berlin, Germany)

The deposition of hoards is representative of a typical phenomenon of the Bronze Age in southeastern Europe as well as in northern, western and central Europe. At first glance however, only few hoards have been found in the Mediterranean area: from Spain in the West to Israel in the East. This regional difference in the distribution of hoards is meaningful for their interpretation. It can be presumed that wars and crises in the Mediterranean sphere as well, however – and this is the point – they did not lead to the

deposition of hoards. This fact too is an argument that other reasons than war and crisis were responsible for the deposition of hoards in Southeast and Central Europe. The deposited objects were meant to be excluded from general metal circulation forever as "gifts for the gods". In my contribution I will compare Southeast Europe and Southern Greece to show in detail the differences and the correspondencies in metal deposition.

Prestige artefacts during the Bronze Age: the Perşinari silver axes and the precious metal weapons between the Middle Danube and the Fertile Crescent

Anca-Diana Popescu (*Vasile Pârvan* Institute of Archaeology, Romanian Academy, Bucharest, Romania)

Various types of weapons (axes, daggers, spearheads) made of precious metals were found mainly in the Aegean and the Near East and rather frequently within funerary contexts. The earliest finds date back to the 4th millennium BC, but the majority were dated to the 3rd millennium BC. Through such gold and silver weapons (e.g. the well-known pieces from Perşinari and Ţufalău, and the less famous dagger from Poduri), the area north of the Lower Danube valley became part of the above mentioned larger zone that yielded such spectacular finds.

The central point of the present discussion will be the Perşinari hoard (Muntenia, Romania), published 22 years ago by Alexandru Vulpe. Special attention will be given to the silver axes from this hoard. They were damaged and fragmented by the discoverers, making their typological attribution difficult. But their structure was studied in detail: due to their fragmentation, the analyses performed to determine their elemental composition were possible both on the outer surfaces and the breaks. Thus, on this particular occasion, the discussion will focus on a few aspects of the manufacturing technique of the Perşinari axes, as well as on the frequency of auriferous silver use in the manufacture of various items in south-eastern Europe and the Near East during the Bronze Age.

The discussion will further focus on the precious metal weapons of the 4th, 3rd and the first half of the 2nd millennium BC discovered within the above mentioned area, as well as on their archaeological contexts. Silver and gold weapons could not have been very efficient in combat, thus, they were not actual weapons, but rather parade or ceremonial items and symbols of power. Their presence at the Lower Danube brings into discussion (among other things) the possible presence in the area of certain high ranked individuals or of well-organized communities, capable to obtain such items through exchange, or to order their local manufacture from ores brought from other areas (as Muntenia has no gold, silver or argentiferous lead ores).

"Elite technologies / Technologies for the Elite" - Special techniques on Middle and Late Bronze Age weapons from the Carpathian Basin and their relationships

János Dani (Déri Museum, Debrecen, Hungary)

The Hajdúsámson hoard (with 12 axes and a decorated *Vollgrifschwert*) is one of the well-known weapon hoards of the Bronze Age in Europe, but there are some extraordinary details that refer these decorated weapons to the elite. Not just the fascinating, sophisticated ornamentation on its own, on the sword's blade and on three of the axes. It has been recently recognised and documented that the well-known decoration on the sword blade is inlayed with some kind of white crystalline material. Now, with the help of physicists, we are trying to identify this material. This technique is a very special and short-lived method connecting to this certain time period, to some weapons of the so called Hajdúsámson horizon. In this respect, this inlaying technique is a special technique reserved for the "Prunkwaffen" of the highest elite, similarly to the inlaying technique (but with other techniques and materials) on some Mycenaean daggers.

At the same time, there are some very interesting items made of stone that are presumably connected to this period as well. These are the so-called hemispherical sword buttons, which are very rare pieces in the Carpathian Basin from this period. The Mycenaean parallels of this type raise some technological and chronological questions as well.

Gold and Silver in Early and Middle Bronze Age Bulgaria

Stefan Alexandrov (National Institute of Archaeology with Museum, Bulgarian Academy of Sciences, Sofia, Bulgaria)

The report is focused on the chronological time-span between 3500 and 1500 BC that, according to the Bulgarian periodization of the Bronze Age covers the following periods: Early Bronze Age - 1 (3500–3200/3100 BC); Early Bronze Age - 2 (3200/3100 - 2500/2400 BC), Early Bronze Age - 3 (2500/2400–2200/2100 BC) and the Middle Bronze Age (2200/2100–1600/1500 BC).

Although the first silver objects appear even earlier than the period discussed, several barrow- and flat-graves provided silver ornaments from the beginning of the EBA-1 period suggesting contacts to the North-Northeast. During the "Ezero" and "Mihalich" phases of the EBA (3200/3100 - 2500/2400 BC) the vast majority of the securely dated precious metal finds– hair-rings and beads of gold and silver have been found in barrow graves. The intense contacts with Anatolia during the EBA - 3 are demonstrated by a group of golden torques with *"ears additionally twisted over the bar"* found together with "*drop-shaped"* earrings cast of gold as well as by the earrings made of gold foil, all of them - from North-Eastern Bulgaria. A *"Mochlos"* type earring from Shumen area should be regarded

as a direct import from Crete. At the same time, South-Western Bulgarian lands provided some treasures such as the ones from Petrich and Rupite and gold and silver earrings of "Leukas" type as well as the spectacular jewellery from Dubene.

The Middle Bronze Age reveals the jewellery with Central European parallels - Grave No.7 in Ovchartsi barrow and Galabovo tell from Thrace and, the hair-rings from Topolovets, North-Western Bulgaria. The mid-2nd millennium BC is marked by several large treasures: the beginning of the accumulation of the Valchitran treasure and the Svishtov one, which could be linked to a trade route from Aegean world to Transylvania. A recently discussed group of crescent-shaped applications made of silver and electrum from Northern Bulgaria also belong to this period. The appearance of the so called *élite graves* of both men and women, with extremely rich inventory such as Ovchartsi, Izvorovo and Kamen is discussed as well.

In search of scales, weights and weight-regulated artefacts in the Balkans during the 3rd and 2nd millennium BC

Lorenz Rahmstorf (Universität Göttingen, Seminar für Ur- und Frühgeschichte, Germany)

Exchange was entirely revolutionized when weighing was invented. With weights and scales it became possible to measure materials like, for example, precious metals. Until that time, such raw materials could only have been counted by pieces provided they were of rather similar shape. The use of common weight units on a supra-regional level allowed the precise assessment of material value, especially when goods were exchanged with external actors to the system(s). The innovation triggered exchange of a kind we can indeed call trade as it enabled the emergence of notions of profit.

It is in fact not easy to trace physical evidence for the presence of the idea of weighing and to pinpoint the precise moment it came into use. This issue is particularly immanent for Bronze Age Europe. Nevertheless, the past 20 years of research have sharpened our understanding of this specific kind of past interaction considerably and most recent discoveries yet continue to do so. Thanks to latter insights, we now know that weights were used starting at the latest in the second half of the second millennium BC in Central Europe, Italy, Portugal and Britain.

In the scope of a large ERC-granted research project we are investigating the likely presence of early weighing equipment in Europe, South and West Asia during the Bronze Age, especially in those regions and periods we know of only very little so far. Up to now, there is not much evidence in the form of indubitable weights from the Bronze Age Balkans (in the regions north of the Aegean). However, the pit-feature from the site of Bordjoš, Banat, in which a balance beam was discovered indicates that Bronze Age weights could look just like pebbles. With this contribution I would like to discuss the methodological approach and the indications which may speak in favor of the use of weights in the Balkans during the Bronze Age.

Origin of adaptation of the Baltic amber in the Carpathian Basin and in the Aegean. Comparison of two cultural processes

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Mateusz Jaeger (*Adam Mickiewicz* University in Poznań, Institute of European Culture, Poland)

The issue of the beginning of Baltic amber adaptation in the Carpathian Basin and in the Aegean is crucial element of grand narratives describing the origin of the oldest European civilizations. In frames of grand narratives, one may find those which interpret the occurrence of Baltic amber in the Carpathian Basin and in the Aegean as two elements of the same wide cultural process (network linking the regions between the North Sea, Baltic Sea and the Aegean Sea), but there are also such models which see adaptation of the Baltic amber in both areas as separate phenomena.

It is not the aim of our presentation to try to find answers to those fundamental questions. Our main goal is to show current state of knowledge concerning the origin of Baltic amber adaptation and use in two crucial regions of Bronze Age Europe. It is known that in both regions amber occurred, at least partially concurrently, at the beginning of the 2nd millennium BC.

The distribution of finds we know, allows one to determine possible routes by which amber arrived to the Carpathian Basin. Important communication routes ran from the North-West, from Bohemia and Moravia along with Aunjetitz culture's development, which occurred also in the area of south-western Slovakia. This stage of amber distribution can be chronologically placed around beginning of the 20th century BC. During the next centuries amber was adapted in more remote parts of the Carpathian Basin, by communities living along the Danube and Tisza rivers (Vatya culture and Otomani-Füzesabony cultural complex). In this context one of the main questions for archaeology is the significance of local resins, including rumenite and its sources located in Transylvania.

In the case of Mycenaean culture, the oldest amber finds come from Shaft Graves Circle B (MH IIIB). Still in the Early Mycenaean phase (MH/LH – LH IIB) amber is known on the whole area of the culture's distribution. Having in mind all controversies concerning the issue of transformation of Aegean relative chronology into calendar age, we may locate amber influx in period between 1750-1650 BC.

In the literature the question of possible relations linking Carpathian and Aegean societies in the period of Mycenaean culture's formation is very often discussed. There is no doubt that amber should be one of the main elements of this discussion.

As it has been said above our aim is to present and discuss archaeological sources we have at our disposal in order to better understand the role of amber adaptation during the rise of Bronze Age societies in the Carpathian Basin and in the Aegean.

Bronze Age ritual meadow- and sylvanscapes. Of Aegean sacred 'gardens' and Eastern Carpathian Basin funerary woodlands

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Keywords: *phenomenology, Bronze Age, Aegean, Eastern Carpathian Basin, landscape, theory, ritual, agency*

Present archaeological research acknowledges the possibility to view *globalisation* as a phenomenon that occurred in the Bronze Age as well, stretching from the eastern Atlantic to the western Pacific, an unravelling that is coined *bronzization*. In essence, it expresses the idea of weirdness of peoples of the age and the directional and non-directional flow of ideas and goods, all facilitated by a transculture, what is *bronze*. The tangible and intangible transported through these flows are adapted and entangled into the local, a phenomenon which is termed *glocalisation*, that gave birth to slightly varied, but nevertheless genetically related products.

