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Bandrol Uygulamasına İlişkin Usul ve Esaslar Hakkındaki Yönermeliğin
5. Maddesi'nin ikinci fıkrası çerçevesinde bandrol taşıması zorunlu değildir.

NDT, Geo-Archaeology, and Italy: Lights and Shadows

Pier Matteo Barone (Dept. Archaeology and Classics The American University of Rome), **Carlootta Favara** (Dept. Mathematics and Physics University of Roma TRE), **Valerie Higgins** (Dept. Archaeology and Classics The American University of Rome)

The integration of interdisciplinary methods (e.g. in a GIS) allows us to spatially correlate archaeological contexts and anomalies detected by non-destructive techniques (NDT). The correct approach to the past should be not only to plan a before and after, but to plan a during, in the sense that proper planning for an excavation must include the presence of experts before and during the archaeological project. If this statement seems to be easy and expected, let alone to be applied, in fact, this approach leads to the understanding that the basis for a correct investigative methodology must undoubtedly be the intelligent organisation of the team involved. But lack of money, closed minds, sometimes ignorance produce terrible mistakes and questionable results. A genuine interdisciplinary approach proves advantageous in several ways, increased by modern (and, most important, non-destructive) scientific techniques. This paper will be devoted to good and bad destiny of these integrated methods with some examples in Italy.

Results of Multidisciplinary Geophysical, Geochemical and Archaeological Researches of the Neolithic Sites in North-Western Russia

Marianna A. Kulkova (Herzen State University, St.-Petersburg), **Andrey Mazurkevich** (The State Hermitage Museum, St.-Petersburg), **Jörg W.E. Fassbinder** (Bavarian State Dept. of Monuments and Sites, Munich)

The Dnepr-Dvina interfluvium is known as glacial lakes area formed in the Holocene, rich in archaeological sites. The landscape of the region conserved the glacial and water-glacial forms and deposits. These geological circumstances provide difficulties with decoding of magnetograms while the pedogenic process on these sites passed very slowly. However these sites also conceal valuable information about the life of ancient population, but one requires multiple methods in order to reveal these invisible evidences of the past hidden in sands. During the investigation of the cultural layer by the archaeological excavations since 2003 3D fixation of finds for the detailed space analysis, geochemical indication of the sequence of cultural layers, magnetic prospection and kappametry were conducted. The geochemical methods, combined with the spatial analysis of the finds distribution, make possible the distinction of different horizons of habitation on these sites. The analysis of finds distribution and its correlation with geochemical anomalies allow making the correct interpretation of the functional zones and the structure of the settlements. The spatial and typological analysis of the archaeological material allows reconstructing microchronology of the site. For the first time such researches were made in this kind of geologic environments. The study was provided by the grant support of RFBR No 13-06-12057 ofn_m, RFH No 13-21-01003.

A Long Walk in the Italian Countryside. Large-Scale Geophysical Prospection in Rural and Urban Contexts in Central Italy

Stefano Campana (University of Siena, Siena), **Ken Saito** (University of Cambridge, Cambridge), **Barbara Fresta** (University of Siena, Siena)

Geophysical prospection has long been recognized as one of the most effective forms of non-destructive archaeological investigation. In Italy, however, it has yet to be applied widely by archaeologists - or demonstrated publicly through successful case studies - as an effective tool at other than individual-site level. Certainly its potential for large-scale characterization of threatened archaeological contexts, and of previously unexplored rural and urban areas, has remained largely unacknowledged or tested in the field. This contribution, however, will present the first results of a programme of large-scale multi-sensor magnetometry that has covered the whole of the Etruscan and Roman town of Veii, near Rome, as well as initial exploration of the rural landscape of the Grosseto-Roselle valley in Tuscany. The research project aims at stimulating changes in the way in which archaeologists in Italy study the archaeology of landscapes, moving from an essentially site-based approach to a truly landscape-scale perspective. This kind of investigation, especially if combined with field-walking survey and aerial prospection, along with LIDAR imaging and test excavation wherever possible, could create an entirely new context for the exploration of previously unconsidered rural as well urban contexts in Italy and perhaps more broadly throughout the Mediterranean area.

