



Università
Ca' Foscari
Venezia

Dipartimento di Studi Umanistici

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Humboldt Kolleg International Conference Venice/Venedig, 9-11/01/2013

*At the Northern Frontier of Near Eastern
Archaeology: Recent Research on Caucasia
and Anatolia in the Bronze Age*

*An der Nordgrenze der vorderasiatischen
Archäologie: Neue Forschung über
Kaukasien und Anatolien in der Bronzezeit*

Black Sea

Caspian

Sea



Mediterranean Sea

Abstracts



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ABSTRACTS

Organised by

Università Ca' Foscari Venezia
Dipartimento di Studi Umanistici

Elena Rova (Organiser)
Monica Tonussi (Scientific Secretary)

PROGRAM

Wednesday, January 9th

h 9.00-10.30: *Welcome Speeches*

Carlo Carraro (Rector of Ca' Foscari University, Venice)

Paolo Eleuteri (Humboldtian, Director of the Dipartimento di Studi Umanistici, Ca' Foscari University, Venice – Italy)

Paola Nardini (Honorary Consul of the Federal Republic of Germany)

Giacomo De Angelis (Humboldtian, Representative of the Italian Humboldt Association)

Elena Rova (Humboldtian, Ca' Foscari University, Venice – Italy)

h 10.30-11.00 Coffee break

SESSION 1: Opening Lectures

*Chairman: **W. Orthmann***

h 11.00 Maurizio Tosi (Humboldtian, University of Bologna – Italy)
Home of Conflicting Diversities: Considerations on the Caucasus at the Hinge of Continents

h 11.30 Evgenii N. Chernykh (Russian Academy of Sciences, Moscow – Russia)
Caucasus as the Bridge Between the Settled Farming and the Pastoral Worlds

h 12.00 Harald Hauptmann (Heidelberger Akademie der Wissenschaften – Germany)
Die Region am Oberen Euphrat in der Bronzezeit

h 12.30 Mirjo Salvini (Humboldtian, Consiglio Nazionale delle Ricerche, Rome – Italy)
Aufstieg und Fall des Staates Urartu. Mit einem Exkurs über Hattusili I. und die Hurriter

h 13.00 -14.15 Lunch break at the 'Pier Dickens Inn' Restaurant

h 14.15-14.45 Guided tour to the Ca' Foscari Palace

SESSION 2: *The Late Chalcolithic and the Transition to the Early Bronze Age*

Chairman: M. Frangipane

h 15.00 **Yuri Y. Rassamakin** (Humboldtian, National Academy of Sciences of Ukraine – Ukraine)
the Maikop-Novosvobodnaia Culture Development (the Second Half of the 4th The Latest Eneolithic – Early Bronze Age of the Black Sea Steppe in the Context of Millennium BC)

h 15.25 **Svend Hansen** (Deutsches Archäologisches Institut – Germany)
The Majkop Culture in the Northern Caucasus

h 15.50 **Sergej N. Korenevskiy** (Russian Academy of Sciences, Moscow – Russia)
Burials of the Military Elite of the Maikop Culture and the Symbolic Meaning of Gold and Precious Stones

h 16.15-16.45 Coffee break

SESSION 2 (continued): *The Late Chalcolithic and the Transition to the Early Bronze Age*

Chairman: Bertille Lyonnet (Centre National de Recherches Scientifiques, Paris – France)

h 16.45 **Barbara Helwing** (Deutsches Archäologisches Institut – Germany)
Networks of Craft and Materials in the Chalcolithic: a Comparison of Metallurgical Evidence from Iran and the Southern Caucasus

h 17.10 **Alexey Rezepkin** (Russian Academy of Sciences, Saint-Petersburg – Russia)
Influence of the Near East on the Formation of the Early Bronze Age in the North Caucasus

h 17.35 **Marcella Frangipane** (University of Rome ‘La Sapienza’ – Italy)
The Collapse of the LC Centralisation and the Rise of New Socio-political Relations in the Upper Euphrates Region. Did the Kura-Araxes Culture play a Role?

h 18.00 **Giulio Palumbi** (Collegium de Lyon, Institut d'Etudes Avancées - Archéorient, CNRS – France)
Push or Pull Factors? The Phenomenon of the Kura-Araxes ‘Expansion’ as Seen from the Western Periphery: the Case of the Upper Euphrates Valley

h 20.00 Dinner at the ‘Osteria Do Torri’ Restaurant

Thursday, January 10th

SESSION 3: The Early Bronze Age

Chairman: H. Hauptmann

h 09.00 **Georgi Leon Kavtaradze** (Tbilisi State University, Tbilisi – Georgia)
An Attempt at Dating the Starting Point of the Kura-Araxes Culture

h 09.25 **Monica Tonussi** (Ca' Foscari University, Venice – Italy)
Salt in the Economic System of Early Transcaucasian Culture (ETC): New Perspectives in the Interpretation of the 'Migration' Theory

h 09.50 **Elena Rova** (Humboldtian, Ca' Foscari University, Venice – Italy)
Khashuri Natsargora: New Research about the Kura-Araxes and Bedeni Cultures in Central Georgia

h 10.15 **Ünsal Yalcin** (Deutsches Bergbau Museum Bochum – Germany)
Neue Forschungen zu den frühbronzezeitlichen Königsgräbern von Alacahöyük

h 10.40 **Winfried Orthmann** (Universität Halle-Wittenberg – Germany)
Burial Mounds of the Martqopi and Bedeni Cultures in Eastern Georgia

h 11.05-11.30 Coffee break

SESSION 4: The Middle Bronze Age

Chairman: A. T. Ökse

h 11.30 **Mikheil Abramishvili** (Georgian National Museum, Tbilisi – Georgia)
The South Caucasia in the Near Eastern Bronze Age Economic System

h 11.55 **Stephan Kroll** (Humboldtian, Ludwig-Maximilians-Universität München – Germany)
Early Middle Bronze Transition in the Urmia Basin

h 12.20 **Marina Puturidze** (Tbilisi State University, Tbilisi – Georgia)
On the Origins and Development of Goldsmithery of the Middle Bronze Age Trialeti Culture

h 12.45 **Gian-Maria Di Nocera** (Humboldtian, Università della Tuscia, Viterbo – Italy)
The Middle Bronze Age in the Upper Euphrates: Settlement Characters and Cultural Identity

h 13.10 -15.00 Lunch break at the 'Pier Dickens Inn' Restaurant

SESSION 5: *The Late Bronze and the Transition to the Early Iron Age*

Chairman: M. Tosi

- h 15.00 **Sevinc Günel** (Humboldtian, Hacettepe University Beytepe, Ankara – Turkey)
Die spätbronzezeitliche Siedlung von Çine-Tepecik und ihre Bedeutung für Anatolien
- h 15.25 **Armagan Erkanal** (Humboldtian, Hacettepe University Beytepe, Ankara – Turkey)
Panaztepe in der Spätbronzezeit
- h 15.50 **Stefania Mazzoni** (University of Florence – Italy)
Uşaklı Höyük and the Bronze Age of Central Anatolia
- h 16.15 **Aynur Özfirat** (Mustafa Kemal University, Antakya – Turkey)
New Fortresses of Late Bronze Age/Early Iron Age in the Mt. Ağrı
- h 16.40 **Ayşe Tuba Ökse** (Humboldtian, Kocaeli University, Izmit – Turkey)
Eastern Anatolian ‘Early Iron Age’ Tribes in the Upper Tigris Region: A Cultural and Chronological Assessment

h 17.05-17.30 Coffee break

SESSION 5 (continued): *The Late Bronze and the Transition to the Early Iron Age*

Chairman: M. Salvini

- h 17.30 **Aram Kosyan** (Humboldtian, Armenian National Academy of Sciences – Armenia)
Urartu: Origins, Rise and Disintegration (towards Understanding the Urartian Civilization)
- h 17.55 **Claudia Antonetti** (Humboldtian, Ca’ Foscari University, Venice – Italy)
Greek Colonization in the Black Sea: Reflections on Recent Trends and Methodologies

h 19.30 Guided tour to St. Mark’s Basilica

h 20.30 Dinner at the ‘Aquila Nera’ Restaurant

Friday, January 11th

SESSION 6: Metallurgy and Circulations of Metal Ore and Metal Objects

Chairman: E.N. Chernykh

h 09.00 **Irine Gambashidze** (Georgian National Museum, Tbilisi – Georgia) – **Andreas Hauptmann** (Deutsches Bergbau Museum Bochum – Germany)
The Bronze Age Metallurgy in Southern Georgia: the Origin of Gold and Base Metal Artefacts

h 09.25 **Ernst Pernicka** (University of Tübingen – Germany)
Prähistorische Nutzung von natürlichen Ressourcen (Kupfer, Gold, Obsidian) in Armenien

h 09.50 **Antoine Courcier** (Université Paris I, Sorbonne – France)
The Metallurgical Development of the Ancient Cultures in Azerbaijan (End 6th/Beginning 5th – 1st Millennia BC): Preliminary Results of New Archaeometallurgical Studies

h 10.15 **Zviad Sherazadishvili** (Tbilisi State University – Georgia)
Technical, Technological and Typological Innovations and Changes of Bronze Weapons in South Caucasus: from the 3rd Millennium to the First Half of the 2nd Millennium BC

h 10.40-11.10 Coffee break

SESSION 7: Long-term Developments in the Settlement System and in the Use of Territory, Landscape Archaeology

Chairman: G.M. Di Nocera

h 11.10 **Andrej B. Belinskij** (GUP Nasledie – Russia) – **Jörg Faßbinder** (Department für Geo- und Umweltwissenschaften Geophysik, Universität München – Germany) – **Sabine Reinhold** (Deutsches Archäologisches Institut – Germany)
Prehistoric Ring Enclosures in the North Caucasus and Their European Parallels

h 11.35 **Sabine Reinhold** (Humboldtian, Deutsches Archäologisches Institut – Germany)
GIS-based Settlement Studies on the Phenomenon of Re-settling during the Late Bronze Age from Caucasus into Anatolia

h 12.00 **Attilio Mastrocinque** (Humboldtian, University of Verona – Italy)
The Caucasus in the Geographic and Cosmological Conceptions of the Greeks in the Archaic Period

h 12.30 -14.30 Lunch break at the 'Pier Dickens Inn' Restaurant

h 14.30-16.00: **POSTER SESSION**

Martina Babetto – Katia Gavagnin (Ca' Foscari University, Venice – Italy)

Late Bronze/Early Iron Age Pottery from Natsargora, Khashuri Region (Georgia): a Preliminary Overview

Arsen Bobokhyan (Armenian National Academy of Sciences – Armenia)

Investigation of Bronze Age in Armenia during the Post-Soviet Period

Sabina Brodbeck-Jucker (Forch – Switzerland)

Some Aspects on the Pottery from Udabno in Kakheti (Eastern Georgia)

Eleonora Carminati (Melbourne University – Australia)