The present paper explores glocalisations of human-nature relations in Bronze Age ritual social milieus of the Aegean and Eastern Carpathian Basin (ECB). Ritual is outlined as performative utterance and enacted social memory which if interpreted through a phenomenological prism elucidates the locally entangled agencies of nature. Moreover, landscape archaeology is employed to explore phenomenological extents of glocalised rituals. The impact of a cascading nature over human senses and perceptions is underscored through definitions of *meadow-* and *sylvanscapes*, both viewed as essential background against which rituals are performed and that trigger enactments of social memory.

Ritual meadowscapes of the Aegean are recognised in *sacred 'gardens'* of the elites, information about which is conveyed to us mostly through visual (frescoes, glyptic, pottery) and written (Linear B) media that is exemplified through well-known finds. Evidence in the archaeological record for these is sought in archaeobotany, especially for flowers and trees, while palaeobotany is employed to understand how and when the human-nature relation represented by 'gardens' is born, that is to say is glocalised in the Aegean. Furthermore, a glocalisation of the same relation in the ECB is recognised through *funerary sylvanscapes*. The materialisation of ritual in this latter region is seen in the funerary aspects of daily life, since these do not end with the interment of the deceased, but continue on with the periodical visit of the burial ground by a distinct group of individuals to enact social memory tied to the location and past individuals. The recognition of Bronze Age woodlands is owed to the landscape approach to funerary aspects of the ECB. Through the successful combination of palaeobotany, paleozoology, geomorphology, hydrology and lithology in a GIS system archeco-zones are defined, which in the case of a specific sub archeco-zone allowed for the clear association of woodlands with a distinct set of burials. Intimacy of woodlands opposed to the wild woods must have been an imperative for the Bronze Age people, since revisiting hostile environments for enactment of rituals or even disposal of the loved ones is unimaginable.

The paper argues for two Bronze Age glocalisations of human-nature relations, which are recognisable through landscape archaeology approaches and a phenomenological mind set. It proposes two distinct methodologies, one rooted in classical archaeology and only partially in natural sciences, while the other relies heavily on data and tools from the latter scientific fields. Ultimately, both illustrate how Bronze Age people relate through all of their senses and perceptions to their environment and nature, but also how these are major factors in the choice of place, time and people for performative utterances and enactments of social memory. Lastly, the study demonstrates that similar ideas are in circulation in the same time over larger areas and their local adaptations give birth to the nuanced facets of what we call the Bronze Age world.

Tekirdağ and Troja. The distribution limits of southeastern European socketed axes

Oliver Dietrich (Deutsches Archäologisches Institut, Orient Abteilung, Berlin, Germany)

Socketed axes are among the most common finds of the Late Bronze Age in Eastern and Southeastern Europe. Their preservation in high numbers is clearly connected to the custom of hoarding, as more than 85% of all known finds stem from hoards. The main distribution area of socketed axes lies in the Upper Tisza region and the Carpathian Basin. Outside of this area finds get scarcer in the Lower Danube region, which coincides with the density of hoards. The southern distribution limit is located in northern Bulgaria; to the south of the Balkan Mountains only a few finds are known (Fig. 1). Some of them, especially those from Greece, differ significantly from the types found further north. However, a few axes of southeastern European types are known from northern Turkey. Most remarkable is a casting mould from the Schliemann excavations at Troy (VII), now lost, but published as a photo and a reconstruction drawing by a Götze (Schmidt 1902, fig. 405, supplement 46, Nr. IX). As a casting mould is highly indicative of a (possibly numerically and likely chronologically limited) production of these foreign forms in northwestern Anatolia, the object will be discussed in detail, the reconstruction by Götze questioned, analogies sought (Fig. 3) and an attempt at a recontextualization and interpretation made. Here, one of the few hoards from this region, discovered at Tekirdağ (Harmankaya 1995; Hansen 2005), is of special importance, as it not only contains objects from a wider region, but also a socketed axe that is comparable to those made in the mould from Troy.

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Figure captions:

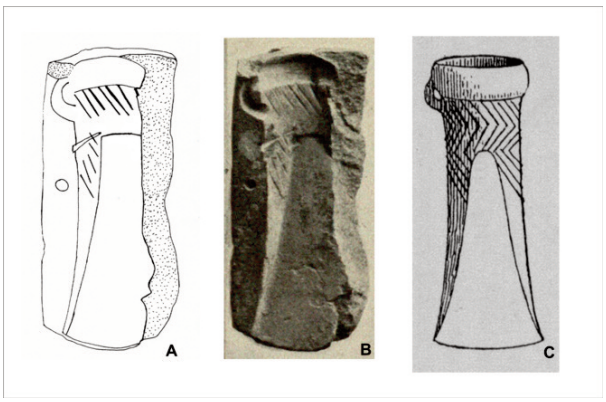
Figure 1: The main distribution area of socketed axes in southeastern Europe with some of the most important types and the finds to the south of this area (following Wanzek 1989).

Figure 2: Casting mould from Troy VII. A Drawing of the photograph published by H. Schmidt (B), C Reconstruction drawing by Götze (B-C nach Schmidt 1902, fig. 405, supplement 46, Nr. IX).

Figure 3: Distribution of socketed axes similar to the finds from Turkey, variants with (filled squares) and without loops (empty squares).

Figure 1

Figure 2



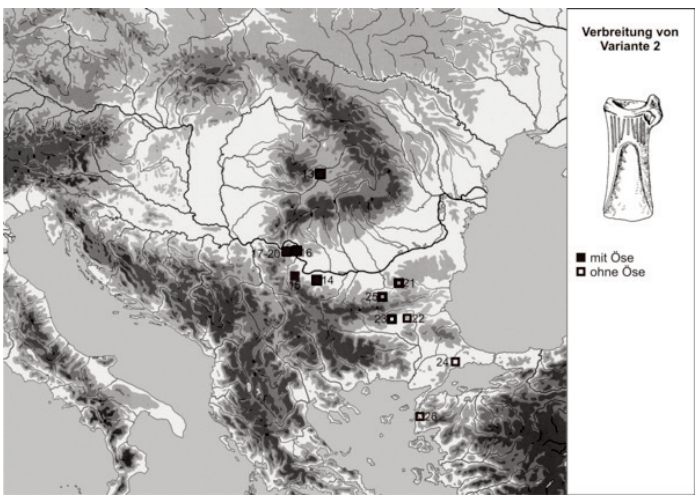


Figure 3

Salt Resources, Production, Transportation, and Routes between the Southern Carpathians and the Danube in the Bronze Age

Cristian Schuster (*Vasile Pârvan* Institute of Archaeology, Romanian Academy, Bucharest, Romania)

Southern Romania (meaning Walachia and Oltenia) has as natural borders the Carpathian Mountains to the north, and the Danube to the south. This area, besides the high mountains area and the low area of the Danube also includes hills, plateaus and plains. Hydrologically, Southern Romania is crossed from northwest to southeast by major rivers (Argeş, Olt, Jiu), but also by smaller ones (Vedea, Colentina, Dâmboviţa, Mostiştea). These smaller rivers together with a series of rivulets, flow, directly or indirectly into the Danube.

During the Bronze Age, as well as during other prehistoric periods, Southern Romania looked differently than today. Large areas were covered by woods while others, especially Eastern Wallachia, had the aspect of a steppe, being quite inhospitable. Consequently, the human communities preferred the banks of Danube and of other water courses or bodies. The rivers network also facilitated the establishment of trade routes, allowing the creation of long distance trade, from the mountains to the Danube, but also on shorter distances.

These routes along the waters did not allow the terrestrial transportation of massive heavy loads. The terrain, many times rough, forested, swamped, impossible to cross on long distances with the transportation means available (such as carts with immobile from wheels) imposed the finding of alternative solutions. Thus, as is also happened later, during the Getic and Medieval periods, the navigation potential of some rivers was exploited. Up until almost the modern age, the rivers Olt, Argeş, Jiu, Prahova, Teleajen, Ialomiţa, were used during certain seasons, when their debit was high, with the help of rafts and boats (dugout canoes or boats with a flatter bottom). Unfortunately, for the Bronze Age we do not have sure discoveries of such vehicles. At Mironeşti, on the Argeş River, the remains of a dugout boat were found, but we cannot say with certainty whether it dated from the Bronze or Iron Age.

The salt was, most surely, among the goods transported from the Carpathians to the south. This was found predominantly in the Vrancea/Buzău region, but also in the northern part of present-day Prahova, Dâmboviţa, Vâlcea and Gorj Counties. The exploitation of salt during the Bronze Age was documented both directly and indirectly. The first category includes a series of tools used for salt extraction such as mine axes used to crush the gem salt and also certain pottery types used for briquetting. The presence of seasonal habitations of small size in the salt source areas (quarries or salty waters), used during the warm seasons and improper for cold weather, indicate the interest of various communities for this raw material. Such examples are the sites of Glina and Verbicioara culture in the north-eastern part of Vâlcea County, especially in the Ocnele Mari area. Besides settlements, important funerary monuments were discovered in certain economically strategic areas, near salt sources and on the trade routes (at Câmpina, Sărata Monteoru).

The control of the salt sources got to be a monopole during the Bronze Age for the communities of Glina, Monteoru and Verbicioara cultures, a monopole that was only rarely penetrated by the communities of other cultures such as Schneckenberg, Tei, Noua.

Supply and movement of metal in the Carpathian basin in the Early and Middle Bronze Age

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Bianka Nessel (Curt-Engelhorn-Zentrum Archäometrie, Mannheim / *Ruprecht-Karls* Universität Heidelberg, Institut für Geowissenschaften, Germany)

The origin of trade and exchange of metals has a long-standing tradition in European prehistoric archaeology. Large analytical programs were implemented and the focus of the origin was mainly on the eastern Alps with several well-documented Bronze Age mining regions and on the Saxo-Bohemian Ore Mountains because of major tin deposits there. Only recently the Slovakian Ore Mountains emerged as possible source region for much of the Early and Middle Bronze Age metals that supplied distant areas including the Carpathian Basin. We will report on new analyses of Early and Middle Bronze Age metal objects from this region including the famous Apa and Hajdúsámson hoards and how they compare with copper ores from geological deposits in Central and Southeastern Europe, which had been exploited in the Bronze Age.

It becomes evident that the Carpathian Basin was participating in more than one exchange network. One of them was based on copper from the Eastern Alps, an area which supplied major parts of Central and even Northern Europe with raw material. Besides this long-distance trade network, the establishment of regular contacts with middle range regions, such as the Slovakian Ore Mountains, were also important for communities in the Carpathian Basin while ore from the Baia Mare or the Apuseni Mountains seem to have played a much lesser role.

We will also address the question, if actual "movement" of metal can be identified, and deal with the thorny problem of mixing and recycling of metal.