Archaeological Remote Sensing and the Planning Process

Knut Paasche (Norwegian Institute for Cultural Heritage Research-NIKU, Oslo), **Trude Aga Brun** (Archaeologist Vestfold County, Oslo)

Every year, a large number of archaeological investigations are carried out in connection with planning and building projects. This paper will concern itself principally with the survey phase. The results of surveys form the basis for assessing

Environmental Issues of the Neolithic Peat Site Podolye 1 in the Eastern Baltic

Tatyana M. Gusentzova (Research Autonomous Non-commercial Organization "Scientific and Research Institute for Cultural and Natural Heritage", Saint-Petersburg), **Margarita A. Kholkina** (Saint-Petersburg State University, Saint-Petersburg), **Tatyana V. Sapelko** (Limnological Institute RAS, Saint-Petersburg), **Anna V. Ludskova** (Limnological Institute RAS, Saint-Petersburg), **Marianna A. Kulkova** (Department of Geology and Geomorphology, Herzen State Pedagogical University, Saint-Petersburg), **Darja V. Ryabchuk** (Karpinsky Russian Geological Research Institute, VSEGEI, Saint-Petersburg), **Aleksander J. Sergeev** (Karpinsky Russian Geological Research Institute, VSEGEI, Saint-Petersburg)

Site Podolye 1 is located near the southern shore of Lake Ladoga. The forms of paleorelief and the bed of palaeolithic pond on the banks of which people lived in the Stone Age, were determined with the help of integrated geological and geophysical studies using ground-penetrating radar and geological drilling. Wooden structures – hammered stakes, fishing weels, wrapped in birch bark – were preserved on the site in the layer of peat in situ. Earthen structures with the remains of stone fireplaces, disintegrated clay vessels, implements of flint, quartz and slate, amber pendants, ochre, animal bones, many fish vertebrae were found here. Chronology of the monument is based on the correlation with the paleogeographic events confirmed data of the palynological, diatom and geochemical analysis of sediments and a series of radiocarbon dates. The result is a dynamics of paleoenvironment between the Atlantic and Subatlantic periods. The bulk of the materials belongs to the second half of the Sub-Boreal period dated $4338 \pm 70 - 4229 \pm 70$ BP. These investigations were supported by RFFRF grant 13-06-00548.

Kinship, Diet and Movement among Mesolithic Hunter-Gatherers in Light of Laboratory Analysis of Ritual Skull Depositions at Kanaljorden, Motala, Sweden

Fredrik Hallgren (The Cultural Heritage Foundation, Stockholm), **Elin Fornander** (The Cultural Heritage Foundation, Stockholm)

Archaeological fieldwork in 2009–2013 has uncovered an unusual ritual hunter-gatherer context with wetland depositions of human remains at the Mesolithic site Kanaljorden, Motala, Sweden. A small lake was used for complex ritual activities that included the construction of a stone packing at the bottom of the lake. Select human bones – mostly skulls – from a dozen individuals were then deposited on the stone-packing. Two of the skulls were mounted on wooden stakes and embedded in the cranium. Beside human bones, the finds also include artefacts of bone, antler, stone and wood, as well as animal bones and botanical remains. The context is 14C-dated to c. 5800 cal. BC. Ongoing laboratory analysis (aDNA, isotopes, etc.) give insight into the relationship, diet and movement of the interred individuals.