The Martqhopi and Bedeni Components of the 'Early Kurgan' Complex in Shida Kartli (Georgia)

Manuel Castelluccia (University of Naples 'L'Orientale' – Italy)

Between Caucasus and Iran: the Talesh Region in the Late Bronze Age – Early Iron Age

Giulia De Nobili (Ca' Foscari University, Venice – Italy)

The Shida Kartli Regional Survey: a Preliminary Report

Elena Devecchi (Humboldtian, Ludwig Maximilian University, Munich – Germany)

The North-eastern Frontier of the Hittite Empire

Uwe Heussner¹ – Andrej Belinskij² – Sabine Reinhold¹ – Anatolij Kantarovich³ – Vladimir Maslov³ (1. Deutsches Archäologisches Institut – Germany; 2. GUP Nasledie – Russia; 3. Institute of Archaeology RAS Moscow – Russia)

Dendrochronology of Bronze Age Tombs from the Caucasus

Modwene Poulmarc'h – Françoise Le Mort (UMR 5133, Archéorient, Environnements et sociétés de l'Orient ancien, Université Lumière Lyon 2, Maison de l'Orient et de la Méditerranée, CNRS – France)

New Data on Early Bronze Age Funerary Practices in Transcaucasia: an Archaeo-anthropological Approach

René Kunze¹ – Danilo Wolf² – Andy Allenberg² – Ernst Pernicka¹ – Gregor Borg² – Harald Meller³ (1. Eberhard-Karls-Universität Tübingen – Germany; 2. Martin-Luther-Universität Halle-Wittenberg – Germany; 3. Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt und Landesmuseum für Vorgeschichte, Halle/Saale – Germany)

Ushkiani: Geoarchäologische Untersuchungen um die prähistorische Goldmine von Sotk, Armenien

Silvia Palazzo (Ca' Foscari University, Venice – Italy)

Kingship between East and West in Mithridates Eupator

Sabine Reinhold (Humboldtian, Deutsches Archäologisches Institut – Germany)
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Stefano Spagni (University of Rome ‘La Sapienza’ – Italy)
Metal Production in Central-Eastern Anatolia in the 3rd Millennium BC

Judith Thomalski (Deutsches Archäologisches Institut – Germany)
Lithic Production in the Transition from Chalcolithic to Early Bronze Age

Ünsal Yalçın – H. Gönül Yalçın (Deutsches Bergbau-Museum Bochum – Germany)
Review on the Anthropomorphic Figurines of the Early Bronze Age Royal Tombs from Alacahöyük

Arianna Sofia Zischow (Humboldt Universität Berlin – Germany)
Caucasian Bronze Belts in Context

h 16.00-16.30 Coffee break

*h 16.30-18.00: **General discussion and plans for future cooperation. Concluding remarks.***

Saturday, January 12th

h 10.45 Guided tour to the Armenian Monastery of St. Lazarus Island, Venice

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ABSTRACTS

The South Caucasus in the Near Eastern Bronze Age Economic System (session 2)

Abramishvili, Mikheil (Georgian National Museum, Tbilisi – Georgia)

The current paper is focused on the development of bronze metallurgy in South Caucasus and the role of this region in the Near Eastern Bronze Age Economic System. Although we do not have textual indications of the involvement of South Caucasus in the long distance trade relations, instigated by the limited – easy-monopolized resources, such involvement is becoming evident through archaeological data. Comparative typological study of archaeological material of the Bronze Age cultures of South Caucasus, the Near East and Eastern Mediterranean proves that the organizational structures of the people of the Early Kurgans of South Caucasus fit well into the complex model of highly developed Near Eastern societies. The wealth of these kurgans is comparable to those in the Near East that are defined in literature as ‘royal tombs’ or ‘royal graves’. The author of this paper believes that the prosperity of the South Caucasian Bronze Age societies was based on the richness of the region in polymetallic resources, deposits of silver and gold, giving them priority in the Bronze Age long distance trade relations.

Greek Colonization in the Black Sea: Reflections on Recent Trends and Methodologies (session 5)

Antonetti, Claudia (Ca’ Foscari University, Venice – Italy)

The communication aims to reflect on the recent debate that has developed in the scientific community on Greek colonization, focusing on issues that are of particular relevance to the area of the Black Sea.

Late Bronze/Early Iron Age Pottery from Natsargora, Khashuri Region (Georgia): a Preliminary Overview (poster session)

Babetto, Martina – Gavagnin, Katia (Ca’ Foscari University, Venice – Italy)

The Late Bronze/Early Iron Age in the Southern Caucasus is dated from the 2nd half of the 2nd to the 1st part of the 1st Millennium BC. Contrary to the Early and Middle Bronze Age, which were characterized by different well defined ceramic cultures (i.e. Kura-Araxes, Martqhopi, Bedeni, Trialeti, etc.), in this long span of time (encompassing about 800 years) it is still difficult to distinguish different sub-phases. In particular, even though pottery of this period has been found in large amounts at many sites of Georgia, Armenia and Azerbaijan, specific studies aiming at defining possible regional differences and developments of both shapes and decorations in the course of time have been only rarely undertaken so far. Our preliminary study on the LB/EI pottery collected (mainly in pits or in disturbed contexts) during the 2011 and 2012 excavation seasons at Natsargora aims at identifying, through comparison with evidence from other sites in the Shida Kartli region of Georgia and in the rest of the Southern Caucasus, some diagnostic types (mainly decoration and specific morphological features) which would allow to date the occupation of the site to one or more phases within the period. On this pottery, archaeometrical analyses are in progress as well.

Fifteen Late Bronze Age fragments have been selected in order to be subjected to petrographic and mineralogical analysis. The results of this investigation will be compared with those of previous analyses undertaken on contemporary materials, in order to better define the typical features of Late Bronze Age pottery production in the area. This appears to be characterised by the use of local resources, by a careful selection of raw materials, accurate surfaces treatment (mostly burnishing), high temperature firing, and wheel production technique.

Prehistoric ring enclosures in the North Caucasus and their European parallels (session 7)

Belinskij, Andrej B. (GUP Nasledie – Russia) – Faßbinder, Jörg (Department für Geo- und Umweltwissenschaften Geophysik, Universität München – Germany) – Reinhold, Sabine (Deutsches Archäologisches Institut – Germany)

The implementation of remote sensing technologies to detect archaeological objects, which traditional field walking methods fail to identify in the North Caucasus, has led to the discovery of a completely new spectrum of sites. Among them are huge ring enclosures, which share an identical construction with internal ditches and surrounding walls. The diameter of these ring enclosures varies between 60 and 200 meters. At the moment more than 20 sites have been identified, which even though the objects are mostly still visible on the ground were not recognised as prehistoric sites. Since 2010 preliminary investigation of these rings was started in an international program by GUP 'Nasledie', Stavropol' region (Russia), Eurasia Department DAI and LMU Munich (Germany). Meanwhile eight enclosures are measured using a Cesium SM4G magnetometer with total configuration. Beside the walls and ditches, no further structures have been discovered inside the enclosures. Thus they are certainly no settlement sites. Microtopographic plans prepared with differential GPS Leica 900/1200 allow modelling the magnetometry plans in 3D, giving an impression on the topography. A first test trench in a ditch revealed mixed filing, which included Majkop, Koban and Sarmatian ceramic fragments. By shape, size, layout, and missing of settlements features inside, however, the Caucasian rings closely resemble European 'rondels' from the Late Neolithic. Such are mainly known in Germany, Austria, Hungary and Slovakia. Yet, the enclosures likewise resemble structures such as Avebury in Great Britain. Further investigations must proof the chronological position of these structures, which are perhaps the most Eastern aspects of a pan-European phenomenon.

Investigation of Bronze Age in Armenia during the Post-Soviet Period (poster session)

Bobokhyan, Arsen (Institute of Archaeology and Ethnography, National Academy of Sciences of Armenia - Armenia)

The Bronze Age (ca. 3500-1200 BC) in the territory of modern Armenia has been investigated archaeologically since more than 100 years. We can differentiate between some stages of Bronze Age exploration in Armenia: second half of the 19th and beginning of the 20th century - the time of accumulation of preliminary data; Soviet pre-war period - the time of institutionalization of Armenian archaeology; Soviet post-war period - the time of wide archaeological works; and post-Soviet period - the time of integration of Armenian archaeology in world archaeology with redefinition of theoretical and chronological

problems. This communication concentrates on the last stage. During recent 20 years the possibilities of collaboration with Western centres increased abruptly, which brought new perspectives for the development of archaeology in Armenia. In Soviet period Armenian archaeology was practically isolated from the main developments of world archaeology. It was evolving in itself as a part of dogmatic Marxistic archaeology - far from theoretical discourse between functional, structural, processual, post-processual, cognitive and other “archaeologies”. After the fall of the Soviet Union and opening of mental borders, together with Western colleagues also ideas came, which are still in the process of gradual adaptation with the local archaeological tradition. The first of Western projects in Armenia was the *International Program for Anthropological Research in the Caucasus* working in Shirak region (early 1990s). Afterwards new international research programs were developed, among which for Bronze Age especially worth mentioning are the works of the Armenian-American Project ArAGATS, the Armenian-Italian Project investigating the Sevan Lake basin, the Armenian-American Project “Vorotan” in Syunik, etc. This presentation will underline the new Armenian-German multidisciplinary project investigating the region of Sotk. Excavations of such prominent Bronze Age sites as Lchashen, Karashamb, Lori Berd, etc. define once more the essential role of the Armenian Highland in the broader context of Near Eastern archaeology and justify the importance of continuation of works in the region on the background of modern methods and approaches.

Some Aspects on the Pottery from Udabno in Kakheti (Eastern Georgia)
(poster session)

Brodbeck-Jucker, Sabina (Forch – Swizerland)

Udabno is located ca. 40 km southeast of Tbilisi in the steppe called Davit Gareja close to the Azerbaijani border. Aerial prospection in Soviet times yielded several fortified settlements. In the years 2000 to 2007 prospection and excavation works have been carried out. Three settlements got partly excavated in a cooperation of the Georgian Academy of Sciences and the Eberhard-Karls-Universität of Tübingen. The buildings are roughly dated to the Late Bronze/Early Iron Age. Radiocarbon dating indicated dates around the final 2nd and the beginning 1st millennium BC. Some of the houses have been destroyed by fire, and so yielded a considerable amount of completely restorable ceramic vessels in a secured context. Most of the pottery is wheel made, but in some houses there are also vessels of a coarser ware which is handmade and tempered with obsidian. While the shapes of the wheel-made pots did not change significantly over a long time, a new wheel-made ware was introduced at the end of Udabno I. This new ware connects the latest stage of Udabno to the burials found in the nearby town Sagarejo. Until now thousands of burials have been excavated in Eastern Georgia, but only a few settlements, and on the latter very little has been published. With Udabno we now have got a new source of informations about a period of the South Caucasian prehistory still full of unanswered questions.