Evidence for Balkan and Aegean-Anatolian contacts in the regions of the Middle and Upper Danube during the 2nd quarter of second millennium BC in the light of new researches of the last two decades

Wolfgang David (Kelten Römer Museum Manching, Germany)

The question of the relevance of long-distance contacts between the Aegean-Anatolian region and Central and Western Europe, and particular at the time of the Mycenean shaft graves, for the cultural development of the flourishing Bronze Age Cultures in the Danube-Carpathian region is a topic of international research since decades. Topics of scientific studies were, for example, the controversially assessed question about the possible derivation of the spiral ornaments of the Danube-Carpathian region during Bronze Age from the Minoan-Mycenaean cultural sphere, the spread of certain amber objects, or the occurrence of rapier-like swords north of the Aegean. Regarding the area of the Upper Danube or the Central Europe, for some years now the very violent dispute

about the authenticity of the gold and amber finds of Bernstorf near Freising, north of Munich, and their supposedly great importance for the understanding of remote contacts during the Bronze Age press other aspects in the background.

On scientifically much safer and much more significant base than in the case of the finds of Bernstorf one finds oneself in the case of the repeatedly studied object groups of gold and bone artefacts, which are covered with the characteristic "international ornament" of the so-called Carpathian-East Mediterranean wave band decoration (*karpatenländisch-ostmediterrane Wellenbandornamentik*). These artefacts of different functions are particularly impressive evidence of contacts between the Upper and Middle Danube regions, the northern Pontic steppe regions, and the Aegean-Anatolian region in the second quarter of the second millennium BC. However, a closer examination of these artefacts, taking into account the regionally different conditions of tradition, also shows how little representative the current stock of finds is, especially in the Near East as well as in Greece, outside the exceptional milieu of the rich tombs from the Early Mycenean period. An increase of the finds will in the future allow a more differentiated assessment of the form, ornament and function of this group of objects, which is not as uniform as it seems at first sight, and should also lead to reassessment of some aspects.

Due to numerous new finds and because they occur not infrequently in the upper and middle Danube region in the same settlements as the mentioned artefacts with Carpathian-East-Mediterranean wave band decoration, it is obvious that comparative studies of large-scale distributed object groups, which testify long distance contacts in Bronze Age, should also take into consideration the characteristic group of decorated clay objects, which are known in the German-speaking research as so- called *Brotlaibidole* (loaf of bread idols). In Italy, they are known as *tavolette enigmatiche* or *oggetti enigmatici* (enigmatic tablets/objects). For decades, the original function of the *Brotlaibidole* has been puzzled. Are these artefacts ritual objects, talismans or amulets?

Because of their widespread distribution, the idols are regarded as the testimony of an early European communication network between different cultural groups. The distribution area of the Brotlaibidole extends in a southeast-northwest direction over almost 1500 km from north-western Bulgaria to the Middle-Rhine region, as well as in the southwest-northeast over almost 1400 km from the island of Corsica to Kujavia. In the current research, there are three main areas of distribution:

1.) Northern Italy south of Lake Garda between Oglio and Adige. The Benacense and adjoining areas form the region with the highest density of sites where *Brotlaibidole* were found. The findings are largely attributed to the developed and late Polada culture.

2.) The middle Danube region of Southwest Slovakia, Northwest Hungary, Lower Austria and Southern Moravia in the contexts of the cultural groups of Mad'arovce-Věteřov-Böheimkirchen. The tell-like settlement of the Mad'arove culture of Zámeček in Nitriansky Hrádok is with 43 items the site with the highest number of *Brotlaibidole*.

3.) Lower Danube on both sides of the Iron Gate in Serbia, Oltenia and Northwest Bulgaria in contexts of the Žuto Brdo–Gârla Mare culture. This culture is characterized by sophisticated decorated ceramics and figural sculptures with symbolic ornamentation in which a key to understanding the signs on the "loaf of bread idols/*Brotlaibidole*" could be hidden.

Many of the *Brotlaibidole* are broken and only partially preserved. As far as the circumstances are known, they are almost all from settlements, mainly from those of the

late Early Bronze Age. (Bz A2b until Bz B-early - ca. 1700–1500 BC). The contexts of their discovery reveal them as objects of daily use. With cultic activities, they cannot be directly connected anywhere. A connection with burials only appears in exceptional cases at least; however, these findings are by no means clear.

The characteristic patterns consisting of lines and impressions are arranged in a way which is apparently not occur accidentally. At least in some cases they seem to follow a definite system, leading us to think of a sign system. Would this be used to display quantities, numbers or other information? Can it sometimes be a kind of a prototype or of an early form of writing?

A clay stamp from Thuringia, a clay spool from the Lake Constance region, and the clay discs of the Wallhausen type, which are distributed from the lower Rhône to Lake Constance, show that some of the signs typical of the *Brotlaibidole* can also occur on other artefacts. The variety of forms and patterns of ornamentation suggests that by no means all of the objects collected under the collective names *Brotlaibidol* or *tavoletta enigmatica* are to be interpreted uniformly with regard to their function.

An important common feature of the settlements where *Brotlaibidole* have been found is their location on traffic routes of regional and supraregional importance. The find spots on the island of Corsica, from which the Western Alps and Northern Italy can be seen in clear weather, as well as the find spots on the Adriatic coast of Istria, speak for connections across the sea. The importance of most of the sites in terms of traffic geography suggests a function of the *Brotlaibidole* in the context of goods exchange or long-distance trade. Could they have served as a means of payment, a "delivery note", or for the transmission of news in goods traffic? Perhaps some of them represented counting symbols, which were formally differentiated according to the nature of the goods in terms of form or signs. Could it have been a kind of "merchandise certificate" or a proprietary mark? Or were they used to document the number and type of assets? Were they used, for example, to store information or even to transmit messages in encoded form, which can only be deciphered by a particular group of persons over long distances? Or did they function to legitimize oral messages in the sense of identification marks or "identity cards"?

Figure caption:

Figure 1: *Brotlaibidole* from Southern Bavaria: Freising, Weltenburg, Thurasdorf, Mintraching, Riekofen and Sallach (photo Wolfgang David)

Figure 1

From here to there - long range connections to and from the Carpathian Basin in the Late Bronze Age

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Louis Nebelsick (*Cardinal Stefan Wyszynski* University in Warsaw, Institute of Archaeology, Poland)

Our talk will firstly focus on the recent discoveries underneath a late Bronze Age mound in the well known site of Lăpuş in northwest Romania. A large feasting hall and several additional buildings of the same construction design now covered by mounds were discovered in the course of a magnetic field survey. This remarkable discovery indicates that between the late 14th and 12th centuries BC large buildings were erected in the vicinity of the well-known burial mounds of this site. In the case of the completely excavated mound 26 with a central hearth and rectangular groundplan a multiphased feasting hall was discovered. A rich finds repertoire stand for the elite character of these in the area so far unique buildings. Among the finds pottery resembling the later knobbed ware of Troy, and glass beads of a Near Eastern glass type stand for long distance contacts to the Mediterranean. The building design of the halls stands in a longer tradition dating back to the late Otomani culture with its well discussed connections to Mycenaean Greece during the Shaft Grave period. In our talk will argue that long distance contacts if not direct, but certainly along different intermediate steps between Transylvania and mainland Greece existed since this time and lasted with minor interruptions until the 12th c. BC. The knobbed ware of Lăpuş type eventually 'spread' south in the course of long term migration events or through the exchange of ideas connected with this symbolically charged pottery. Comparing the house types of large halls in Dark Age Lefkandi and in other places on the Peloponnese we consider that Carpathian designs like now known from Lăpuş might be regarded as a role model. The introduction of Carpathian-Urnfield weapon types in Greece and the Mediterranean during the 13th/12th c. BC has long been discussed. In return elite behaviour like chariot driving north of the Rhodope Mountains is attested by images as well as real finds like the famous hoard of Arcalia.

Finally, we would like to consider the implications of bronze mounts which are likely to have come from a ship with a ram and upraised prow from an Uriu-Opály type hoard which was discovered in a Lăpuş style conical necked vessel on a high terrace of the Tisza River near Kriva, in the Ukrainian Maramureş. Comparable mounts which are also likely to have decorated prow and sterns and perhaps oars of ships were found in the hoard Lozova II in Moldavia. These mounts point to the existence of ostentatiously decorated boats which share characteristics of contemporary Aegean and Scandinavian images of maritime vessels. These mounts highlight the roles of East Central Europe's navigable rivers played interconnecting Aegean and North European Elites.

Late Bronze Age hoards containing axes with disc. Personal belongings given as offering / materialization of social collective practices

Liviu Marta (Satu Mare County Museum, Romania)

To complete the general lines set by his professor Ion Nestor (Nestor 1938), Alexandru Vulpe (Vulpe 1970) brought about a evolutive scheme for the axes with disc which proves its complete viability even after half a century. Alexandru Vulpe brought convincing arguments referring to the existence of a cronologic difference among types A, B1, B2, B3 and B4 as well as between the tipologic variants of these types, setting clear evolutive lines among them.

Alexandru Vulpe offers an interesting interpretation of the evolutive scheme for the axes with disc and spine while publishing with Valeriu Lazăr the decorated axe with disc from Bogata de Mureş (Vulpe, Lazăr 1997). Even if it is a piece traditionally dated during the Middle Bronze Age, the authors brings to the forefront the striking similarities between the spiral ornament from the disc of the axe and the decoration of some vessels from the necropolis of Lăpuş, more recent objects, dated in Reinecke BzD, associated in two funerary contexts with axes with discs of type B3. The possibility of this unusual chronologic coordonance among axes with discs of type A2 and B3 was based on the idea that objects could have a longer life, the author following a modern concept which gives primacy to a biographical perspective on objects. A possible longer use of the axes with discs of type A was pinpointed by the appearance of an old axe in a more recent grave from Tiszaladány, as well as from the perspective of the appearance of Mycenaean swords in bronze hoards dated during Reinecke Bz D period (Vulpe, Lazăr 1997).

Starting from the perspective of a biografic approach of the axes with discs proposed by Alexandru Vulpe, we undeline in this work some repetitive ways in which this „directory artefact" appears in the hoards of the Late Bronze Age from the Upper Tisa Basin. Their presence in the depositions is analysed through the comparison of the quantity of unfinished objects to finished ones, which could be used for practical activities. It is stated that finished axes as well as unfinished axes given as offerings are coming from more sources. The presentation tries to answer to the question if the existence of multiple sources of procurement for axes given as offerings can be treated as a result of a personal-accumulated deposition of a longer endurance or if this diversity among the axes is resulted from a deposition made by more people. In terms of possible deposition patterns, the answer is looked for by analysing the modalities in which unfinished objects are associated with finished ones, the ways of associating different types of axes which come from more regions, and the relations between axes and other objects, in terms of other possible depository models, some already established (Hansen 2005; Hansen 2006; Vachta 2008). These analyses, reported to funerary inventories and some types of offerings from settlements, tend to show that the axes with discs are often put as weapons as well as as objects with symbolic value in the framework of collective ceremonies which often pinpoint the social status of the elites of the community, an aspect that can be used frequently to complete a myriad of motivations which could lead to the act of deposition.