Stone-Age Subsistence Strategies at Lake Burtneiks, Latvia

John Meadows (Centre for Baltic and Scandinavian Archaeology-ZBSA, Leibniz Kiel University, Kiel), **Valdis Bērziņš** (Institute of Latvian History at the University of Latvia-LVI, Riga), **Harald Lübke** (Centre for Baltic and Scandinavian Archaeology-ZBSA, Schleswig), **Ulrich Schmölcke** (Centre for Baltic and Scandinavian Archaeology-ZBSA, Schleswig), **Iga Zagorska** (Institute of Latvian History at the University of Latvia-LVI, Riga)

Stable isotope results from human remains from the long-lived prehistoric cemetery at Zvejnieki, on Lake Burtneiks in northern Latvia, suggest that the Mesolithic and Neolithic foragers buried there depended, to varying degrees, on the consumption of freshwater fish, but that fish consumption may have declined over time (Eriksson et al. 2003, Eriksson 2006). We reconsider these patterns in the light of new isotope data from Rionukains, a later Neolithic shell midden at the outlet of Lake Burtneiks, from which a rich fishbone assemblage has been analysed (Bērziņš et al. in press; Schmölcke et al. in prep). We propose isotopic baseline values for the Lake Burtneiks area, using the combined faunal and fishbone stable isotope data from the two sites, which are less than 10km apart. From these values, diets for each individual are then calculated, using the Bayesian dietary mixing model software, FRUITS (Fernandes et al. 2014). Although their baseline isotope values are quite distinct, we see large uncertainties in the potential contribution of each food group to individual diets and no clear temporal trends. Rather, there appears to be significant variability within each period, which may be due to individual mobility rather than individual dietary preferences.

Contact, Co-Existence, and Conciliation? An Example of Cultural Contact between People of the Hunting-Gathering Pitted Ware Culture and People of the Funnel Beaker Culture

Gunilla Eriksson (Stockholm University, Stockholm), **Rachel Howcroft** (University College Dublin, Dublin), **Kerstin Lidén** (Stockholm University, Stockholm)

We provide an example of long-lasting co-existence and interaction between people of two culturally distinct groups in Neolithic Sweden at the Baltic coast: the incipient farmers of the Funnel Beaker Culture and the seal hunters of the Pitted Ware Culture, respectively. Despite geographical proximity and evident contacts with people of the Funnel Beaker (and

Pandora's Box: The Misuse of Bayesian Chronological Modelling

Erio Valzolgher (Ricerca Archeologica snc/Archäologische Untersuchungen OHG, Bressanone/Bozen)

Over the past decade the use of Bayesian chronological modelling has become increasingly widespread. However, this has sometimes led to a decline in the quality of models, often because researchers are self-taught in Bayesian modelling. Bayesian chronological modelling might involve subjective judgments, but that does not mean there are not better and worse models according to objective criteria. Drawing upon a survey of the literature, the paper illustrates the most common types of error encountered.

Round Table Discussion

Peter Barta (Comenius University, Bratislava), **Nancy Beavan** (University of Otago, Dunedin), **Anthony Denaire** (University of Strasbourg, Strasbourg), **Doug Kennett** (Pennsylvania State University, State College), **Krisztián Oross** (Hungarian Academy of Sciences, Budapest), **Marko Sraka** (University of Ljubljana, Ljubljana)

An international panel of archaeologists with experience of Bayesian modelling will respond to the topical presentations, by debating the application of Bayesian techniques to real archaeological problems. What, if any impact has Bayesian chronological modelling had on archaeological thinking in different regions and periods? Can Bayesian modelling deliver what archaeologists actually want to know? Are there important chronological questions that are not amenable to Bayesian methods? Which aspects of Bayesian modelling are most under-utilised? Can we translate the jargon and the ideas successfully, or are the concepts as well as the terminology too Anglo-centric? Is there a Bayesian community, and is it dangerously isolated within archaeology? Could Bayesian modelling do more harm than good? How do we assess the competence of the modeller and the validity of the model? Will dating be focussed on periods and materials with greatest potential for Bayesian modelling, rather than on periods and regions which are least understood? Alternatively, are other aspects of archaeological interpretation struggling to catch up with the potential offered by Bayesian chronological models? Will the development of more reliable and precise chronological frameworks transform what archaeologists think are the important research questions? Contributions from the audience will also be welcome.