The Martqhopi and Bedeni Components of the ‘Early Kurgan’ Complex in Shida Kartli (Georgia)
(poster session)

Carminati, Eleonora (Melbourne University – Australia)

The Shida Kartli region of Georgia can be regarded as a significant context in the analysis and review of the 3rd millennium BC “Early Kurgan” cultural complex of Southern Caucasus.

During the Early Bronze Age, this area was slightly peripheral to the main trade routes, which crossed the Caucasus, Anatolia, and Mesopotamia, and was probably only reached by minor itineraries. The main features of the “Early Kurgan” phase in this region are the proof of the homogeneity and specificity of the traits of this phase, and they entailed the development of local traditions, which slightly differ from the ones attested in the nearby regions. In a diachronic evaluation of this archaeological phase, from the Late Kura-Araxes to the end of the Bedeni culture, it is possible to assume that this region was crossed and exploited by one community only, which probably lived here arranged in temporary settlements and based its economy mainly on animal husbandry. The exceptional *kurgans* built in this phase, which represent the main feature of the “Early Kurgan” culture, reveal a long tradition in graves architecture, which only differ between each other in building techniques and grave goods inventories. This paper tries to define the main formal and distinctive characteristics of the “Early Kurgan” burial contexts (Late Kura-Araxes, Martqhopi and Bedeni) discovered in Shida Kartli in the attempt at defining and reconstructing in a local perspective the actual structure and organisation of this cultural phase.

Between Caucasus and Iran: the Talesh Region in the Late Bronze Age – Early Iron Age (poster session)

Castelluccia, Manuel (Università of Naples ‘L’Orientale’ – Italy)

The Talesh Mountains form the northwest section of the Elburz range, running from the highland of Eastern Azerbaijan to the Caspian sea and today they mark the border between Iran and Azerbaijan. The area was archeologically investigated already at the end of XIX century by the Frenchman Jacques de Morgan, who explored numerous prehistoric graveyards on both the Persian and Russian sides of the range. It remained the only available study on this area for many decades, although some researches were carried out there during Soviet time. In the recent years however fieldwork has resumed due to the activity of Iranian archaeologists. A first attempt to draw a chronology of the area was already done by de Morgan itself and by Schaeffer decades later but their conclusions are nowadays outdated. However, the rich amount of information presented by de Morgan along with those provided by recent Iranian excavations can allow us to draw a complete framework of this area between the Late Bronze and the Early Iron Age.

Caucasus as the bridge between the settled farming and the pastoral worlds (session 1)

Chernykh, Evgenij N. (Russian Academy of Sciences, Moscow – Russia)

The relationship and intercommunication between two contrast worlds – southern settled farming and steppe northern mobile pastoral – played very significant role in the Eurasian history of the Early Metal Age. The general domain of the nomadic and semi-nomadic cultures was the great Eurasian Steppe Belt – from the northern Black Sea area in the western flank and the Yellow Sea and Manchuria in the eastern flank – total up to eight thousand kilometers. Originally, the Caucasus was the important bridge which related these two different worlds during the 4th–3rd millennia BC. Caucasus as the “bridge” was connected with the formation and activity of the Circumpontic Metallurgical Province (MP). Two main phases in the functioning of this province: the Early (4th millennium BC) and Middle Bronze Age (3rd millennium BC). The big mass of metal – first of all arsenical

bronzes and also gold and copper – was taken across the Greater Caucasus from the South to the North. The Late Bronze Age, 2nd millennium BC – collapse of Circumpontic Province and formation of quite new systems: the Caucasian MP and giant West-Asian MP in the western part of the Eurasian Steppe Belt. The Caucasian MP was characterized by very high developed bronze metallurgy, but at the same time it played the role of heavy surmountable barrier between the South and the North.

The metallurgical development of the ancient cultures in Azerbaijan (end 6th/beginning 5th–1st millennia BC): preliminary results of new archaeometallurgical studies (session 6)

Courcier, Antoine (Institut de Recherche sur les ArchéoMATériaux (IRAMAT), CNRS, UMR 5060 – France)

This paper discusses about the results of a new project, titled “The metallurgical development of the ancient cultures in Azerbaijan (end 6th/beginnings 5th–1st millennia BC)”, and supported by the scholarship “*Fernand Braudel - IFER outgoing*” granted by the Foundation “*Maison des sciences de l’homme*”. In 2001, Prof. Dr. Andreas Schachner wrote: “*Azerbaycan: Eine Terra inconita der Vorderasiatischen*“. But still today the ancient cultures and the metallurgy are poorly understood in Azerbaijan. The general focus of our project will be to study the metallurgical development of the ancient cultures in Azerbaijan from the end of the Neolithic to the Early Iron Age (late 6th/early 5th–1st millennia BC). Metal had played an important role during this period. So I purpose to approach the question of the ancient cultures through the study of ancient metallurgy, from the archaeometallurgical point of view. Our research project is based on the results of our previous studies in Azerbaijan, on the recent discoveries at Mentesh-Tepe and on the archaeometallurgical study, still actually in progress, of metal objects conserved in the archaeological Institute and museums in Azerbaijan. We present here the first results of the archaeometallurgical studies realized in the Research Laboratory for Archaeology and Material Sciences within the German Mining Museum in Bochum (Deutsches Bergbau Museum).

The Shida Kartli Regional Survey: a Preliminary Report (poster session)

De Nobili, Giulia (Ca’ Foscari University, Venice – Italy)

From 2009 to 2011, the Georgian-Italian Shida Kartli Archaeological Project conducted a regional survey in the Shida Kartli region of central Georgia. The area covered includes only two out of four districts (Kaspi and Khashuri) of the region, for a total of 1384 out of 2351 km². The survey was planned on the basis of satellite images, which contributed to spotting interesting landscape features, and were also used to double-check the presence of known sites. Interviews with the local population and visits to local schools and museums have also proved to be important sources of evidence. All spotted locations were visited and mapped with GPS waypoints. A sample of surface pottery, which was subsequently drawn, photographed, and recorded into a database, was collected at visited sites. The team mapped a total of 176 sites. Most of these date back to the Medieval period, since such sites are easier to spot compared to the older ones, as they usually provide more visible surface evidence, including full standing structures, like churches etc. Despite serious visibility difficulties in locating earlier settlements, some very promising third millennium BC mounds were spotted

as well. In addition, an in-depth survey was conducted in the area surrounding the Natsargora mound, which was excavated in 2011 and 2012 by the Italian-Georgian expedition. A number of transects radiating from the base of the mound outwards were surveyed in order to assess the presence and dimension of the "lower town" settlement. In the area that yielded the best results, some transversal transects were also surveyed for a better resolution.

The North-eastern Frontier of the Hittite Empire (poster session)

Devecchi, Elena (Ludwig-Maximilians-Universität München – Germany)

Throughout their history the Hittites were interested in the Anatolian region east of the Euphrates, but their expansion eastwards was always hampered by other powers which at times controlled this area. This poster provides an overview of the history of eastern and north-eastern Anatolia during the Late Bronze Age by presenting the main political actors who fought for its control and the shifting borders resulting from the conflicts in this region.

The Middle Bronze Age in the Upper Euphrates: settlement characters and cultural identity (session 4)

Di Nocera, Gian Maria (Università degli Studi della Tuscia, Viterbo – Italy)

The beginning of the 2nd millennium in the regions of Malatya and Elazığ is identified with the Middle Bronze Age. The excavated sites of Arslantepe and Norşuntepe are the key sites for this period. Surveys too, carried out in the Malatya plain and in the Altınova are an important instrument for understanding population dynamics in these areas. Recent excavations at Arslantepe have testified a stratigraphically confirmed cultural continuity between the Early Bronze Age III and Middle Bronze Age periods. Similarly at the beginning of the 2nd millennium the other settlements of the Malatya plain evidence a kind of distribution already well known in the previous period. Continuity thus appears to dominate in comparison to cultural changes from one period to the other. The present paper will evidence some of the major settlement characters of these periods, together with a comparison of material culture that give interesting suggestions on the cultural identity of populations from the Upper Euphrates in such a crucial period for the history of Anatolia, at the dawn of the Hittite reign.

Panaztepe in der Spätbronzezeit (session 5)

Erkanal, Armağan (Haccettepe University Beytepe, Ankara – Turkey)

Über die Spätbronzezeit in Anatolien liegen aus Inneranatolien viel mehr Informationen vor als über Westanatolien. Die ab 1980 begonnenen Ausgrabungen und Untersuchungen prähistorischer Siedlungen in Westanatolien brachten neue Erkenntnisse über die einheitliche Kultur dieses Gebietes wobei die Ausgrabungen in Panaztepe auch einen erheblichen Beitrag zur Archäologie im westanatolisch-ägäischen Raum geliefert haben. Der Panaztepe liegt in der Nähe des Gediz (Hermos) Flusses auf einer heute verlandeten Insel in der großen Bucht von İzmir (Smyrna) in Mittel-Westanatolien, wo sich wichtige See- und Fernhandelsstraßen kreuzen. In meinem Vortrag wird ein Versuch unternommen, die Spätbronzezeit in Mittel-Westanatolien nach unseren neuesten Funden und Befunden zu rekonstruieren und die Verbindungen mit Inneranatolien, dem Balkan, dem Kaukasus und besonders mit den

Ägäischen Inseln, Festland-Griechenland und mit dem östlichen Mittelmeergebiet aufzuzeigen.