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Kurt Horedt's „Siebenbürgen und Mykenä". After more than 50 years

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Starting with 1960 K. Horedt will impose the opinion that the Transylvanian Bronze Age civilizations were strongly influenced by the Mycenaean world, opinion adopted by most Romanian researchers. However, this opinion was not new at that time. It had already existed in the older publications of I. Nestor, F. Tompa, P. Reinecke, A. Mozsolics, J. Werner (in his study Mykenae - Siebenbürgen - Skandinavien), R. Hachmann etc. In order to support his theory, K. Horedt will mention those "myhenische Schwerter", the decorated gold, bone (which were even considered to be imports) and ceramic artifacts, the well-known decorated hearth from Sighişoara, as well as a stone artifact with four prominences or faience pearls. Horedt even noticed that there are stylistic similarities between the Wietenberg pottery and the one from the early Cycladic world. This last hypothesis has been subsequently supported also by the late professor A. Vulpe.

A. F. Harding's critical opinions from 1984 on the relations between the Mycenaean world and Europe, which includes Transylvania, were not received accordingly by the Romanian specialists. In fact, the publication of the first 14C dates proved that a series of archaeological cultures of the Bronze Age from the Carpathian Basin are earlier than the shaft graves of the Grave Circle A at Mykenai. Together with N. Boroffka, L. and

O. Dietrich, A. Popescu and others, W. David managed to bring sufficient strong arguments in favor of a local origin of certain bone, gold and bronze artifacts found in the Carpathian-Danubian region, arguments presented within the studies that he has published in the last 20 years.

On this occasion we intend to signal a novel discovery in northern Transylvania pertaining to the Bronze Age. It consists of a golden vessel (in fact made of electrum) and a small bronze deposit found with the help of a metal detector at Bistriţa "Dealul Târgului". An archaeological survey led to the identification of a Wietenberg settlement not far from where those metal artifacts were found. The archaeological excavations from the summer of 2016 revealed a large quantity of artifacts which were assigned to the Wietenberg II ceramic style. Based on the ornaments from the recovered ceramic vessels, which were identical with those on the electrum vessel, it was established that these belong to the time period of Wietenberg II (cca. 1900-1700 BC). The new discovery allows us to reconsider the dating for the other golden vessel (electrum) from Biia, Alba County, as well as the nature of contacts between the south-Danubian region and Transylvania.

How to look smashing while smashing your enemies The construction of the warrior's image in the Romanian Bronze Age between local choices and supra-regional influences

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Bronze Age is the chronological framework which seems to be the witness of the creation of the warrior and the warrior's image in many parts of Europe and Near East. Being a social institution, war is clearly interwoven in the local social fabric and as such reflecting local choices, needs, habits, norms and views, both in the domain of its material culture (weaponry, defensive structures etc.) and in the way it is conducted. But war also represents a means to establishing relations between social groups and individuals (both in the case of allies and enemies), and from this perspective the circulation on larger spaces of objects and ideas connected to war are only to be expected. As a result, the construction of the warrior's image can become subject to the influence of various factors, both local and supra-regional, and its aesthetics a blend which allows appealing to local tastes and being recognised as a peer by warriors belonging to other cultural milieus in the same time.

The aim of this paper is to determine the ways in which the warrior's image is constructed and reconstructed during the Romanian Bronze Age, the degrees of originality or submission to foreign trends, and the importance placed on the aesthetic quality of the warrior in comparison to neighbouring areas and Eastern Mediterranean.

Waterborne and riverine communication in the southern Balkans of the 2nd millennium BC: a comparative study of mobility, encounters and identity formation processes

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In terms of geography, the Balkan Peninsula connects surrounding regions, for example, Central Europe and the Eastern Mediterranean with natural routes, like the Danube, the Nestos and the Axios, and long coastlines occasionally dotted with islands. A comparative study of Bronze Age societies along riverine and maritime routes of the 2nd millennium BC will be presented, with an emphasis on mobility and identity, investigated through the lens of geography and pottery designs.

In terms of mobility, riverine and coastal geographies yielded various logistical opportunities for travelers as well as locals. For the latter, control of natural "bottle necks" along key routes, could have provided a potential leverage in the larger trade networks of the Bronze Age, possibly shaping the nature of interaction and its impacts. While the impact of mobility along riverine and coastal points of interaction could be traceable in different types of materials, pottery designs serve as a case study, which under different circumstances could play a role in processes of identity formation at different scales.

Migration events in Greece at the end of the second millennium BC and their possible Balcanic background

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Massive changes in burial customs and material culture affected central and southern Greece in the 11th century BC. The traditional Mycenaean chamber tombs were finally replaced by single burials, especially in stone cist graves. New components of the material culture include bronze dress pins, diverse types of bronze finger rings and of handmade pottery. The best parallels for the novel burial customs as well as for the new elements of the material culture can be found in a region that comprises Epirus (Greece), southern Albania, western Macedonia (Greece) and the Former Yugoslav Republic of Macedonia. That fact seems to suggest that people from the northern periphery of the Mycenaean cultural sphere migrated to Greece at this time. Furthermore, there are some indications that the migrations to central and southern Greece may have been stimulated for their part by migrations to the regions just mentioned.

Κατὰ γῆν καὶ κατὰ θάλασσαν. Intertwined networks in the western Balkans at the end of the 3rd mill. BCE

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Throughout Europe, 3rd millennium BCE is marked by the development of large-scale interaction networks materialised by a complex archaeological record where various traits (e.g. ceramic typology) and practices (e.g. funerary practices, copper and later bronze metallurgy), are distributed over extended areas. Within this larger framework, at the end of the 3rd millennium Central Mediterranean occupies a crucial place. A complex long-distance connectivity pattern, known in the literature as Cetina phenomenon, represented indeed a common denominator for areas from the Caput Adriae in the North to the Maltese Islands and the Peloponnese in the South, which before and after this time have followed quite different cultural trajectories. On the basis of distinct pottery shapes and decorations spread across the Adriatic and Ionian Seas, this archaeological evidence is mainly dealt with as result of seaborne contacts. However, overland connectivity and its relation to seaborne contacts are crucial aspect for the understanding of the Cetina phenomenon as well. While the importance of inland connectivity was already suggested for the Balkans (Govedarica 2006), in Italy only recently new findings together with the re-examination of old ones indicate that the Cetina phenomenon spread not only along the Adriatic, but on the Tyrrhenian side of the Peninsula as well, in particular in the Naples area (Arcuri et al. 2016). By focussing in particular (but not exclusively) on the Balkan area, this paper wants to explore the economic and social modes of exchange and cultural patterns that characterized the diffusion of the Cetina phenomenon at the end of the 3rd millennium BCE in the Central Mediterranean by means of both seaborne and overland routes.

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Early Bronze Age travels between the Eastern Adriatic and the Aegean: Cetina Culture and its maritime endeavours

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The paper discusses connections between the eastern Adriatic coast and the Aegean during Early Bronze Age. This is the period when Cetina Culture saw its birth in the valley of the eponymous river in the hinterland of the eastern Adriatic coast (present

day Croatia). The pottery typical of the Cetina Culture subsequently spread to the Italian and northern Adriatic coasts, central Balkan Peninsula, Albania, and the Aegean, whereas the associated features were recognised as far as Sicily and Malta. It is fairly safe to suggest that such a wide radius of pottery dissemination was a product of an economic exchange. Bronze objects discovered in the Cetina tumuli, and the fact that the initial area of the Cetina Culture contained no metal sources, leads us to conclude that metal was obtained through trade, and that the Cetina people may have traded their pottery (or its contents) for metal. The distribution of the Aegean sites with Cetina pottery suggests that they lay along a route by which the Cetina people travelled towards Aegean sources of raw materials, perhaps even towards the Laurion mine itself. It would be very enlightening to establish that the Cetina people did indeed travel all the way to Attica to import metal ores – in other words, to establish that metal from Laurion may have been exported outside the Aegean at such early times. Metal trade, which was a *spiritus movens* throughout the whole of the Aegean Bronze Age, may have had wider horizons than so far presumed.

Material Remains indicating Mycenaean Trade and Cultural Contacts in the Eastern Adriatic Hinterland. – New Studies on Late Bronze Age Metal Artefacts

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In the past, there was discovered only a few direct material evidence of Mycenaean trade activities in the eastern Adriatic and its hinterland, such as (perhaps partly dubious) pottery imports or miniature *Keftiu* ingots. However, the distribution of other categories of artefacts shows more extensive cultural and exchange contacts between Mycenaean Greece and several late Bronze Age cultural groups of the eastern Adriatic and adjacent areas of the western Balkans and the Carpathian Basin. After detailed research on late Bronze Age metal artefacts, it is possible to show that in particular some bronze weapon shapes of north-western Balkan and eastern alpine-pannonian areas find their prototypes in the Aegean. The metal artefacts of the various northern and southern regions came to light in different sources, on the one hand in hoards, on the other hand in graves. Such regional practices make it more difficult to discover the social processes behind the cultural contacts. Nevertheless the supra-regional distribution of special weapon shapes and their find contexts do not only indicate trade connections but also more extensive cultural and social relations, such as, perhaps, the adoption of foreign fighting technique. The eastern Adriatic connections in question partly existed as early as the period of Mycenaean palace civilisation in the north-eastern and southern Peloponnese and adjacent centres of central mainland Greece. In the subsequent 12th c. BC the archaeological remains show that the trade in the eastern Adriatic and neighbouring regions was obviously organized now by the late Mycenaean post-palatial civilisation of the north-western Peloponnese.

"Neighbours from the East" - The connections between Western and Eastern Balkans in the Late Bronze and Early Iron Ages

Mario Gavranović (Instituts für Orientalische und Europäische Archäologie, Europa Abteilung, Vienna, Austria)

The appearance of the new hillfort settlements with a specific decorated pottery (incised and encrusted geometric motifs) during the late 12th and 11th century BC in the mountainous area of Bosnia is one of the defining manifestations of the Late Bronze Age in the western part of the Balkan Peninsula. In the previous studies, the emergence of new sites and new cultural phenomena was vaguely related to the groups of the Eastern Balkans along lower Danube with a similar pottery ornament spectrum (Čatalka, Ostrov or Babadag). A closer look on the decoration elements reveals certain common features, yet the clear resemblance between the finds from Bosnia and groups in Eastern Balkans is not to establish. Nevertheless, the massive and sudden occurrence of the decorated pottery without any association to the previous periods in this area, points to the fact that central part of Bosnia was a final destination for certain foreign groups. One of the reasons behind the colonisation could be the copper and especially iron ore deposits in this particular region. It is anyway to observe that most of the hillforts founded in 12th and 11th century BC continuously existed throughout the Early Iron Age.