T06S030 - MULTIPLE VIEWS ON EARLY PREHISTORY

Organizers: Erksin Güleç (Ankara University Anthropology Department, Ankara), **Marianna A. Kulkova** (Herzen Pedagogical University, St. Petersburg), **İsmail Baykara** (Yüzüncü Yıl University Anthropology Department, Van)

The origin, sustainability and the evolution of our genus is a multifarious process that involve wide range of topics, from physical properties to environmental or climatic fluctuations, all being of crucial importance. It is also evident that the climatic conditions had played a significant role in cultural-historical process and in developing adaptation strategies to changing environmental conditions. It is generally accepted that with the onset of milder climatic conditions by the final stages of the Pleistocene not only provided means to improvise new means of subsistence, but also stimulated the development of new technologies, significantly ameliorating way of living. The remains of early modern humans reflect cultural and individual behaviors that are substantially more complex than the earliest *H.sapiens sapiens*; but which behaviors and ecological conditions allowed us to become the dominant species throughout the world by about 40,000 years ago? We expect that this session would be the place to learn what is already known and not known in the world prehistory and to plan effective research strategies for the future.

ORAL PRESENTATIONS

The First Moderns in Anatolia: Üçağızlı Cave

Erksin Güleç (Ankara University Anthropology Department, Ankara), **İsmail Özer** (Ankara University Anthropology Department, Ankara), **İsmail Baykara** (Yüzüncü Yıl University Anthropology Department, Van), **Mehmet Sağır** (Ankara University Anthropology Department, Ankara), **Serkan Şahin** (Ankara University Anthropology Department, Ankara), **Cem Erkman** (Ahi Evran University Anthropology Department, Kirsehir), **Ayyen Açikkol** (Cumhuriyet University Anthropology Department, Sivas)

Üçağızlı cave is an Upper Paleolithic locality situated on the Mediterranean coast of south-central Turkey, a short distance south of the mouth of the Orontes River. Üçağızlı, excavated from 1997 and to 2013, preserves a deep sequence (> 3 m) of early Upper Paleolithic deposits. The site represents the remnants of much larger, collapsed karstic features. The area of intact sediments in the site is small, but the density of materials is very high. Intensity and/or duration of occupations varied over time in Üçağızlı. The uppermost layers at Üçağızlı (B, B1B3), which contain an Abmarian industry, are associated with an intense, and perhaps prolonged occupation. In contrast, the lowest layers at Üçağızlı (F, G, H), which produced an Initial Upper Paleolithic (IUP) industry, were created through a series of more episodic, shorter-term, occupations. The cave

differences are represented by various lithic technology, specific hunting strategies, systematic settlement patterns, high mobility capacity and land use, and finally coordinated ornament use. These kinds of material culture indicate the presence of modern human behaviors. In this study, we discuss ornament manufacture and their function in social life.

The Middle Paleolithic of Üçağzlı Cave

İsmail Baykara (Yüzüncü Yıl University Anthropology Department, Van)

The origin, sustainability and the evolution of our species is a multifarious process that involves wide range of topics, from anthropological features to environmental or climatic fluctuations, all of crucial importance. It is also evident that the climatic conditions played a significant role in cultural-historical process and in developing adaptive strategies to changing environmental conditions. It is generally accepted that the onset of milder climatic conditions by the final stages of the Pleistocene not only provided means to improvise new means of subsistence, but also stimulated the development of new technologies, significantly changing way of living. The remains of early modern humans reflect cultural and individual behaviors that are substantially more complex than the earliest *H. sapiens sapiens*. Was it these behaviors and ecological conditions that allowed us to become the dominant species throughout the world by about 40,000 years ago? We expect that this session is the place to learn what is already known, discover new factors and to plan effective research strategies for the future.