Bronze Age Metallurgy in Southern Georgia: the Origin of Gold and Base Metal Artifacts (session 6)

Gambaschidze, Irine (Georgian National Museum, Tbilisi – Georgia) – Hauptmann, Andreas (Deutsches Bergbau-Museum Bochum, Bochum – Germany)

The first evidence for the use of metals in Georgia comes from the 6th millennium when artifacts probably made of native copper were retrieved from levels of the Shulaveri-Shomutepe-culture. These finds date slightly later than those in southeast Anatolia where native copper was used for making pins and needles etc. in the 8th/7th millennium. Since the 6th millennium we observe an increasing integration of the Trans-Caucasus into the Near Eastern cultural context. One of the most amazing and enigmatic metal objects are tin-containing copper objects found at the late Neolithic site of Aruchlo I, and at the chalcolithic site of Delissi close to the capital of Tbilisi. For the time being these objects belong to the most ancient tin bearing copper alloys of the entire Near East. They could be used as markers for the beginning of the smelting of ores in the 5th/4th millennium in the region of the today Georgia. We suggest a natural origin rather than a deliberate alloying, but no local sources are known for such objects in the Caucasus area. Otherwise, artifacts made of arsenical copper with about 2 % of arsenic are prevailing during the earliest metal objects which probably come from local ore deposits. Among the metal finds of the Kura-Araxes-culture copper base alloys with up to 13 % arsenic, in a few cases up to 16 and 20 % of arsenic were found. Alloys like that are characterized by a silvery shining color and improved casting properties. We observe that especially jewels were manufactured by such alloys. It remains open whether or not local ore deposits of the Great Caucasus extremely rich in As-sulfides (realgar, auripigment) were ever used to produce the As-alloys. The choice of colors seemed to have been of importance when considering artifacts made of lead and of silver found in graves of privileged personalities of the 3rd millennium BC. Provenance studies were not performed yet, but lead-silver deposits in the Great Caucasus suggest a local production. The same might be true with, e.g., weapons and jewels made of a copper-antimony alloy as found in the region of Satshkhere in western Georgia. Probably this special alloy was produced by deliberately adding antimony that was smelted from local deposits in the Great Caucasus. The chemical composition of some of the oldest metal artifacts from Georgia reveal high concentrations of zinc, i.e., the making of brass. These, however, are most probably accidental products and are due to the natural composition of ores utilized for smelting. Brass appears more frequently in the 1st millennium BC in Urartu. The discovery of the world most ancient gold mine at Sakdrissi, dated to the second half of the 4th /early 3rd millennium attested very early gold production from local sources in the south of Georgia. Technologies applied in these periods comprise lost wax casting (e.g., the lion figurine from the Kurgan N2 at Znori), soldering, use of bimetallic artifacts (pins made of copper and silver with golden heads). They are evidence for a high level gold smithing: gold artifacts were used as prestige items and for religious purposes. Exemplified by lead isotope analyses of Late Bronze Age tin bronzes and of copper ore deposits located in the Great Caucasus, and in the Trans-Caucasus areas we will discuss questions of provenance of a mass production of metal which arises in the late 2nd millennium BC.

Die spätbronzezeitliche Siedlung von Çine-Tepecik und ihre Bedeutung für Anatolien (session 5)

Günel, Sevinc (Hacettepe University Beytepe, Ankara – Turkey)

Die Täler Westanatoliens spielten eine wichtige Rolle in der Verbreitung von Siedlungen und Siedlungsmodellen während der Bronzezeit. Das Mäander-Tal und die natürlichen Verkehrswege, die sich in dessen Süden erstrecken, ermöglichten eine interregionale kulturelle und wirtschaftliche Wechselbeziehung. Einer dieser natürlichen Verkehrsweg ist der südliche Ausläufer der Çine-Ebene. Tepecik liegt in der breiten Ebene von Çine östlich des Çine Baches in der Provinz Aydın. Die Grabungen in Tepecik zeigen die ununterbrochene Besiedlung des Ortes vom Chalkolitikum bis zur Bronzezeit. Anhand von Ausgrabungen erbringt der Hügel wichtige Hinweise zum Verständnis der noch wenig bekannten vorgeschichtlichen Kulturen dieser Region. Die architektonischen Reste zeigen, dass die Schichten II 1 und II 2 der Siedlung, die in das 2. Jahrtausend v. Chr. datieren, Anzeichen einer eigenständigen Kultur haben. Die Siedlung der späten Bronzezeit ist mit einer Verteidigungsmauer ausgestattet. Die Funde (Keramik, Metalfunde und Siegelabdrucke) im Siedlungsareal weisen während dieser Zeit sowohl eine kulturelle Entwicklung als auch interregionale Kontakte auf.

The Majkop Phenomenon Culture in the Northern Caucasus (session 2)

Hansen, Svend (Deutsches Archäologisches Institut – Germany)

In the last few years it became clear that Majkop culture emerged in the 4th millenium. For decades it was dated much later. The new radiometric datings and the resulting chronological frame are established but have to be refined. Therefore more data are necessary. But it becomes more and more clear that the Northern Caucasus played an eminent role in the technical and social development. Basic technologies like wheel and wagon, horse domestication and breeding of the woolly sheep arose. New metal alloys were the precondition for practical inventions in weapon technology. Social developments were linked with the technological ones. The power holders were buried under very large tumuli together with precious items and an outstanding number of weapons. Anthropomorphous stelae were the new media of power representation. The Northern Caucasus was part of a far reaching network. New excavations and research give the chance for considerations about the social organisation of the Majkop culture.

Die Region am Oberen Euphrat in der Bronzezeit (session 1)

Hauptmann, Harald (Heidelberger Akademie der Wissenschaften - Germany)

The Upper Euphrates region comprising the two intermontane basins between the ranges of the middle Taurus in the south and the Antitaurus in the north, is favoured by its fertility and productivity, but also by its strategic position at the crossing of different main routes leading from the far Eastern to Central Anatolia or from the Black Sea coast to Syro-Mesopotamia. The Transtaurus has since early prehistoric times been of great importance for the interaction between the civilizations of Syro-Mesopotamia and Eastern Anatolia by virtue of its rich resources of minerals and precious metals. Simultaneously besides this significant geographical situation the coexistence and rivalry of ethnically differentiated rural populations living in village communities in the fertile plateaus with groups who maintain a

semi-nomadic way of life or real nomadic pastoralism in the mountainous regions have fundamentally determined the cultural and social development in this part at the gateway from Central to Eastern Anatolia. Two central sites, Arslantepe in the ancient Melitene and Norşuntepe in the Altınova, revealed the long stratigraphical sequence, which enabled us to reconstruct the chronological and cultural development of the 4th and 3rd millennium B.C., the Late Chalcolithic and Early Bronze Age. After the collapse of the Late Chalcolithic centralised social and economic system, as exposed by Arslantepe VI A and Tepecik, the intensive contacts with Upper Mesopotamia were interrupted. The subsequent settlements are characterised by a radical change both in the architectural design and cultural structure. The new cultural manifestation of Early Bronze Age has its origin in the eastern sphere of Northeastern Anatolia and Transcaucasia. After a stage of re-established interaction with Syro-Mesopotamia in EB Ib, since the middle of EB the formative Transcaucasian elements are again determining the succeeding development. Places like Norşuntepe in the Altınova and Arslantepe in the Melitene until late EB emerged into regional centres which from their citadel-like sites controlled the economy of their areas. After the violent destruction of these palatial structures the Upper Euphrates region at the beginning of the 2nd millennium B.C. is again marked by a new era of cultural and political and perhaps also ethnical changes.

Networks of craft and materials in the Chalcolithic: a comparison of metallurgical evidence from Iran and the southern Caucasus (session 2)

Helwing, Barbara (Deutsches Archäologisches Institut – Germany)

The development of metallurgy since the later 6th millennium BC and throughout the Chalcolithic period took place in different places at different times and pace, depending on various factors such as the availability of raw materials and the command of this specific craft and knowledge. Networks of raw material circulation and schools of craftsmen's skills developed that allowed the travelling of materials, skills and knowledge. An analysis of metal artefacts and metal processing residues can make these networks visible as patterned distributions of raw material and alloys, artefact types and craft traditions. The southern Caucasus as a major raw material source for metals such as copper, gold, and antimony is one player in these metallurgical networks. Beyond the raw material availability, a highly skilled and original metallurgy flourished there since the onset of the Kura-Araxes period. It is the aim of the presentation to compare the pre-Kura-Araxes steps of metallurgical processing in the southern Caucasus with parallel developments in the neighbouring regions, especially with the highlands of Iran where recent research has greatly enhanced our understanding of these early periods of metal working. It will become visible that the Southern Caucasus and highland Iran shared some aspects of metal working, while other fields of material culture and lifestyle remained on separate tracks.

Dendrochronology of Bronze Age tombs from the Caucasus (poster session)

Heussner, Uwe¹ – Belinskij, Andrej² – Reinhold, Sabine¹ – Kantarovich, Anatolij³ – Maslov, Vladimir³ (1. Deutsches Archäologisches Institut – Germany; 2. GUP Nasledie – Russia; 3. Institute of Archaeology RAS Moscow – Russia)

Absolute dating of Bronze Age complexes from the Caucasus is still a subject including many gaps. Despite improvements in radiocarbon dating of the Early Bronze Age Majkop culture, large parts of North Caucasian Bronze Age cultures remain largely undated by modern

standards. Recent studies in radiocarbon dating of human skeletal material moreover have revealed considerable reservoir effects due to marine nutrition of at least some groups. Dendrochronology by means of well preserved wooden grave constructions and objects such as chariot wheels opened here an entirely new perspective. Basing on constructions in a burial mound excavated near Mar'inskaja (Stavropol' region, Russia, excavation Kantarovich/Maslov) in 2009 a program to build-up a dendrochronological sequence for the North Caucasus was started. The sequences are still floating and dated by wiggle-matched radiocarbon dates. Yet, a modern sequence was started likewise. Three Late Majkop burials of neighbouring sites can so far be interlinked with sequences of 2-3 respective 27 years gaps in a period between 3195 and 3170 BC. Two sequences cover burials of the MBA North Caucasian Culture ending in the 2670's respective 2640's BC with some remaining uncertainties due to missing sapwood rings. Both groups can be likewise correlated with dendrodates from Jamnaja complexes in the North Pontic region. The successful link between North Pontic and North Caucasian curves will in future allow linking these sequences to more western European ones and to correlate the Eastern European Bronze Age cultures to each other.

An Attempt at Dating the Starting Point of the Kura-Araxes Culture (session 3)

Kavtaradze, Giorgi Leon (Ivane Javakhishvili Institute of History & Ethnology, Tbilisi State University - Georgia)

The term 'Kura-Araxes culture' is not correct. This culture covers a much larger area than the land between the two Transcaucasian rivers, the Kura and the Araxes; indeed it covers an important part of the Middle East i.e. Eastern Anatolia, Cilicia, the Levant and north-western Iran. However, Transcaucasia is generally accepted to represent the core area of the initial formation of the Kura-Araxes culture. The fact of the Transcaucasian origin of the Kura-Araxes culture and its later spread to the Middle East, where archaeological strata are more accurately dated than in Transcaucasia, gives us a favourable opportunity to determine the starting date of this culture in Transcaucasia. The dating of the first obvious signs of the Kura-Araxes culture found *in situ* in the layers of local cultures of the Middle East represents the *terminus ante quem* for similar and antedating archaeological artefacts of Transcaucasian Kura-Araxes culture. An overview of evidence from chronologically relevant layers allows us to put the starting date of the Kura-Araxes culture of Transcaucasia somewhere during the first half of the 4th millennium B.C.; in fact it was contemporary with the Middle Uruk period. The preceding period of time belongs to the still unsolved problem of interrelation between the Caucasian Chalcolithic and Uruk cultures.