Undoubtedly connected with the Eastern Balkans are vessels with stamped S-motifs from the layers of the 9th and 8th century BC in the Bosnian sites Varvara and Pod. Their scarce occurrence is probably a result of short-term interaction or occasional encounters. More sustainable relationship with the Eastern Balkans is to assume for the settlements Vis, Pivnica or Zecovi in the region of northern Bosnia, where decorations typical for the Gornea - Kalakača complex (e.g. incised garlands, line bundles) prevails in the ceramic repertoire. The distinctive Basarabi ornaments from the site Bare indicate that these relations continued also at the beginning of the Early Iron Age.

Besides sporadic pottery finds, some specific jewellery types also point to the communication between Western and Eastern Balkans in the Early Iron Age. To mention are bow fibulae with Boeotian shield plate (a description first introduced by A. Vulpe in 1965) or multi head pins of so-called Donja Dolina type, known from the eponymous graveyard on the Bosnian bank of Save but also from the cemeteries Gogoşu, Ferigile and Curtea de Argeş in southern Oltenia. The fact that these shared objects appear in the exceptionally equipped grave sets indicate that the involvement in the common Early Iron Age exchange networks was restricted to certain social groups.

Die Siedlungen mobiler Viehzüchter: Die mikroregionale Erschließung einer spätbronzezeitlichen Kulturlandschaft im Süden der Republik Moldova

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Mit unserem Beitrag, in dem wir unsere aktuellen Forschungen zur Siedlungen der Noua-Sabatinovka-Coslogeni-Kultur im Süden der Republik Moldova vorstellen, möchten wir A. Vulpe würdigen, der sich in seinem akademischen Schaffen in kaum schätzbaren Maße um die Kulturgeschichte insbesondere der schriftlosen Zeiten in Südosteuropa verdient gemacht hat Besondere Aufmerksamkeit hat A. Vulpe der Bronzezeit gewidmet und ihm ist immer an der überregionalen Einbindung der von ihm erforschten Phänomene gelegen gewesen.

Die Noua-Sabatinovka-Coslogeni-Kultur bildet einen über heutige Staatsgrenzen hinweg weitverbreiteten Kulturkomplex. Ihre Fundplätze finden sich von Osttranssilvanien im Westen bis zum Fluss Dnepr im Osten, vom oberen Dnestrgebiet im Norden bis zur unteren Donau im Süden. Gräber und Siedlungen sind gleichermaßen im Quellenbestand vertreten sowie ausgegraben worden und haben für verschiedene Regionen fundierte Aufarbeitungen erfahren (z.B. Florescu 1991; Gerškovič 1999; Sava 2002; 2014; Черняков 1985; Шарафутдинова 1982).

In den letzten zwei Jahrzehnten sind die Siedlungsmuster und -strukturen der Noua-Sabatinovka-Coslogeni-Kultur verstärkt in das Blickfeld der Forschung gerückt, und es wurde sich dabei auch wieder der Frage von Entstehung und Funktion der für sie oft charakteristischen sogenannten Aschehügel zugewendet (Gerškovič 1999; Sava 2005; Pienążek 2012; Гершкович 2004). In den Jahren 2003, 2005–2008 haben die Autoren dieses Beitrags im Norden der Republik Moldova den Fundplatz Odaia-Miciurin archäologisch untersucht und unter Hinzuziehung verschiedener naturwissenschaftlicher Verfahren einen multidisziplinären Ansatz verfolgt, um die sogenannten Aschehügel zu erklären (Sava/Kaiser 2011). Von den bei dem Dorf Odaia-Miciurin mindestens noch erhaltenen und gut sichtbaren 25 Hügeln wurden vier vollständig oder teilweise ausgegraben. Das Fundmaterial, überwiegend sich aus Keramikfragmenten und Tierknochen, dem Schlachtabfall, zusammensetzend, wurde ausgewertet und mittels einer Serie von 20 Radiokarbondaten konnte der Fundplatz Odaia-Miciurin zwischen 1400 und 1100 cal BC absolutchronologisch eingeordnet werden. Auf Grundlage der Ergebnisse der archäologischen und pedologischen Untersuchungen haben die Ausgräber ein Modell erarbeitet, wie diese Hügel von heute noch bis zu 0,3-0,5 m hoch erhaltenen Höhe mit einem Durchmesser, der zwischen 10 und 45 variiert, entstanden sind (Sava/Kaiser 2011, 420–441; Kaiser/Sava 2016). Die Hügel stellen Reste von saisonalen bewohnten Plätzen dar, die von den Viehzüchtern der Noua-Sabatinovka-Coslogeni-Kultur über mindestens ein bis zwei Jahrhunderte hinweg wiederholt aufgesucht wurden. Bei diesen wahrscheinlich jährlich erfolgten Wanderungen kehrten sie immer wieder zu bestimmten Siedlungsplätzen zurück, schlugen dort abermals ihr Lager auf, verließen es nach einer bestimmten Zeit wieder und nahmen dabei alles noch brauchbare und transportable Gut mit. Es konnten Reste eingetiefter kleiner Bauten nachgewiesen werden, daneben ist von ebenerdigen Anlagen auszugehen. Die Behausungen und Unterstände waren aus leichtem, oft organischem Material, aber auch aus Lehm errichtet und mit Kalk verputzt. Diese von uns vorgeschlagene Rekonstruktion von saisonal aufgesuchten Plätzen ermöglicht außerdem, die große Anzahl an Siedlungen zu erklären, die in vielen Regionen des Verbreitungsgebiets der Noua-Sabatinovka-Coslogeni-Kultur festgestellt wurde (Abb. 1) und zu unterschiedlichen Spekulationen, unter anderem auch über eine drastische Bevölkerungszunahme zu Beginn der späten Bronzezeit, Anlass gegeben hat.

Seit 2016 führen beide Autoren ein von der Alexander-von-Humboldt-Stiftung finanziertes multidisziplinäres Projekt durch, mit dem die in einem anderen Arbeitsgebiet, das sich im Süden der Republik Moldova befindet, gelegenen Siedlungen der Noua-Sabatinovka-Coslogeni-Kultur erforscht werden. Im ersten Projektjahr 2016 galt es zunächst das für die späte Bronzezeit bislang noch nicht so intensiv dokumentierte Arbeitsgebiet mittels Begehungen genauer zu erfassen. Dafür wurden bereits bekannte Stellen wieder aufgesucht, die durch Oberflächenfunde, die zu verschiedenen Gelegenheiten aufgelesen worden waren, bekannt waren, und diese wurden erneut begangen. Von den 65 wurden nur 59 Fundplätze wieder aufgefunden und von diesen lediglich 20 sicher als Siedlungen der Noua-Sabatinovka-Coslogeni-Kultur identifiziert. Bei vielen anderen Stellen haben Erosionsvorgänge durch intensive landwirtschaftliche Tätigkeiten zu einer Zerstörung geführt. Außerdem wurden in der Vergangenheit nahe beieinander gelegene Fundstellen als getrennte archäologische Einheiten geführt, während sie tatsächlich die Reste ein und der gleichen Siedlung darstellten. Während im Norden der Republik Moldova viele spätbronzezeitlichen Siedlungen bereits anhand der sogenannten Aschehügel gut zu erkennen sind, konnten solche hellen Verfärbungen im Süden nicht beobachtet werden, obwohl der Begehungszeitraum im späten März und frühen April wegen der noch unbewachsenen und teilweise frisch aufgepflügten Ackerflächen im Bereich der Schwarzerden dafür die besten Voraussetzungen bildete.

Ungeachtet dessen konnten für eine zweite Prospektionskampagne im Oktober 2016 zwei interessante Fundplätze ausgewählt werden: Cazaclia II und Taraclia „Gaidabul" (Abb. 2). An der Oberfläche des in der Aue des Flusses Ialpug gelegenen Fundplatzes Cazaclia II waren bereits im Frühjahr bei der Begehung die Reste großer Vorratsgefäße aufgesammelt worden. Hier wurde ein kleiner Grabungsschnitt (4x4 m) angelegt, aus dem 600 Fragmente von mehreren Pythos-artigen Gefäßen ausgegraben wurden. Sie lagen kompakt in einer Grube, deren Sohle nur 40 cm unter der heutigen Oberfläche festgestellt wurde. Zwischen den Keramikgefäßen wurden außer Holzkohlereste auch verkohlte Getreidekörner geborgen, die von S. Jahns (Brandenburgisches Landesamt für Bodendenkmalpflege, Wünsdorf) als Nacktgerste identifiziert wurden. Eine 14C-Datierung bestätigt mit einer kalibrierten Zeitspanne 1397-1216 calBC (95.4%) die relativchronologische Einordnung der Vorratsgefäße in die Noua - Sabatinovka - Coslogeni-Kultur. Auf der nördlichen Hälfte des Fundplatzes wurde eine systematische Oberflächenbegehung im Rahmen eines studentischen Praktikums durchgeführt, dabei zeigten sich einige wenige Konzentrationen insbesondere keramischer Fragmente. Das Material ist vermutlich stark verlagert, denn außer dem jährlich hier noch stattfindenden Ackerbau spielt auch Erosion zum Fluss hin eine Rolle, wie die Auswertung einer Bodencatena ergab, die von den Geografen der Freien Universität angelegt worden ist. Die geomagnetischen Messungen auf der südlichen Hälfte des Fundplatzes ergaben indifferente Anomalien, die sich ohne gezielte Ausgrabung jeglicher Interpretation als mögliche archäologische Befunde entziehen.

Der Fundplatz Taraclia „Gaidabul" hebt sich bereits hinsichtlich seiner topografischen Lage von den anderen Siedlungen der Noua-Sabatinovka-Coslogeni-Kultur ab. Er ist nicht in der Aue gelegen sondern befindet sich auf einem Plateau, das auf der südlichen Hangschulter oberhalb des Flusstales Taraclia Balca liegt. Das Gelände ist zur Zeit mit Steppengras überwachsen, das geomagnetische Bild zeigte allerdings Pflugspuren von

maschineller Bearbeitung des Bodens. Es ergab auch verschiedene Anomalien, die allerdings wie in Cazaclia II keine eindeutige Beurteilung zulassen, sondern erst durch gezielte Grabungen geklärt werden müsste, ob sie archäologische Komplexe widerspiegeln und der späten Bronzezeit zugeordnet werden können. Beraubungsspuren, die auf dem Plateau verteilt zu finden waren, lassen annehmen, dass hier Fundmaterial auch aus jüngeren Perioden vertreten ist. Wegen des Bewuchses konnte keine systematische Begehung stattfinden.