A Morphometric Study on the Üçağzlı Wild Goats

Derya Baykara (Yüzüncü Yıl University, Van), **Ayşen Açıkkol** (Cumhuriyet University, Sivas)

In this study, wild adult goats' bones from Üçağzlı Cave sampled from the Initial and Early Upper Paleolithic are studied. Within the scope of this study we made a data base from literature of wild and domestic goat metric measurements from archaeological sites in different periods in the Middle East. The aim of this study is to investigate size changes depending on with climatic changes, time and domestication for the goats from the Upper Paleolithic. For the statistical analysis basic osteometric measurements and log-ratios indices (LRI) were used. The significance for the size differences as to periods were investigated by using t-test. The research shows that the wild goats found at Üçağzlı Cave in Upper Paleolithic period are bigger in size than all later goats. The Late Upper Paleolithic, which has a colder climate and the goats in this cold weather are larger in size than the Ahmarian goats living in characteristic warmer climate. The significant size reduction occurred during the Pre-Pottery Neolithic period and this is associated more with the process of domestication than with climatic conditions.

Archaeopetrological Study of the Lithic Industry from "La Roureda" Rockshelter (Vilafraanca, Els Ports, Castelló, Valencian Country)

Mar Rey Solé (Universitat de Barcelona Departament de Prehistòria Història Antiga i Arqueologia, Barcelona), **Didac Roman Monroig** (Universitat de València, Departament de Prehistòria i Arqueologia, València), **Xavier Mangado Llach** (Departament de Prehistòria, Història Antiga i Arqueologia Facultat de geografia i història, Universitat de Barcelona, Barcelona)

The Epimagdalenian rockshelter of "La Roureda", dated to $11,350 \pm 50$ BP (13373-13122 cal. BP), is located in eastern Iberian Peninsula. The stone tool assemblage from the Roureda rock shelter includes a total amount of 4639 pieces made on flint and this presentation is the first approach to the analysis of the raw materials through its archaeopetrological study. Firstly, we proceeded to expose the results of the macroscopic and microscopic analysis, combining petrological and micropalaeontological techniques of all of the retouched pieces (268 stone tools). Secondly, we expose the first results of the geological surveys we have conducted in the site area, which has allowed us to study several sources of siliceous material. The analysis of these sources of raw material and their comparison with the stone tools recovered in the Roureda shelter have led us to make a first approach to the possible sources of supply of the epimagdalenian groups that occupied this rockshelter. This study is the first analysis of the raw materials that has been carried out in this area, so it will be a breakthrough for the knowledge economy of the prehistoric communities and helps us to understand the reason of certain human behaviors.

Environment and Ancient Cultures in the North-Western of Eastern Europe during Holocene

Marianna A. Kulkova (Herzen Pedagogical University, St. Petersburg), **Dmitrij Gerasimov** (Peter the Great Museum of Anthropology and Ethnography RAS, St. Petersburg), **Andrey Mazurkevich** (The State Hermitage Museum, St. Petersburg)

The region of North-Western Russia connecting with Baltic Sea presents a dynamic ecological system that was sensitive to environmental changes at the end of the Last Glacial Period and during the Holocene. Some factors affected environmental changes in the region within the Holocene: deglaciation process, which finally terminated about 9000 cal BP; eustatic sea level changes; tectonic movements which are basically considered in the region as an isostatic uplift process; anthropogenic

activity. Contextual remains of ancient human occupation sites can be the only evidence of surface stabilization in monotonous sediments, such as aquatic and subaquatic deposits. The transgressive-regressive stages of Baltic Sea (at 10150 cal BP - Ancylus transgression; at 8400-8700 cal BP Littorina transgression; at 7000 cal BP transgression) have an impact on the positions of prehistorical sites. The complex investigations (lithology, geochemistry, pollen analysis, diatom analysis, radiocarbon dating) of the stone Age archaeological settlements on Karelian Isthmus and at Dvina-Loos' basin allow us to reconstruct the paleoenvironmental changes during Holocene, chronology of cultural-historical processes and adaptation strategy of ancient people to environmental condition on this territory. These researches were supported by RFBR No 13-06-12057, 13-06-00548, 12-05-01121, RFH 13-21-01003.