Burials of the military élite of the Maikop culture and the symbolic meaning of gold and precious stones (session 2)

Korenevskiy, Sergej N. (Russian Academy of Sciences, Moscow – Russia)

Weaponry is often found in burials – more than 80 cases – of the Maikop-Novosvobodnaya community (culture) (MNC, 4th millennium BC). It includes various types of copper/bronze daggers, axes and spearheads and stone arrowheads. Some cultic and prestige artifacts also accompanied weaponry in graves. Among them are: gold, silver and copper/bronze vessels,

copper/bronze forks and hooks, and stone beakers and hammers. Weapons for shock action and stone blade weapons for close combat rarely occur. Burials with stone maces and axes are extremely rare. We have little information concerning sling or bone beakers. Copper/bronze daggers of different types mainly occur in burial complexes. Warriors of the MNC were able to use complicated speed shot bow of East European steppe type. The battle arrows were carried in a quiver. We may assume that close combat of infantry was the prevailing kind of war actions for the tribes of MNC, and that the copper/bronze dagger became the most popular implement both for war and for hunting. Statistical analysis of MNC burials shows that gold and semiprecious stones are basically connected with graves which contain copper/bronze weaponry (more than 40 cases). Burials with gold items and without weaponry are very rare. Few of them belong to women. It is also necessary to underline that burials of MNC with weaponry often include also carpentry's tools, such as flat wide bladed chisels and narrow bladed chisels. The Maikop kurgan occupies a special position in statistic analysis. This complex includes different artifacts for war, agriculture, carpentry, feast, cultic ceremonies, and personal ornaments with symbols of worship of a goodness of Life, Love and War, similar to the Mesopotamian Inanna - Ishtar. These data allow us to come to the conclusion that funerary complexes with weaponry and gold in cultic burials of different groups of MNC should mainly represent the graves of the military élite of Maikop's tribes, like chiefs and war 'big-men'; however, the prestige of labor must have been very important as well for this stratum of the society. There also exists a unique grave of a top cult leader of an androgynous character (Oshad). Burials with only tools of carpentry or, in alternative, gold items are absent. Burial goods with semiprecious stones are connected with graves of war - religious élites and with burials of high ranking women - and are accompanied by gold artifacts. On the basis of the kind of attested semi-precious stones it is possible to ascertain the existence of distant contacts of the Maikop military and religious élites, in particular with the 'lapislazuli' route, which expands from the Badakhshan deposit over Afghanistan and the South Caucasus to the Northern Caucasus. It is dated to the beginning of the 4th millennium BC. On the basis of statistical data, it is possible to note that gold in burials is especially associated with big daggers of 'Kishpek type' in the Terek region, daggers-razors, unique sword, copper/bronze axes, arrowheads and simple leaf-shaped daggers. The special prestige of burials with weaponry is underlined by the presence of copper/bronze bowls for feasts and cultic ceremonies, and forks. This represents the beginning of the tradition, which later spread over the world, to organize feasts by chiefs for their warriors (either in the real or in the 'other' world). The analysis of funerary goods with weaponry of MNC allows us to assume that tribes of MNC stayed at the threshold of the passage between the Early and Late Pre-state periods. They represented one of the most powerful and warlike cultural communities of western Asia in the Uruk period. However, the transformation of the MNC into a Late Pre-state society did not come into being. In spite of the high level of warfare, at the end of 4th and the beginning of the 3rd millennium BC the MNC disappeared. A new stage of warfare came in the Caucasus with mobile transport under new natural conditions.

Urartu: origins, rise and disintegration (towards understanding the Urartian civilization) (session 5)

Kosyan, Aram (Armenian National Academy of Science, Yerevan – Armenia)

The paper discusses the geopolitical place of Urartian civilization, the historical background of its emergence, as well as causes of its downfall/disintegration:

1. A complex study of the political, economic and cultural components of Urartu shows that it could not be described as an artificial structure, whose wealth and might were based mostly on strict military organization. Although the existence of characteristic state-assemblage testifies on centrally inspired influences, much could be explained at least through its Late Bronze Age roots.

2. What happened in the mid-VI century BC, could be treated as a direct consequence of the breakdown of the economic structure and political instability in the entire Middle East, a fact clearly attested in contemporary Mesopotamia, Asia Minor and Iranian plateau. The usage of the term 'catastrophe' for the end of Urartu is not fully justified. The breakaway of the agricultural regions of the empire - Ararat plain and perhaps also eastern provinces, well attested archaeologically, probably had fatal consequences for the rulers of the Lake Van basin.

3. The collapse of an empire does not mark the annihilation of Urartian political and cultural traditions. The destruction of citadels and palaces, the disappearance of state-assemblage might be explained as consequences of political disintegration and reduced economic potential.

Early Middle Bronze Age Transition in the Urmia Basin (session 4)

Kroll, Stephan (Ludwig-Maximilians-Universität München – Germany)

The Early Bronze Age in the Urmia Basin has been explored by a number of excavations: Geoy Tepe, Yanik Tepe, Haftavan Tepe and Gidjler Tepe. Hallmark of all these excavations was the black burnished pottery, called Kura-Araxes or ETC pottery, which has been found as far as the Tehran plain, at Giyan or Godin IV. The Kura-Araxes period ends abruptly. Yanik Tepe or Gidjler are not settled again, Geoy Tepe or Haftavan Tepe go on after some break. Typical Middle Bronze settlements, defined by its painted pottery (Van-Urmia painted pottery), have been excavated on top of the prior Kura-Araxes levels. But Kura-Araxes pottery is almost absent in the southern regions of lake Urmia, where the best excavated site is Iron Age Hasanlu. Only through surveys sites were found that instead of Kura-Araxes pottery show Painted Orange Ware, which may be related to Godin III. Specially the Ushnu-Naqadeh and the Miandoab region show many sites with Painted Orange Ware. The geographic and chronological range of Painted Orange Ware is still a matter of debate. It may cover parts of the EBA and continue far into the Middle Bronze Age. Unique are 2 sites, where Kura-Araxes and Painted Orange Ware were found together: Beg Ovase south of Bukan and Andjeh northeast of Orumiyeh.

Ushkiani: Geoarchäologische Untersuchungen um die prähistorische Goldmine von Sotk, Armenien (poster session)

Kunze, René¹ – Wolf, Danilo² – Allenberg, Andy² – Pernicka, Ernst¹ – Borg, Gregor² – Meller, Harald³ (1. Eberhard-Karls-Universität Tübingen – Germany; 2. Martin-Luther-Universität Halle-Wittenberg – Germany; 3. Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt und Landesmuseum für Vorgeschichte, Halle/Saale – Germany)

Die Region um Sotk nahe des heutigen Goldbergwerks am südöstlichen Sevan See (Armenien) zeigt wie kaum eine andere Region im Südkaukasus das intensive Zusammenspiel von prähistorischer Besiedlung und dem Abbau von Gold. Da sorgfältige

archäologische und archäometallurgische Untersuchungen bislang noch ausstehen, wird dieses natürlich begrenzte Gebiet um den Sotk-Pass als wissenschaftliche *terra incognita* eingestuft. Das Goldbergwerk von Sotk ist nicht nur die größte Goldlagerstätte im Kaukasus und dem gesamten Nahen Osten; ihre Nutzung ist bereits für die Antike nachgewiesen worden. Neben der Größe der Lagerstätte ist vor allem die Lage am Sotk-Pass als direkte Verbindung zwischen dem südlichen und östlichen Kaukasus von strategischer Bedeutung für die Prähistorie. Bisherige Arbeiten liegen in der Erfassung der prähistorischen Siedlungsstruktur in einem klar umgrenzten Naturraum entlang einer wichtigen überregionalen Verkehrs- und Handelsroute im Zusammenhang mit prähistorischer Goldgewinnung. Ziel der Darstellung sind die Ergebnisse einer intensiven archäologischen Untersuchung zum Siedlungsnetzwerk im Umfeld des Goldbergbaus und die interdisziplinäre Verknüpfung mit dem umgebenden Natur- und Siedlungsraum. Weiterhin wurden flächendeckende Nachweise der Seifen-goldführung in den Flüssen sowie die Identifikation prähistorischer Bergbauspuren und einer nun möglichen geochemischen Charakterisierung von primärem und sekundärem Gold erarbeitet, die die Grundlage für zukünftige archäologische Herkunftsbestimmungen von Artefaktgold ergeben.

Uşaklı Höyük and the Bronze Age of central Anatolia (session 5)

Mazzoni, Stefania (University of Florence - Italy)

Uşaklı Höyük is a 10 ha. site east of Yozgat; this was a land favourable to agriculture and a natural crossing through the highlands. In the years 2008-2012, the site and its territory have been the object of an archaeological, geomorphological and geomagnetic survey. An impressive number of data have been collected, which give information on the nature and duration of the occupation of the area during the Bronze and Iron Ages, in the Hittite and Phrygian periods. In the last campaign, surface scraping was adopted for investigating the central mound and proved to be a very productive strategy; the abundant materials helped to date the buildings visible by the geomagnetic analysis on the mid of the southern slope. Three fragmentary Hittite tablets were a further notable finding; with the one recovered in 2009, they attest to the presence of administrative structures providing an additional indicator of the importance of the site during the Hittite period. These documents and further historical and geographical considerations support the identification of Uşaklı Höyük with Zippalanda, a major sacred town from the Old Hittite period devoted to the Storm-god, together with Mount Daha (Kerkenes Dag) immediately to the south. The aim of this paper is to investigate the data so far obtained in the territory of Uşaklı in the framework of a regional perspective; the conference can provide an opportunity to address anew some important issues on the settling of the highland: how and when the process of centralization and territorial organization emerged in the central plateau of Anatolia and how and why its settlement landscape was transformed during the Bronze Age.

Eastern Anatolian 'Early Iron Age' Tribes in the Upper Tigris Region: A Cultural and Chronological Assessment (session 5)

Ökse, Ayşe Tuba (Kocaeli University, Izmit – Turkey)

The archaeobotanical and archaeozoological data obtained from several sites in Anatolia and Northern Syria point to a change in the subsistence economy after the collapse of the Late Bronze Age states. Instead of intensive agriculture, livestock breeding seems to dominate.

After the withdrawal of the Middle Assyrian Kingdom from South-eastern Anatolia in the eleventh Century BC, the material culture of the Eastern Anatolian Iron Age - the hand made characteristic pottery - appears at several sites in the region. Rural sites excavated in the scope of the salvage project of the Ilisu Dam present mostly seasonal pastures or small villages with simple architecture, pointing to a semi-nomadic way of life with a subsistence economy basing on breeding and metallurgy. The excavations at Salat Tepe and in other sites in the environment brought out several pits used as granaries and pit houses. Some pits containing both the hand made pottery and the standard Middle Assyrian vessels point to the existence of these tribes already in the latest phase of Middle Assyrian occupation. Most of the pit-houses contain the hand made pottery together with the standard Late Assyrian vessels, pointing to the existence of these semi-nomadic tribes until the end of the New Assyrian supremacy. On the other hand, small single-period sites with stone architecture at Kumru Tarlası (Zeviya Tivilki) and Kilokki Rabiseki seem to have been inhabited by sedentary communities during the New Assyrian period. Pits containing the hand made pottery together with the “triangle ware” at Salat Tepe point to the existence of these semi-nomadic tribes until the emergence of the Hellenistic period.