Ein Testschnitt (1,0-1,5x4,0 m) wurde im Westen an der Plateaukante angelegt, da hier in einem Aufschluss an einer Erosionsrinne Keramikfragmente und Tierknochen gefunden wurden. Unterhalb der 20-25 cm mächtigen humosen Schicht kam ein Sediment von sehr heller Farbe und lockerer Konsistenz zu Tage, wie es typisch für die sogenannten Aschehügel ist, und dass mindestens 1 m tief unterhalb der heutigen Oberfläche reicht. Neben den Gefäßresten und Knochen wurden außerdem Steine mit Bearbeitungsspuren geborgen. Zwei 14C-Datierungen, die an Proben von Tierknochen durchgeführt wurden, von denen einer innerhalb des hellen Sediments und der andere außerhalb im direkt anschließenden dunkleren Bereich gefunden worden sind, belegen die Zuordnung der Fundstelle zur späten Bronzezeit.

Im Sommer 2017 wird das Projekt mit weiteren Grabungen fortgesetzt werden, die von naturwissenschaftlichen Untersuchungen begleitet werden. Auf der Tagung in Tulcea werden die bis dahin vorliegenden Ergebnisse dem Kollegenkreis vorgestellt.

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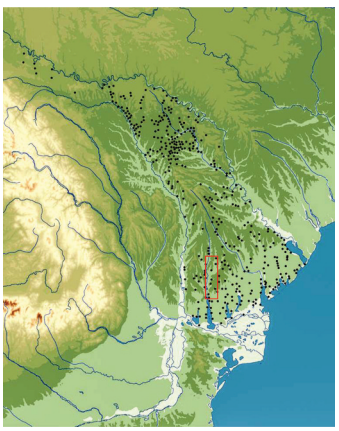
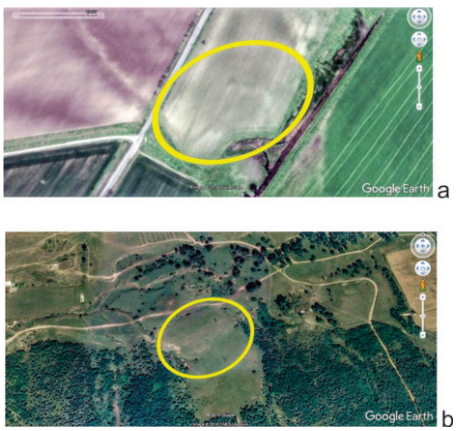
Abb. 1 Karte der Siedlungen der Noua-Sabatinovka-Coslogeni-Kultur in Gebiet zwischen Prut und Dnestr. Mit roter Farbe ist das Arbeitsgebiet des Projektes eingezeichnet.

Abb. 2 Luftbildaufnahme der beiden Siedlungsplätze der Noua-Sabatinovka-Coslogeni-Kultur, die 2016 im Projekt untersucht wurden a) Cazaclia II; b) Taraclia „Gaidabul".





Landscapes and settlements in the Lower Danube area during the Late Bronze Age

Neculai Bolohan (*Alexandru Ioan Cuza* University of Iaşi, Faculty of History, Romania)

The Northwestern Pontic belt was a mobility corridor, a fact noticed from prehistoric times to recent history. It is from this area that the Lower Danube Basin individuates, based on geographical features and unhindered access provided to the Late Bronze horizons. Moreover, two major communication axes can be observed here: the first is the Danube course oriented westward; a second axis is represented by the catchments oriented north-south/south-north, perpendicular to the first axis. These ways of communication have ensured the inflow or the outflow of goods or communities in the Late Bronze Age.

The settlements are a very good indicator of the mobility of communities that have occupied areas with lagoons, ponds, swamps, and who have had to advance or shift in such a landscape. There is an adaptation to the environmental conditions specific to the Lower Danube area, where the relief ranges from the low hills in Dobrogea to the floodplain area of the Danube, where the sand hills were used to raise settlements. In any case, there is an obvious preference for open lowlands. The main features identified stand in close connection also with basic occupations such as animal husbandry and farming, meant to secure the subsistence of the communities. These were complemented by hunting, fishing, exchange activities, largely determined by environmental conditions. As many of these settlements are located in the proximity of large water courses (Radovanu), on the banks of the Danube (Rasova, Ghindăresti, Jegălia, Unirea, Roseți, Ghindăresti, Harșova-Vadul Celei, Gyaur Punar) or even on the sand hills from the flooded area (Coslogeni), this suggests not only a main source of subsistence, but one that was ensured also from the exploitation of the fords or other places of passage over the watercourses. Could this account for the artefactual mobility at the Lower Danube!? The wide uniformity of pottery types and especially of metallic artifacts could represent a possible response. This is further reinforced by consistency in practices of land-use and dwelling in the landscape.

Against this background, in a rather hostile environment, the Coslogeni group becomes a very good example of adaptability to a dynamic lifestyle requiring great mobility.

On the Late Bronze Age/Early Iron Age in southern Romania

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The Late Bronze Age/Early Iron Age materials from Brănești „Vadu Anei“ and from Chitila „Ferma” are published, respectively re-published. Local analogies and connections are discussed, mainly from southern Romania.

The previously proposed cultural attribution (for Chitila only - the prehistoric finds from Brănești are unpublished) was connected to the local Bronze Age Tei and Verbicioara tradition and the Coslogeni culture (including the Radovanu variant) as well as to the Early Hallstatt (First or Early Iron Age in traditional Romanian terminology) Bistreț-Ișalnița group and Susani, further west. Further possible proposed connections were drawn to the Early Hallstatt Period burial at Meri, while the Hallstatt cemetery of Zimnicea was considered to be of later date.

In a re-discussion of analogies the local chronological position of the finds is established, further supported by radiocarbon data. The re-discussion of the finds from Chitila and the introduction of the material from Brănești, partyl confirm the previous chronological placement of the material. However, the view needs to considerably extended towards the south, where comparisons may be named from Bulgaria, northern Greece, and as far away as western Turkey. Besides these long-distance connections, a reconsideration of the concept of „archaeological culture” is proposed for this period.

The Late Bronze Age and the transition to the Early Iron Age (Early Hallstatt Period) appears to be characterized by the mixing of previously separate pottery-defined „cultures". This may perhaps be seen in the actual movement of people, which has been argued during this period, especifically well for northern Greece.

The paths of the Argonauts - the western border of the Basarabi complex

Daria Ložnjak Dizdar (Institute of Archaeology, Zagreb, Croatia)

The Danubian region in the southern Carpathian Basin was a crossroads between the Balkans and the Middle Danube, and between the southeastern Alpine sphere and the Lower Danube. The routes followed the main river courses: the Sava and the Drava on the east-west axis, and the Danube and the Tisa on the north-south axis. Eastern Slavonia and Syrmia in the Early Iron Age were the meeting place of two worlds: the eastern Hallstatt sphere and the Basarabi complex. The area of the confluence of four rivers – the Danube, the Tisa, the Drina and the Sava – contains the remains of a material culture testifying about strong contacts with the Lower Danube, where the Basarabi culture was widespread with its distinct ceramic style. The same area shows much evidence of contacts with the spheres of southeastern Alps, the Balkans, the Middle Danube and Potisje, as seen in costume items, horse equipment, tools, funerary rites. The most numerous finds are high-qualty ceramic vessels decorated in a particular ceramic style. Such pottery, found in many settlements in Syrmia, is characteristic for the second phase of the Bosut culture. The Bosut culture, which marked the first centuries of the last millennium before Christ, is defined in literature as the westernmost culture within the Basarabi complex (Tasić 1972; Vulpe 1965). The local and regional relations in Syrmia in southern Middle Danube during the 8th century BC will be used as an example to examine the contacts between societies creating Basarabi-style decorated pottery and societies using such pottery, and the spread of such pottery to the west and north.

The appearance of pottery produced in the Danube area, or the production of pottery inspired by the Basarabi ceramic style along the Drava to the southeastern Alpine sphere, inspired some researchers to reconstruct the journey of the Argonauts to the west (Eibner 2001).

The particularity of Basarabi ceramics in the west is easily noticed because of the specific style and the varied shapes and quality of ceramic vessels. Who transmitted ideas and knowledge about the production of pottery and the decorating style? How were they delivered to the west? Recent research in the Danube area complements the current knowledge on the production and distribution of these items, which were prestigious in the societies of the west.

The ornamented whetstones in the Iron Age of Eurasia

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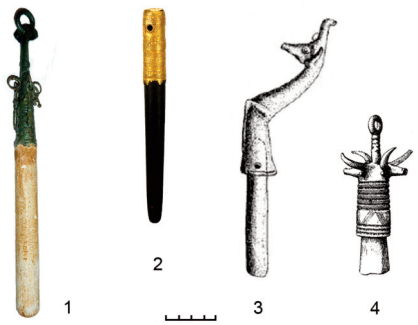
Whetstones are tools made of abrasive stones. Since as early as the Palaeolithic, their various forms have been used for fine working of bone and wooden objects and, later on, objects made of flint and stone. As grave goods, they have been present in Europe since the 4th millennium BC, that is – from the first appearance of long metal blades that needed occasional sharpening. From this period derive the oblong whetstones that have a hole for the string used to suspend them from the belt. These whetstones, together with daggers and knives, were frequently deposited in graves; these three types of objects represented a set of connected finds that signified a warrior and symbolized the sharpness and power of his weapons. However, with the exception of a luxuriously crafted whetstone from the rich grave in Maikop, dated to the beginning of the Bronze Age in northern Caucasus, the whetstones of this period were usually simple and without any ornaments.

Bronze, as a raw material, is too soft and gets blunted and worn out relatively quickly; thus, whetstones became prominent only with the development of iron swords, knives and daggers, where the material is harder and less prone to damages, and where sharpening produces better results. Stone whetstones are quite common in the Cimmerian graves found in the area extending from the northern Caucasus to the Pannonian Plain. There are, however, no decorated examples among them. The earliest whetstones with decorated haft are detected in the graves of phases Ib-IIa of the Iron Age of the Lorestan Province in western Iran; this phase spans the period from 1150 to 900 BC. The haft or, rather, the tang, of these whetstones is modelled in the form of an animal head, in a manner typical for "Luristan bronze". About a hundred years after the disappearance of Luristan bronze, a re-appearance of whetstones is recorded, represented by the richly ornamented whetstones of Glasinac-Group and the similar occurrences in Slavonia, within the cultural group Marijanec-Kaptol of the 8th century BC. Nearly 200 years following the Glasinac-Slavonia finds, the elaborate whetstones once again emerged in the historical record. This time they were associated with burials in the Scythian kurgans of the regions of eastern Europe and northern Pont, dating from the period between the end of 6th till the end of 4th century BC. Scythian whetstones were made of schist and normally had golden, seldom silver, lining of the top perforated part; the lining was often amply decorated in the manner akin to Greek toreutics.