POSTER

The First Inhabitants of Anatolia; Dursunlu

Erkin Güleç (Ankara University Anthropology Department, Ankara), **İsmail Özer** (Ankara University Anthropology Department, Ankara), **Mehmet Sağır** (Ankara University Anthropology Department, Ankara), **İsmail Baykara** (Yüzüncü Yıl University Anthropology Department, Van), **Serkan Şahin** (Ankara University Anthropology Department, Ankara), **Ayşen Açıkkol** (Cumhuriyet University Anthropology Department, Sivas), **Cem Erkman** (Ahi Evran University Anthropology Department, Kırşehir)

Anatolia is the most direct land route into Europe from the Levantine corridor and, more distally, from Africa. Dursunlu located in south-central Anatolia, is currently the oldest documented Paleolithic locality in Turkey. Paleomagnetic and paleontological evidence indicate an age of between 780-900 kya. The site is exposed in an abandoned lignite mine and was first investigated in 1993-1994 by a joint team from Ankara University, the University of California, Berkeley, and the Turkish Geological Service. Some human artefacts were also found, and the artifact assemblage consists mainly of flakes and flake tools of quartz and flint, along with a polyhedron and polyhedral cores. Based on the collection of material, the Dursunlu lithic assemblage suggests a technological system oriented toward production of small, unstandardized flakes. Both free-hand, hard-hammer percussion and bipolar techniques were employed. The unique chopper and polyhedron may have been cores or they may have been end-products. A wide variety of vertebrate remains also are present, ranging from microfauna through proboscideans; indicating thirty-eight mammal species. Over 40 bird species, also present at Dursunlu. No human remains were discovered.



T06S031 - BUILDING MATERIAL AS TRANSMITTER OF CULTURE

Organizers: **Jesko Fildhuth** (Deutsches Archäologisches Institut, Berlin), **Umut Aймаç** (Istanbul Technical University, Istanbul)

Materials for construction and individual elements of buildings have always been regarded as devices of cultural identities. The mobility of people and knowledge allow us to observe that different materials and elements may emerge far beyond the boundaries of their place of invention or development. From prehistoric period up to modern times, building materials and elements were particular culture goods circulating among "know-how creating" areas and "impact receiving" groups. Architectural remains bear evidence of cultural interrelations. Lack of certain materials at a given place, displacement of artisans, admiration for foreign styles, and many other motivations have added extra values to construction and architecture. The session has a special focus on the cultural depth of building materials and elements.

ORAL PRESENTATIONS

Egyptian Building Strategies at the Dawn of Their History

Karolina Rosińska-Balik (Institute of Archaeology, Jagiellonian University in Kraków, Kraków)

The aim of this paper is to characterize the development of the Nile Delta architecture at the era of Egyptian unification. The attempt will be made on the basis on interpretation of archaeological material. Excavation results indicate that, in the period decisive for the ulterior Lower and Upper Kingdoms, Egyptian architecture was profoundly transformed. The transformation was not only viewable in the form of constructed architectural layouts. The execution manner of spacious structures was evolving as well, and building material changed and was adapted to new needs. At this point, new issue worth further studies, appears. The issue concern mud bricks' application. The main question is the origin of the material. The answer is especially important, when facing the fact that the opinion on Naqadan descent of mud bricks should be strongly verified. Another question is the manufacturing economy. The preparation process of this type of common material must have been simplified and fasted, but the question how simplified and how fasted remains. How much workload is required? How many ingredients were needed and in what quantity? How much time the preparation process, from birth