New Fortesses of Late Bronze Age/Early Iron Age in the Mt. Ağrı (session 5)

Özfirat, Aynur (Mustafa Kemal University, Antakya –Turkey)

Our campaigns in the region of Mt. Ağrı includes survey for the period from the Late Chalcolithic to the Late Iron Age, and an excavation at the Bozkurt kurgan necropolis-fortresses. The region is located in the Eastern Anatolia district. Survey and excavation show that the Eastern Anatolia high plateau, together with Transcaucasia and Iranian Azerbaijan, which are its geographical continuation, share a same culture despite the various regional differences. Many new sites have been discovered in survey. One of the most important finds of survey are fortresses and kurgan type graves. The sites we explored around the Mt. Ağrı all show comparable traits, whether it be in their locations, their architectural structures or their material. They are all situated within the lower lava ridges of the mount, at a point where the lava flows meet with the sedimentary plain. The fortresses stand a top the lava mounds, where they dominate the plain. They are surrounded with large fortification walls. The cemeteries extend along the foot of the fortresses, mostly in the depressions formed between the lava mounds. Excavation of Bozkurt kurgan necropolis and fortresses has been started in 2007. It lies on the western slope of Mt. Ağrı. Two fortresses lie in the site: one of them belong to the LBA-EIA, and the other is Urartian. It has also a big necropolis on the slope of fortresses. Material of Bozkurt belong to from the Late Chalcolithic to the Late Bronze/Early Iron Age.

Kingship between East and West in Mithridates Eupator (poster session)

Palazzo, Silvia (Ca' Foscari University, Venice – Italy)

The kingdom which Mithridates VI Eupator Dionysos inherited in c.121/120 BC – and greatly increased before the First Mithridatic War – was a complex country, located on the eastern half of the southern shores of the Black Sea, at the threshold of the Near East. Thus, from the very beginning of his kingship, and during the troubled phases of the long-lasting war with Rome, Mithridates had to deal with many Greek *poleis*, inside and outside his kingdom, and with strong Iranian elements. He had also to maintain good relationships with Rome - his father Mithridates Evergetes was an ally of Rome during the Third Punic War- and with pro-

roman Greek cities, and at the same time he could strengthen ties with the waning Seleucid power, and the new-rising Arsacid kingdom. In such a complex *scenario*, it is of great interest to analyze the paths of self-representation Mithridates elaborated: to convey effective messages, and to support his charismatic figure, he drew a complex self-portrait, in which the great figure of Alexander the Great played a major role. However, his 'Greek' face was not the only one he shew: Iranic and Seleucid elements were equally strong, but often interconnected with the 'Greek' ones, in a composite portrait which perfectly fits with a King -and a kingdom- between East and West.

Push or Pull Factors? The Phenomenon of the Kura-Araxes 'Expansion' as Seen from the Western Periphery: the Case of the Upper Euphrates Valley (session 2)

Palumbi, Giulio (Collegium de Lyon, Institut d'Etudes Avancées - Archéorient, CNRS – France)

The interpretation of the expansion of the Kura-Araxes culture has been traditionally linked to a set of 'push' mechanisms, going from economic and diasporic, that were generated in the core of Kura-Araxes cultural region. Little attention has always been dedicated to the role of the 'pull' factors in this expansion as well as to the processes that took place in the Kura-Araxes 'periphery'. The dynamics of development of the Upper Euphrates valley during the 4th and 3rd millennium BC may suggest a new explanatory model for the Kura-Araxes expansion.

Prähistorische Nutzung von natürlichen Ressourcen (Kupfer, Gold, Obsidian) in Armenien (session 6)

Pernicka, Ernst (Institut für Ur- und Frühgeschichte und Archäologie des Mittelalters, University of Tübingen, and Curt-Engelhorn-Zentrum Archäometrie, Mannheim – Germany)

Seit mehr als zehn Jahren führen wir geochemische Untersuchungen an natürlichen Vorkommen von Obsidian, Kupfer und Gold sowie an archäologischen Artefakten aus diesen Materialien durch. Bei Obsidian lag der Schwerpunkt auf der möglichst vollständigen Charakterisierung der zahlreichen Obsidianflüsse. Neben den Obsidianvorkommen in Mittel- und Ostanatolien gelten die armenischen als dritte Gruppe, die zu allen Zeiten als wertvolle Rohstoffquellen genutzt wurden. Da sich die verschiedenen Vorkommen hinsichtlich ihres Spurenelementmusters unterscheiden, können archäologische Artefakte aus diesem Material einzelnen Lagerstätten zugeordnet werden. Die Analyse erfolgte mittels Neutronenaktivierung und die untersuchten Artefakte stammen sowohl aus Armenien als auch aus weiter entfernt liegenden Regionen in Anatolien, der Levante und dem Iran. In ähnlicher Weise wurden praktisch alle Kupfervorkommen in Armenien untersucht, wobei neben dem Spurenelementmuster auch die Bleisotopenverhältnisse gemessen wurden. Diese Kombination hat sich bewährt, um die Herkunft archäologischer Objekte aus Kupfer oder Kupferlegierungen zu bestimmen. Hier lag der Schwerpunkt besonders auf der frühbronzezeitlichen Kura-Araxes Kultur aber auch spätbronzezeitliche Artefakte der Trialeti Kultur wurden untersucht. Derzeit stehen die Goldvorkommen Armeniens im Mittelpunkt unseres Interesses. In der Region um Sotk liegt die größte Goldlagerstätte im Kaukasus und dem gesamten Nahen Osten; ihre Nutzung ist bereits für die Antike nachgewiesen. In den

letzten Jahren haben Geländebegehungen gezeigt, dass diese Region, die bisher als wissenschaftliche *terra incognita* galt, in der Frühbronzezeit (Kura-Araxes Kultur) als auch am Übergang von der späten Bronzezeit zur Eisenzeit dicht besiedelt war und es liegt nahe, dies mit der frühen Nutzung der Goldlagerstätte in Verbindung zu bringen. Erste Ergebnisse der archäologischen Ausgrabungen sowie der geochemischen Untersuchungen werden präsentiert.

New Data on Early Bronze Age Funerary Practices in Transcaucasia: an Archaeo-anthropological Approach (poster session)

Poulmarc’h, Modwene –Le Mort, Françoise (UMR 5133, Archéorient, Environnements et sociétés de l’Orient ancien, Université Lumière Lyon 2, Maison de l’Orient et de la Méditerranée, CNRS – France)

In Transcaucasia, a wide range of Early Bronze Age funerary practices have been evidenced. Results obtained from the methods of “archaeoethanatology”, that were recently applied in one site from the region, have allowed a better understanding of this diversity and revealed an unsuspected complexity. The excavation of part of the unexpectedly discovered necropolis of Kalavan 1, located north of Lake Sevan in Armenia, yielded three adult and one child single burials as well as a burial including the remains of at least three adults. From a typological point of view, the tombs can be compared to other Kura-Araxes burials. However, thanks to the methods of “archaeoethanatology”, unsuspected funerary gestures such as the disposal of the dead in a perishable body container or the possible re-opening of burials have been pointed out. Archaeoethanatology seems to be one of the most promising approaches in the “archaeology of death”. A re-evaluation of the data available from old excavations according to such methods would give us the opportunity to better reconstruct funerary practices in Transcaucasia during the Early Bronze Age.

On the Origins and Development of Goldsmithery of the Middle Bronze Age Trialeti Culture (session 4)

Puturidze, Marina (Tbilisi State University – Georgia)

The florescence of the Trialeti Culture in the last century of the 3rd millennium BC marks a series of major changes in the society of the South Caucasian region. One of the main characteristic feature of this culture is a surprisingly highest level of goldsmithery, the origin of which is still discussed. The rise of a prestigious field - goldsmithery in the Southern Caucasus in the mid-3rd millennium BC is directly related with a drastic social stratification and concentration of wealthy by the ruling elite. This process was starting with the Early Bronze-Middle Bronze Age transition and is demonstrated by the burial mounds of Bedeni Culture. The precious gold items of this culture are a clear manifestation of a fairly developed level of goldsmithery, which signals the early phase of high artistic craft in the southern regions of Caucasus. The origin of the incomparable goldsmithery of the Trialeti Culture was predetermined by several factors, among which we must include increasingly brisk contacts with the Near East. The highly artistic and fine-crafted jewelry clearly shows that Trialetian goldsmiths were familiar with the achievements and traditions of Near East. Another factor was the acceptance of all those achievements which were characteristic of the previous period Bedeni Culture. This local tradition appears to be the background on which the goldsmithery of the Trialeti Culture was founded. Nevertheless, a very important component in the

complicate process of origin of the unique Trialetian goldsmithery was the great influence of cultural traditions of the near eastern world. It is supposed that Trialetian goldsmiths, by adopting nearly all achievements common for the artistic craft of the Near East faithfully imitated most of the innovations in technique, decorative motifs or in the manner of manufacturing jewelry known in the bordering southern regions. Therefore, in Trialetian goldsmithery different cultural traditions might be distinguished, which supposedly were the result of the merging and transformation of local and near eastern traditions of artistic craft. Obviously, it was related with changes which had happened in the socio-economical relations and political processes of the end of the 3rd and beginning of the 2nd millennium BC.

The Latest Eneolithic – Early Bronze Age of the Black Sea Steppe in the Context of the Maikop-Novosvobodnaia Culture Development (the Second Half of the 4th Millennium BC) (session 2)

Rassamakin, Yuri Y. (National Academy of Sciences of Ukraine – Ukraine)

The paper focuses on specific burial sites in the mounds of the steppe zone from the Lower Don River to the Lower Danube and Prut Rivers. These sites were identified in the 70s of the 20th century. They are known as the burials of Zhivotilovska or Zhivotilovka-Volchansk type. Funeral ceremony (flexed position on the side, flexed hands in the front of face) and accompanied artifacts (ceramics, ornaments) indicate the connections with the Maikop-Novosvobodnaia culture (late period) in the North Caucasus, on the one hand, and with Tripolye culture (period C/2), on the other hand. The burials of the Zhivotilova-Volchansk type are untypical for the Black Sea steppe funeral traditions. They reflect a movement/migration of new populations in the steppe region between two different regions of the existence of the Late Maikop-Novosvobodnaia culture and the Latest local groups of the Tripolye culture (Usatovo, Gordinești). There are several problems in the study of these monuments: 1. what are the reasons that led to the movement/migration of the population?; 2. what is the role of the Maikop-Novosvobodnaia culture and what is the role of the Latest Tripolye culture during the collapse of both?; 3. whether these processes are related to the situation in the Caucasus and in Eastern Anatolia (Arslantepe VIA) during the Late Uruk period?