Ornamented whetstones were regularly deposited together with weapons, which represents a continuation of the tradition characterised by warfare symbols that stems directly from their use-purpose and was established in Europe over the first half of the 4th millennium BC. The occurrence of the luxuriously manufactured pieces in the graves of war aristocracy of the Iron Age certainly emphasises the symbolic importance of these tools, but it does not rule out their practical use, nor their former warfare-related symbolism; in fact, it accentuates the latter, more so than it reflects the high status of the deceased. On the other hand, the existence during the 1st millennium BC of the three isolated groups

of richly decorated whetstones indicates that these luxury objects could not have been the major elements of war symbolism and of its tradition. This role was instead played by ordinary utility objects, which more or less continuously appear together with weapons in Iron Age graves. In contrast, the decorated examples can rather be seen as a way of demonstrating the wealth and lavishness that became integral elements of the high status of the social elite.

Fig. 1 - The ornamented whetstones: 1 Osovo (Glasinac); 2 Kul` Oba (Crimea); 3 Bard-i Bal (Luristan); 4 Kaptol (Slavonia)



The Aegean and the Black Sea connecting south east Europe and Anatolia in the Bronze Age: evidence from metal finds in Bulgaria, Greece and western Turkey

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In contrast to Bronze Age pottery, the appearance of metal artefacts found in different regions does not represent the sources of the metal, because metals can be melted and reshaped as required. This feature of metal makes it difficult, if not impossible, to use the shape of metal artefacts as prove of direct contacts between regions. On the other hand, the isotope compositions of the traces of lead in copper and silver persist throughout the melting and re-shaping processes and can be used as a 'fingerprint' of the geographical origin of the metal. The most important feature of this 'fingerprint' is its underlying scientific link to the geological age of the ore deposit. Copper and lead-silver ore deposits across Europe were formed at different times, generally between 50 and 700 million years ago (Ma). Additionally, the initial amounts of radioactive uranium and thorium in the ore forming fluids had visible influence on the final lead isotope ratios preserved in the ores. (Gale and Stos-Gale 2000). Moreover, some copper deposits contain few distinct minerals of copper ore minerals (for example Cyprus and Lavrion in Greece),

while others can be characterised by copper ores with high impurities (for example Fahlores containing high silver and antimony) (Pernicka 2014). This variety of discriminating factors that can aid chemical-isotope characterisations of different ore deposits that are mostly reflected in the metal smelted in the Bronze Age. Comparisons of the chemical-isotope compositions of the copper alloys, lead and silver artefacts dated to this period allows to trace the movement of metals between different regions of Europe and the Near/Middle East.

The advance of lead isotope and chemical analyses of Bronze Age metals in the last 40 years provided large number of data from archaeometallurgical research projects in different countries. These projects, together with geochronological research papers, provided so far more than 8000 fully comparative lead isotope datasets for the ore deposits relevant to the European Bronze Age. A similar volume of data for metals from archaeological excavations provides a rich background for studies of trade routes across the continent. These research projects show clearly that lead isotope compositions vary for different regional groups and that this method can differentiate between the copper sources. The available data demonstrates that specific copper sources were mostly used regionally and that there was no wide spread of mixing metal from different parts of Europe to produce a single 'Bronze Age' copper alloy composition.

Most archaeological research is concerned with national prehistory. History and politics for a long time formed a rigid border between the countries surrounding the Black Sea and the Aegean. In terms of Bronze Age pottery, there is no doubt as to the forays of the Minoans and Mycenaeans (or their intermediaries) to the eastern coast of the Aegean, but there is no evidence of the same movement of artefacts (and people) between the Balkans and the Aegean.

Perhaps the largest number of lead isotope analyses of Bronze Age metals resulted from a long running project at the University of Oxford (Stos-Gale and Gale 2009 and OXALID). The great majority (over 2000 entries on the OXALID database) are copper, lead and silver artefacts from the eastern Mediterranean, including Greece, Cyprus, Aegean Turkey and also Bulgaria. The great majority of research papers published as the result of this project were concerned with single, uniform as to the chronology or site, groups of metals. In this paper these data is pooled together looking at the triangle of north Aegean, Bulgaria and Aegean Turkey, and interpreted in the light of most recent scientific and archaeological information, to test the possibility of movement of copper and silver north of the Aegean.

The Chalcolithic period and the Early Bronze Age (4000-2000 BC)

The earliest copper artefacts found in the region of the Black Sea are from the necropolis near Varna. The analytical data published for about 200 of the copper artefacts from these graves show that the metal is fully consistent with the origin from the variety of copper ore deposits in the region of modern Bulgaria and Serbia (Gale et al. 2003). The same was concluded for the analysed Eneolithic copper artefacts from Dolnoslav. However, the authors also concluded that: '*…there seems to be a strong suggestion that some of the Dolnoslav copper objects … are to be linked with Greek copper ores and with chalcolithic levels of the northern Greek site of Dikilitash.*' Amongst the earliest copper artefacts in

Bulgaria there is no metal that is consistent with the lead isotope compositions of ores from the southern or eastern Aegean, the imported copper is consistent with the origin from the Balkans and the Rhodope mountains.

Already in the 3rd Millennium BC the mineral deposits of the Aegean were exploited for lead, silver and copper, and the archaeological and lead isotope evidence indicate that contacts between Anatolia and the Aegean started in the Late Neolithic and intensified in the Early Bronze Age when the Aegean was included in the caravan routes from the Near East, and in the Anatolian Trade Network. (Stos-Gale 2016). So far there are relatively few lead isotope analyses of metals from the Balkans dated to the EBA. At present I am aware of only the quite extensive set of data for copper based artefacts from Serbia (Pernicka et al. 1993), and recent publication of the analyses of the Apa Hoard from Romania (Pernicka et al. 2016). None of these early copper based metals are consistent with ores found in modern Greece or Turkey. The artefacts from Serbia are consistent with the origin from the ores in Serbia, the Romanian bronzes have lead isotope ratios characteristic of the ores from the Slovak Carpathians and Mitterberg mine in the Austrian Alps. But in the Isotrace database OXALID there are analyses of 15 EBA copper artefacts from Ezero in Bulgaria: it seems that a few axes from Ezero are consistent with the origin from the copper smelted in the Early Cycladic period on the island of Kythnos and others are consistent with the origin from the copper ores in the Taurus mountains in south-west Turkey. Copper from both of these locations was used in the EBA on Mainland Greece and on Crete.

Archaeologists researching the interactions between the Aegean and Anatolia generally suggest that these contacts and networks were developed in particular as a response to the necessity of trading metals: copper, tin and silver. The analytical data does not completely support this theory, since the resources for copper, lead and silver in the Aegean were quite sufficient throughout the Bronze Age. However, there are no tin occurrences in Greece, while from the end of the Early Bronze Age tin was added to the locally-available copper when making tools and weapons.

Among those Aegean bronzes which have been analysed there is a small number of artefacts with lead isotope compositions characteristic of Silurian-Precambrian ores that do not occur anywhere in Turkey or Greece. This type of bronze (and pure copper) was found in largest quantity on the EC III settlement of Kastri on the island of Syros, together with metals that match some copper ores from Iran, and also in Troy II. The copper deposit characterised by these lead isotope ratios might be found in the Middle East, but at present there is no information about the copper ore deposits of this geological age in Turkey, Iran or Armenia. It seems possible that these metals were acquired on the route from northwest Iran, where there are occurrences of copper and tin, the Caspian Sea and the trade route south of the Caucasus to the Black Sea, and then via Troy to the Aegean. So far these lead isotope ratios were not found amongst the analysed tin-bronzes from Bulgaria or Romania, but further analyses might provide more information about the extent of this possible tin trading network.

The Late Bronze Age (1600-900 BC)

Throughout the Late Bronze Age in the eastern Mediterranean the metallurgists of Cyprus have been very important producers of copper, but not the only ones. It needs to be said, that in the same period the Mycenaeans and Minoans were heavily exploiting the deposits in Lavrion, some 50 km south of Athens, for copper, lead and silver (Stos-Gale 2014, Gale et al. 2008 and 2009). East of the Aegean several large copper deposits were in use including the ones in the Taurus Mountains (Stos-Gale 2015 and 2016).

The metal needs of the Mycenaeans seem to be mainly fulfilled by the copper from Lavrion, which also provided lead for elements of stone buildings (drains, roofs, hinges), pottery clamps and vessels – perhaps no other Bronze Age society used as much lead as the Mycenaeans and Minoans. Silver was also extracted in large quantity, leaving as evidence litharge in the settlements of Ayia Irini on Kea, Akrotiri on Thera and in Knossos. Therefore, it was rather interesting to conclude from the lead isotope analyses that some of the silver vessels in the Shaft Graves in Mycenae might have originated from the Apuseni Mountains in Romania where there are rich silver and gold deposits (Stos-Gale 2014). Comparisons of the lead isotope data for the silver vessels from the Mycenaean Shaft Graves show that 24 out of 32 silver vessels from the Shaft Graves in Mycenae and six other silver objects from other Late Helladic sites in Greece seem to be consistent with lead isotope compositions of the multimetallic, but mainly Au-Ag ores from southeast Carpathians. Perhaps the contents of these gold and silver rich graves is connected with the forays of the Mycenaean warriors into the region of Transylvania, bringing back many kilograms of gold and silver, and brides. Hänsel (1977, 89) suggested that the rich ore sources of Baia Mare in Romania were the main focus of the Mycenaean forays into Transylvania. Further, it seems that some old elemental analyses of gold from the Shaft Graves might indicate its origin from Transylvania (Müller-Karpe 1998, 97).

The collaborative project of the Isotrace Laboratory in Oxford with Bulgarian archaeologists and geologists in the years 1987-1994 resulted also in a set of lead isotope analyses of nearly 100 bronzes from Bulgaria dated to the LBA, including 55 sickles and axes from the Varbitsa Hoard dated to 13th-12th c. BC.

Only the data for the oxhide ingot from Cherkovo has been published and it has lead isotope composition identical with nearly all oxhide ingots consistent with the ores from the Cypriot mine of Apliki. (Stos-Gale et al. 1997). Perhaps in the connection with this ingot it should be mentioned here also that on the famous Uluburun ship there was a stone mace-head that was identified by Pulak as having its origin in Romania (Pulak 2005, 93-94), but this oxhide ingot in the Museum in Sozopol has different lead isotope ratios from the ingots carried on the Uluburun, most likely it is from the 12th -11th c. BC, contemporary with oxhide ingots from Sardinia, Enkomi, etc. (Gale and Stos-Gale 2005; Stos-Gale et al. 1997).

Apart from this oxhide ingot, there are at the most 4 other bronzes amongst the analysed LBA Bulgarian artefacts consistent with the origin from Cypriot ores, another 4 with the copper ores in the southeast of Bulgaria (Malko Trnovo, Varly Briag), perhaps 2 with the ores from the Taurus Mountains in Southern Turkey and 2 with Lavrion in Attica.

Unexpectedly, all the remaining tin bronzes analysed in this project, including all from Varbitsa Hoard have lead isotope ratios characteristic of copper ores much older than any deposits in Bulgaria, Romania, Turkey and the Eastern Aegean. Quite surprisingly, these lead isotope ratios are mostly fully consistent with the lead isotope patterns formed by the data for ores from the Italian Eastern Alps Southalpine AATV deposits (Nimis et al. 2012, Artioli et al. 2016). Some of these bronzes show also consistency with the ores from the Massif Central in Southern France. Is it possible that in this later period the river Danube was of more importance for metal imports than the Black Sea and the Aegean?

Conclusions

The results obtained so far from a small number of analyses on rather incidental material show that there might be a complicated story of trade and contacts in the Bronze Age triangle Anatolia-Aegean- Black Sea. It seems rather unexpected to see that in the Bronze Age the copper from the regions of modern Turkey and Greece was not really crossing to the western coast of the Black Sea and further into the Balkans. The analytical results discussed here suggest that contacts with the Aegean and Anatolia were rather sporadic, while the majority of copper was coming from the west. Bulgarian ore deposits in the south-east part of the country are quite substantial and were exploited for a long time in historical times, but in prehistory they seem to make any significant appearance only in the very early period represented in copper from the Varna Necropolis. There is also the question of tin: was he tin coming from the east of the Black Sea, or the 'western' metal was already imported as tin-bronze?

This brief survey of the few available data has highlighted the crucial importance of extending this database. There is a large quantity of Bronze Age metal with reliable archaeological context held in the museums and other institutions in Turkey, Romania and Bulgaria. It will be most timely now to establish an international collaborative research project to analyse this material and provide the archaeological and scientific interpretation of the results.

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Bronze Age fluctuations in the Eastern Balkans: old theories and new evidence

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This is not a traditional abstract, rather a short list of points standing at the base of our attempt to assemble available archaeological records and to consider them in the light of south-north and the reverse interactions along the West Black Sea coast. Time span is limited from the mid of the 4th mill. BC till the end of the 2nd mill. BC. The major topics of the communication are:

1. Cernavoda I/III and Thrace. Stage of research. What is new after the long-lasting discussions on the earliest stages of formation of the Early Bronze Age cultures in the considered region.
2. Pit-grave culture reconsidered "Waiting for the barbarians" or/and "Arrival of the barbarians": Migration of tribes or religious conquest. And what about the natives?
3. Material records from the West Black sea region.
   3.1. Underwater evidence. New working stage of old excavations.
   3.2. Which and where are the signs of the MBA culture in Eastern Bulgaria?
   3.3. New data upon EBA-MBA sites inland - Sokol EBA 1-3 and some reconsidered old excavations. Other new sites and finds.
   3.4. MBA in the Eastern Balkans – identification according to field evidence, stratigraphy, radiocarbon dates and pottery sequence.
   3.5. New LBA data – Belokopitovo, Vratitsa, etc.
4. North-south and vice versa illuminated after comparable items available: small finds and ceramics. Identification of imports and their significance as markers for interactions. Comparable systems and their components: settlement patterns, type of sites, architecture, metal proceedings.

In conclusion: concordance of the arguments or estimation of obtainable information. Discussion on prevailing directions of influence and their intensity in the flow of linear time. The character: direct intercultural interactions and their alternatives. Some peaks and declines of interactions caused fluctuations: a (prae-) historic reality or virtual constructions.

Anatolian influences from EBA in Southeast Europe: some examples from Thrace

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Old and new finds belonging to the EBA II and III are considered. Most of all, these are the artifacts from Mikhalich, Constantsia, Ezero, Dubene, etc. Some of them are imports into Thrace and are commented enough in the scientific literature. Others were made in Anatolian style. A stone cup in the collection of the village of Svezhen, Plovdiv Region, may also be indicated as an example. It is made of serpentinite, probably of local origin. However, its decoration has a very good parallel in one silver vessel of Anatolian origin.

On the other hand, some finds from the Anatolian region evidence to the two-sided process of influence and contacts during the EBA III and later.

The data rive reason to confirm the conclusion that the contacts with Anatolia are certain at least since the EBA II, and this is discernible in the considered artifacts, while they are considerable during the EBA III.

Same shape, different meaning? About several types of shaft-hole axes spread from the Lower Danube to Anatolia during the Early Bronze Age

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The author discusses the issue of cultural connections between the Lower Danube Basin and the Aegean-Anatolian areas during the Early Bronze Age, seen from the perspective of the metal items.

The main communication routes between the Middle and Lower Danube areas and western Anatolia were known and used since the 6th millennium BC, with a series of items types – mainly adornments made of Spondylus or metal - common to the entire above-mentioned areas.

Towards the middle of the 4th millennium a series of cultural transformations took place throughout the entire west-Pontic area, the Lower Danube included. These transformations triggered a re-orientation of the contacts and exchanges in the north-Pontic area. Thus, for the next almost a thousand years, the old connections with the Aegean-Anatolian area were almost completely cut.

They were resumed gradually towards the middle of the 3rd millennium, a fact noticeable both in pottery shapes and types of certain items. The author discusses the shaft-hole axes of Balkan origin found in the Aegean area (Poliochni, Theba) and their significance, having as a starting point their archaeological contexts.

Travelling Objects - Travelling Ideas? Thoughts on itinerant objects from the Late Bronze Age settlement from Bresto (Southwestern Bulgaria)

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Within in the mountainous area of Southwestern Bulgaria and close to the Mesta valley, the Late Bronze Age site of Bresto had the potential to act as a mediator between the Aegean and the Maritza and Danube valleys. Since 2012, the ongoing excavations have brought to light a settlement of the 13th century BC on top of massive terrace walls which probably also functioned as fortifications. The first settlement was then destroyed in the first half of the 12th century only to be immediately rebuilt and secured with a massive freestanding fortification wall with stone foundations, before the settlement found its final end in the late 12th or early 11th century.

Among many other finds, the excavations have brought to light objects like Aegean-type pottery, which reached their context of deposition in Bresto only after a long itinerary and local appropriations. A workshop for bone pins and boar tusk lamellas of the 13th century indicates not only the knowledge of the Aegean in boar tusk helmets, but raises the question whether the inhabitants of Bresto themselves appropriated such kind of helmets as an expression of individual achievements and/or status positions.

Contacts with the north are exemplified by the appearance of channeled pottery in the layers, which could be dated to the 13th and 12th century BC with the help of a large number of radiocarbon dates. The early appearance of channeled pottery in 13th century BC southwestern Bulgaria is not only surprising from a chronological perspective, but underlines the position of Bresto within various networks in spite of its seemingly remote geographical position within the mountains.

A New Look on the Late Bronze Age Oxhide Ingots from the Eastern Balkans

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Dimitar Chernakov (Rousse Regional Museum of History, Bulgaria)
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The geochemical analysis of oxhide ingots from Eastern Bulgarian museums is a compulsory step towards a convincing explanation of these objects. Being the hallmark of Late Bronze Age trade in the Eastern Mediterranean, oxhide ingots are among the few commodities passing over the economic and cultural confines of the Aegean into Continental Europe. Their presence on the continent seems enigmatic, because written and archaeological sources bear no record on Eastern Mediterranean interest for the north. We do not aim to propose a general interpretation of all oxhide ingots in non-Mediterranean contexts. Our endeavor is to shed light on the factors which contributed to the appearance of these foreign objects in the Lower Danube region and the lands to the south of the Stara Planina Mountains. The situation is somewhat similar to clearly Cypriot oxhide ingots in Sardinia, and we will explore the possibility that in the case of the Eastern Balkans it was not a Mediterranean trading network but a local initiative.

The hoard from Kozman Dere (Şarköy, Tekirdağ in Turkey), which is a peculiar collection demonstrating an amazing mixture of Mediterranean and Balkan type metal objects (including a fragment of an oxhide ingot), may indicate that the region of the Dardanelles could have been a gateway hub. Whether this transition meant the loss of all 'Mediterranean values and connotations' of the oxhide ingots, or whether some of these accompanied the objects and were incorporated in Eastern Balkan social practices is extremely difficult to say due to the largely unknown find contexts and thus difficult dating of our evidence.

Early Iron Age Stamped Pottery in Southeastern Europe. Analysis, Chronology and Interpretation

Sorin-Cristian Ailincăi (*Gavrilă Simion* Eco-Museum Research Institute, Tulcea, Romania)

Research regarding cultural expressions in South Eastern Europe, in the Early Iron Age, often used typological and style references of ceramics in order to define an archaeological culture. Thusly, by employing a similar approach at Babadag and Insula Banului, Sebastian Morintz noticed a great cultural complex, comprising of several groups, characterized by pottery having similar stamped decoration. The Cozia, Saharna-Solonceni (between the Dnister and the Carpathians) or Pšenicevo (Bulgaria) were further added to this group, thus outlining a huge area defined between the Rhodopian Mountains and the Middle Dnister and following the course of the Danube, from the Iron Gates to its mouth.

The current state of research allowed us to determine a series of observations related to the area, chronology and context of this specific type of pottery decoration. Firstly, it must be stated that pottery embellished by stamped decoration probably has its earliest

appearance at the end of the 1st millennium BC, even though there is multiple evidence – including carbon dating – that leads to a later dating, at the beginning of 10th century B.C. At the moment, it is very difficult to establish the exact place of origin and the pattern of transmission of this particular style. The above mentioned cultures with stamped pottery are dated later than the Noua-Coslogeni horizon and even than the Hallstatt style of channeled pottery, while their endpoint is marked by the advent of the Basarabi phenomenon.

The interesting fact is that this specific stamped pottery horizon appears and develops in a rather well individualize pattern, not only in regard to pottery production but also to types of habitat, environment management, funerary rites and religious beliefs, having numerous differences that distinguishes it from channeled pottery groups of the Gáva type.

The Balatonakali burial revisited – eastern and western contacts of western Hungary in the Early Bronze Age

Viktória Kiss (Institute of Archaeology, Research Center for the Humanities, Hungarian Academy of Sciences, Budapest, Hungary)

A noteworthy burial of the Kisapostag/earliest Encrusted Pottery was discovered at Balatonakali with specific metal finds and a stone cist structure in 1965. The finds of the burial was first published by István Torma in 1978. The mentioned study included the detailed description of the finding circumstances, characterising the pottery and metal grave goods accompanying the burial. Even by today's research standards, his statements are still valid, however, these findings can now be supplemented with the information gained through the bioanthropological analysis of the human remains, with recent data deriving from AMS radiocarbon sampling, along with the scientific examination of metal grave goods by various methods. This paper will present the detailed re-analysis of the burial that can be connected to a 50-60 year old man high status man, who was buried between 1950-1900 cal BC, and having contacts with the western part of Central Europe, as well as with the eastern part of the Carpathian Basin.

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