GIS-based settlement studies on the phenomenon of re-settling during the Late Bronze Age from Caucasus into Anatolia (session 7)

Reinhold, Sabine (Deutsches Archäologisches Institut – Germany)

During the second millennium BC after more than thousand years of more mobile subsistence, the reorganisation of settled lifestyles took shape in a huge area between Eastern Anatolia and the North Pontic region. Recent investigations on LBA high mountain sites in the North Caucasus using modern remote sensing and GIS technologies allow a more precise look onto the social mechanisms as well as the economy behind this process. Starting with small sites, a specific architecture and modest animal husbandry an immense intensification of herding inclusively the development of a mountain agricultural *Almwirtschaft* system can be followed during the last third of the second millennium BC. A specific multifunctional architecture was developed both on the house as well as on the settlement level. Likewise, the high mountain cultural landscape reached a degree of organisation as never seen before or after. This highly specialised economy lasted at least until the turn of the millennia before a

rather quick movement into the valleys started after 1000 BC. Similar processes can be suggested at least for Transcaucasian monuments known as “Cyclopic fortresses” and other LBA/EIA settlement sites on high plateaus.

Influence of the Near East on the formation of the Early Bronze Age in the North Caucasus (session 3)

Rezepkin, Alexey (Russian Academy of Sciences, Saint-Petersburg - Russia)

It now turns out, the involvement of the North Caucasus in the sphere of influence of the Middle East civilizations were not one-Act and depended on the originating there. It's hard to suggest whether the net momentum late in the Anatolian (Amuk F) Chalcolithic times can be seen to the North Caucasus. Anyway, the monuments of the Maikop culture as the Maikop Kurgan, the burial mounds and settlement near the village of Ust-Džegutinskaâ in Karachay-Cherkessia, Zamankul in North Ossetia, Krasnodar Krai in the East, Bol'šeteginskoe, Natuhaevskoe, -3-I, Durso, Novorossiysk show Uruk influence. But the impact on the civilizations of the Middle East region began, probably during the expansion of the Uruk civilization to the North in the middle stage of its development. This was probably the main impetus behind the formation of the Maikop culture of the Northern Caucasus. It was already pronounced on the material of the settlements on the underside of the Kuban such as Psekups River, Phagugape, in the area of Krasnodar reservoir Bilayivske where ceramics, of which Anatolian Late Chalcolithic tradition can be seen, are marked by typical Uruk ornament. In Central Ciscaucasia, the villages of Serzhen-yurt in Chechnya (I), (II) contain pottery typical for the average of Uruk. The vast majority of burials contains also repovidnyh ceramic (Uruk) forms. In general, the dominance of Uruk was limited to the Central Northern Caucasus, while on the North-Western Caucasus the dominant influence of Anatolian Late Chalcolithic can be seen. This can be seen from the forms of ceramics and types of metal products.

Khashuri Natsargora: New Research about the Kura-Araxes and Bedeni Cultures in Central Georgia (session 3)

Rova, Elena (Ca' Foscari University, Venice – Italy)

The paper will present the results of four seasons of work by the joint "Georgian-Italian Shida Kartli Archaeological project" on the site of Natsargora at the western limit of the Shida Kartli province of Georgia. Two seasons were devoted to the study of the unpublished material from the settlement and cemetery excavations (1984-1992) by Al. Ramishvili, and two seasons (2011 and 2012) to renewed excavations on top of the settlement. The debated stratigraphic relation and relative chronology of the Kura-Araxes and Bedeni occupation of the site were clarified and anchored to 14C dates from secure contexts. An integrated approach by archaeologists, geo-archaeologists and geo-morphologists allowed to collect important information about site formation processes, as well as about the internal organisation of the settlement and its evolution in the course of time. In particular, different kinds of firing installations and sequences of prepared external surfaces of yellowish silty sand were investigated through soil micromorphology techniques. The implications of the project's results in the wider perspective of the EBA sequence of occupation in the region will be discussed in the final part of the paper.

Aufstieg und Fall des Staates Urartu. Mit einem Exkurs über Hattusili I. und die Hurriter (session 1)

Salvini, Mirjo (Consiglio Nazionale delle Ricerche, Rome – Italy)

Während der Verlauf der urartäischen Geschichte in der Zeitspanne der lokalen schriftlichen Dokumentation, nämlich vom Ende des IX. bis zur Mitte des VII. Jahrhunderts, ziemlich bekannt ist, und in grossen Zügen rekonstruiert werden kann, so hat die lange Phase der Bildung des Staates Urartu Anlass nur zu wagen Rekonstruktionen gegeben. Unsicherheit herrscht weiterhin hinsichtlich des Ende des Reiches, auch nach mehrere Jahrzehnte langen archäologischen Forschungen in der Türkei, Armenien und Iran und historischen Analysen. Was sich vor dem Auftauchen der ältesten Inschriften in assyrischer Sprache von Sarduri I. in Van und in der ausgedehnten bergigen Gegend - die historisch gesehen als Armenisches Hochplateau bekannt ist - zugetragen hat, können wir nur durch die Interpretierung der Mittel- und neuassyrischen Keilschriftquellen zu rekonstruieren versuchen. Was wir in den Annalen lesen, sind Namen von einzelnen Ländern und Konfederationen, die Ziel des assyrischen Expansionismus nördlich der Taurus-Kette vom XIII. bis in die zweite Hälfte des IX. Jahrhunderts waren. Der ständige Druck der assyrischen Feldzüge ist sehr wahrscheinlich die Ursache der Gruppierungen verschiedener Stämme und Länder auf dem Hochplateau gewesen. Die beiden Landesnamen Nairi (Na'iri) und Ur(u)atri-Urartu der assyrischen Quellen erlauben an sich keine ethnische Identifizierung, zumal da die Keilschriftquellen von Van und Umgebung seit dem 2. Herrscher der Dynastie, Išpuini, das Land als Biainili bezeichnen. Dass die Sprache dieser Texte als urartäisch bezeichnet wird, hängt zusammen mit dem Verlauf der Forschung, die die assyrischen Texte und somit die Bezeichnung Urartu zunächst entschlüsselt hat. Die zwei Hauptprobleme der Anfänge der urart. Geschichte sind die Herkunft der Schrift, die sich schnell im ganzen Gebiet ausbreitete, und die Verbreitung der "urartäischen" oder "Biainili"-Sprache. Die Hypothese einer entfernten Herkunft aus dem mittelbabylonischen Duktus der Mittannischen Kanzlei hält nicht mehr stand, und man kann mit Sicherheit behaupten, dass die Keilschrift der Van-Inschriften, sowie die Titulatur der ersten Könige, direkt von assyrischen Mustern der Zeit Assurnasirpal II. und Salmanassar III. herrührt. Die Sprachforschung hat festgesetzt, dass das "Urartäische" oder "Biainische" ein enger Verwandter des im 2. Jahrtausend belegten Hurritischen ist; besser gesagt, beide Dokumentationen gehören zu ein- und derselben Sprache, sind aber in verschiedenen Arealen und in verschiedenen Zeiten belegt, so dass keine historischen Kontakte festgestellt werden können. Der Keim zur Bildung der urartäischen Macht war wohl ein fremdes ethnisches Element, wie der Name vom ersten, durch die assyrischen Quellen bekannten Herrscher Aramu zeigt. Eine weitere Dichotomie besteht in den Namen der "urartäischen" Könige Minua, Sarduri und Rusa, welche nicht mit der hurritisch-urartäischen Sprache erklärt werden können. Die Sprache der "urartäischen" Inschriften war also Ausdruck nur einer der Komponenten des Staatsgebilde, und wir müssen die Selbstbezeichnung Biainili akzeptieren. Über das Ende des Reiches und vor allem hinsichtlich der Chronologie der Könige des VII. Jahrhunderts herrschen verschiedene Meinungen. Vor allem ist die Reihenfolge der drei Rusa in neuerer Zeit in Frage gestellt worden. Eines scheint festzustehen: nach dem Erlöschen der einheimischen schriftlichen Dokumentation, nämlich mit Rusa III und Sarduri III. kann man nicht mehr von einem urartäischen Staat sprechen. Eine jüngste Theorie behauptet allerdings, dass ein Reststaat bis zur Kampagne des Kyros im Jahre 547 v. Chr. bestanden hat. Eine sehr oft aufgestellte wichtige Frage ist es, ob das Volk der Armenier, das Jahrhunderte später das ganze Territorium des ehemaligen Urartu bewohnen wird, bereits zur Zeit der urartäischen Herrschaft in jenen Gegenden anwesend war. Die heute verfügbaren Elemente erlauben

diesbezüglich zwar keine sichere Aussage, die Entsprechung zwischen Uraštu und Armina auf dem Schriftdenkmal des Dareios in Bisutun, könnte jedoch dafür sprechen.

Exkurs über Hattusili I. und die Hurriter. Die Rekonstruktion der verschiedenen Phasen und des Prozesses, die zur Bildung des urartäischen Staates geführt haben, gibt Anlass, an eine gewisse Analogie mit der Zeit des Gründers des hethitischen Reiches Hattusili I. zurückzudenken. Seine Feldzüge gegen Osten, vor allem gegen die Hurri-Länder, haben unter anderem die Gegend des oberen Tigrislaufes interessiert. In diesem Zusammenhang sind vor Jahren neue originale Dokumente aufgetaucht, welche einen Blick in die Zeit der Formierung des Staates Hurri-Mittanni werfen, der sich als ein mächtiger Rivale des hethitischen Reiches bis Suppiluliuma I. herausstellen würde. Der Brief des Tabarna in akkadischer Sprache, einziger sicherer Originaltext seiner Regierung, zeigt die Politik Hattusili I. im hurritischen Raum Obermesopotamiens. Wie man aus dem Prisma aus Tikunani ersehen kann, ist zwar der literarische Rahmen akkadisch, die Personennamen der Sozialklasse der Habiru, die als Soldaten verwendet waren, aber fast ausschliesslich hurritisch.

Technical, Technological and Typological Innovations and Changes of Bronze Weapons in South Caucasus: from the 3rd millennium to the first half of the 2nd millennium BC (session 6)

Sherazadishvili, Zviad (Tbilisi State University – Georgia)

From the first half of the 3rd millennium to the first half of the 2nd millennium BC on the territory of South Caucasus were existing; the EBA Kura-Araxian, the MBA Early Kurgan (Alazan-Bedeni and Samgori-Martkopi Cultures) and Trialeti Cultures. In this period South Caucasus was in the southern block of the Circumpontic Metallurgical Province. In spite of the fact that the majority of researchers consider Early Kurgan period as MBA, the bronze weapons take their origin from the EBA. According to the typological and technical innovations, the Trialeti Culture is different from the EBA and Early Kurgan cultures, although the chemical composition of weapons is close to EKC. From the innovations of the Trialeti Culture we can name blade and rapier. Among the weapon assemblage of this period the most significant and obvious technical progress concerned spearheads, which from earlier specimens with a long tongue became all socketed spearheads. During the EBA and EKC, bronze weapon production was very close to both the northern and the southern blocks of CMP, while the Trialeti Culture is closer to the Near East. It is very important, that Near Eastern and South Caucasian weapons of the same type often date to the same period. This is the result of very close trade relations.

Metal Production in Central-Eastern Anatolia in the 3rd Millennium BC (poster session)

Spagni, Stefano (University of Rome ‘La Sapienza’ – Italy)

To attempt a study of the metallurgy in Central and Eastern Anatolia has been a difficult task: this wide area has been central for the development and diffusion of metallurgy, that the archaeological data attest coming from Caucasus with its technological and stylistic patterns. The study evaluates several aspects linked to metallurgy, and typology has been a goal and a tool to reach others. This work is focused on metal production features. The attempt was to detect all the production chain stages, from the location of exploiting mines to the production

areas, from the circulation of goods at a regional and extra-regional level, to the diffusion of know-how. Central and Eastern Anatolian sites in the 3rd Millennium BC and the objects belonging to them have been analysed; sites where metal artefacts have been found or the presence of smelting and/or metalworking recognised have been taken into consideration. Assuming that evidence for metalworking are moulds, pouring crucibles and prills, it has been stated that in the first half of EBA there is no trace of such objects and it could be hypothesized that there is not *in situ* metalworking in any Central or Eastern Anatolian sites. However, the presence of elaborate metal artefacts gives evidence of a high developed technique in metallurgy; on the contrary, smelting is well documented in many sites by the presence of ores, smelting crucibles and slags. Only at the very end of the period it is possible to find the first complete workshop in level XIX at Norşuntepe (EBA IIb) with strong Caucasian architectural features. In the second half of the EBA the concept of metallurgy seems to have had an evolution, which is strictly linked to political entities, as the workshop in the Norşuntepe “palace” in level VIII shows. At the end of the period, metal workshops were absorbed by emerging political entities that would have been at the base of the political and social systems of the 2nd millennium BC.

Lithic Production in the Transition from Chalcolithic to Early Bronze Age (poster session)

Thomalsky, Judith (Deutsches Archäologisches Institut – Germany)

Large obsidian blades are common in the chalcolithic inventories of the South Caucasus. In fact, the earliest known obsidian large blade production occurred in the 6th millennium layers of Aratashen in the Araxes valley. Under the current consensus, the Turkish Upper Euphrates is considered as the region of origin of the so-called “canaanean large blade technology” – performed in chert – which arises here during the later 5th millennium BC. However, there are several arguments that suggest a technological transfer of the obsidian large blade technology from the Kura-Araxes valley to Northern Mesopotamia, where it was transformed onto chert materials. In the latter region, large flint blades appear not only in form of an already sophisticated technology but soon as an established part of a highly specialised redistributive trade-network. In Ovçular Tepesi, Nakhchivan the co-existence of both, Late Chalcolithic communities and a Kura-Araxes occupation is evidenced. The presence of the latter appears as an intrusive one, when the houses were abandoned or empty. The lithic inventory equally bears a character of seasonal production, due to the very little cores/chipping debris for the large blade production on site. In the subsequent period, a gradual increase of chert procession is documented. At the same time in Kültepe I, several large obsidian blade cores evidenced an expert large blade production. From here, large blades seem to have been distributed in the wider region/neighbourhood on a regular and controlled basis. To sum up, a significant socio-economical differentiation in the large obsidian blade production is evidenced in the Kura-Araxes region of the 5th millennium BC. While in few sites an expert blade production took place, other lithic inventories appear technologically heterogeneous, without any regular access to the required raw material sources. On the other hand, the nomadic character of the Kura-Araxes communities may give a good reason for the relatively rapid distribution of the large blade technology into the South (Upper Euphrates & Northern Mesopotamia).

Salt in the Economic System of Early Transcaucasian Culture (ETC): New Perspectives in the Interpretation of the 'Migration' Theory (session 3)

Tonussi, Monica (Ca' Foscari University, Venice – Italy)

The phenomenon of diffusion of the ETC groups from their 'homeland' to the territories of the Upper Euphrates, Western Syria and Southern Levant, between the end of the 4th and the 3rd millennium BC, can be interpreted as the result of multiple factors, which should have represented some sort of economic advantages for those 'migrants'. According to the fact that ETC peoples may have been skilful miners and metallurgists, one of the most accredited explanation for such phenomenon of diffusion is represented, on the one hand, by their need to search for new metal mines and, on the other hand, by their need to interact with other neighbouring cultural groups, in order to exchange metals and metal artefacts. Besides, it has also been pointed out that the majority of the ETC groups that spread on the Anatolian plateau and on the other South-western regions of the Near East, should have been characterized by a highly mobile component. The association of pastoral nomadism with metal mining seems, in fact, to be a rather convincing and reasonable binomial to explain such a phenomenon. Although this interpretation may well correspond with both the archaeological data and the geological resources of South-eastern Anatolia, it does not seem to be valid as well when considering the presence of ETC peoples in the Amuq plain but, mainly, in Southern Levant, where metal sources are absent. With this paper we will then try to show, through archaeological, geological and ethnographic evidences, how the search for salt could have been another important factor that pushed the ETC communities to move seasonally southwards, from the Amuq plain to the Southern Levant. The binomial of pastoral nomadism and salt 'harvesting' may be, in fact, as convincing as that of pastoral nomadism and metal mining.

Neue Forschungen zu den frühbronzezeitlichen Königsgräbern von Alacahöyük (session 3)

Yalçın, Ünsal (Deutsches Bergbau-Museum Bochum – Germany)

Die interdisziplinären Forschungen der letzten Jahre brachten neue teilweise bahnbrechende Kenntnisse in der Archäologie. Die frühen Grabungsbefunde aus den frühen 20. Jahrhundert werden dabei erneut Gegenstand der Forschung. In diesem Zusammenhang wurden in einem von der Fritz Thyssen Stiftung gefördertes Pilotprojekt die Metallfunde aus den frühbronzezeitlichen Königsgräbern von Alacahöyük untersucht. Das Hauptziel dieser neuen Forschung lag einerseits darin, die Metallfunde auf ihre chemische Zusammensetzung zu analysieren, um die Metalle und die Legierungen festzustellen, aus denen sie gefertigt wurden. Außerdem sollten die Anzahl der Gräber, deren genauen Inventare sowie die Beziehung der Gräber untereinander evaluiert werden. Während man die berühmten Sonnenstandarte und Edelmetallfunde in der bisherigen Fachliteratur reichlich behandelte, fanden die häufig vorhandenen Geräte, Werkzeuge und Keramik kaum Beachtung. Ein weiteres Forschungsdesiderat bestand in der Datierung der Gräber. Sie wurden von vielen Autoren in die 2. Hälfte des 3. vorchristlichen Jahrtausends datiert, manchmal 2500-2300, häufig aber 2300-2100 v. Chr. Hier bestand der Bedarf an naturwissenschaftlicher Datierung. In den Jahren 2010 und 2011 wurden alle Funde im Museum für Anatolische Zivilisationen in Ankara untersucht, und mit einem tragbaren XRF-Gerät halbquantitativ analysiert. Die Objekte wurden nach Herstellungs-, Gebrauchs- und Reparaturspuren untersucht, und diese

fotographisch dokumentiert. Einige nicht in der Ausstellung befindliche Funde konnten dabei beprobt werden. Diese wurden dann im Labor des Deutschen Bergbau-Museums Bochum chemisch und an der Universität Frankfurt bleiisotopisch analysiert. Die Ergebnisse werden zurzeit ausgewertet und zur Publikation vorbereitet. Hier werden einige dieser Ergebnisse vorgestellt:

1. Fünf neue ¹⁴C-Analysen ergaben eine Datierung in 2850-2450 v. Chr., so dass das bisher angenommene Alter der Gräber korrigiert werden muss.
2. Die meisten für massives Gold gehaltene Objekte bestehen aus Silber und wurden vergoldet. Die Vergoldung wurde durch eine Auflage mit teilweise bis zu einen Millimeter dünnen Goldfolien durchgeführt.
3. Die zahlreichen Pfieme deuten auf eine Lederverarbeitung hin. Auch die dünnen Goldbleche und -folien wurden wahrscheinlich in Lederbündeln gehämmert. Dadurch gewinnen die bestatteten Eliten auch als ausgezeichnete Handwerker eine neue Bedeutung.
4. Die ersten Auswertungen der Bleiisotopenverhältnisse der beprobten Objekte liefern Hinweise auf die Herkunft des eingesetzten Werkstoffs. Das Kupfer kam möglicherweise aus den neu entdeckten Kupfergruben von Derekutuğun. Bekanntlich liegt Derekutuğun Luftlinie 60 km entfernt, und wurde dort im frühen 3. vorchristlichen Jahrtausend gediegenes Kupfer bergmännisch gewonnen.

Review on the Anthropomorphic Figurines of the Early Bronze Age Royal Tombs from Alacahöyük (poster session)

Yalçın, Ünsal – Yalçın, H. Gönül (Deutsches Bergbau-Museum Bochum – Germany)

The anthropomorphic figurines and idols are among the common and distinctive finds of Anatolian prehistory, though studies about the comparative typologies on anthropomorphic figurines are hardly available. Six female figurines were found in the Royal Tombs of Alacahöyük. The analyses of these female figurines of the Royal Tombs from Alacahöyük show that two of these objects were produced from silver, while the rest was casted from bronze. Beyond this the figurines reveal typological differences. Three schematic female figurines from tombs A₁ and L provide the features of the idols. Three further figurines from tomb H are depicting females plastically. The metal figurines from the Royal Tombs of Alacahöyük reveal a local nature. Similar figurines are known from the other Early Bronze Age settlements of Anatolia. In opposition to most of Early Bronze Age figurines from the other regions of Anatolia, the majority of the figurines from the royal tombs reveal obvious depictions like facial features, extremities and a visibly shaped body. This is a clear indication for classifying them to the group of naturalistic figurines, though two of these figurines can be regarded as a transition between naturalistic and schematic depictions.

Caucasian Bronze Belts in Context (poster session)

Zischow, Arianna Sofia (Humboldt Universität Berlin – Germany)

Bronze belts are recurring features of Late Bronze-Early Iron Age burial sites of the Southern Caucasus. In the course of time they have been the object of several studies, most of which comprise stylistic analyses carried out with the scope of establishing a chronological order or to distinguish geographical groups. Various scholars have devoted themselves to an interpretation of the depictions on the figuratively ornamented belts. In my presentation, however, I would like to focus on the specific contexts in which these belts occur. Based on

data from a small number of sufficiently well published burial sites (e. g. Tli, Kalakent and Narekvavi) I will address - among others - the following questions: How frequently do belts appear in the burials of a given site? Are they found together with a certain set of grave goods on a regular basis? Are there variations between sites? Are especially the richly ornamented belts confined to exceptional burials in terms of construction or number and quality of grave goods? The answers to these questions might contribute to the understanding of these objects thereby allowing conclusions on their possible function and meaning within the social context of the Late Bronze-Early Iron Age societies.

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