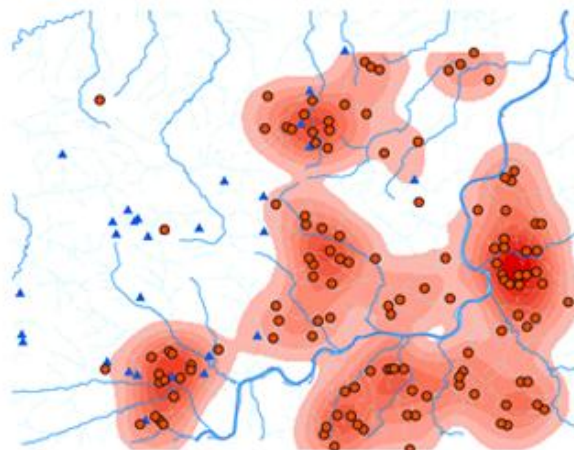
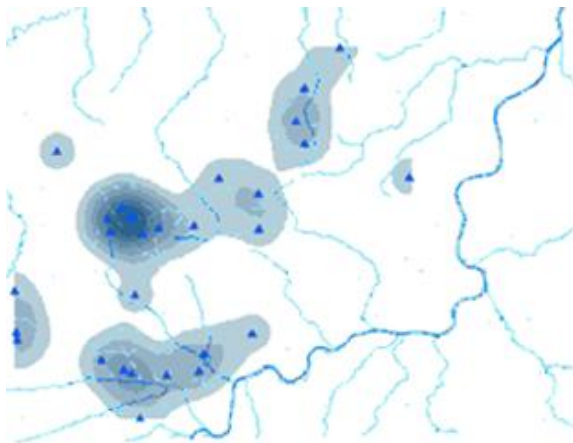


# Settlement, Communication and Exchange around the Western Carpathians in European Context

International Workshop  
at the Institute of Archaeology,  
Jagiellonian University in Kraków  
October 27–28, 2012



## Workshop outline

Since 2006 the Department of Archaeology, University of Kraków, and the Department of Archaeological Sciences, University of Bochum, run a joint archaeological project on Neolithic and Bronze Age settlement patterns in the middle part of the Dunajec river valley in Little Poland.

Based on data from the archaeological survey of Poland (AZP) a long-term perspective is taken on the development and change of human settlement in this micro-region. Intensive survey work is carried out, including geomagnetics and intensive fieldwalking, to verify and improve the often very broad dating of sites known since AZP; large-scale excavations on the extensive hilltop-settlement of Janowice aimed to provide an improved pottery chronology that is supported by absolute dates from scientific dating methods and give us some impression of the internal dynamics of this unusual settlement type; trial excavations on a number of surrounding sites aimed to clarify the chronological and functional relationship of these smaller settlement units to the 'central' place of Janowice. GIS applications are used to integrate the spatial data obtained and model long-term change in settlement patterns in the micro-region examined.

It is asked, for example, for what reasons there was a marked change in settlement activity from the hilltops during the Neolithic towards the slopes of the Dunajec valley in the Bronze Age. In what sense was the hilltop-settlement of Janowice with its long history of occupation from broadly the Middle Bronze Age to the Early Iron Age 'central' for this development in sociopolitical terms, mind older debates on fortified Lusatian hilltop sites presumably accomodating some kind of Bronze Age elites, or rather as a focus of local identities that developed over centuries and saw a combination of long-lived sites representing the stable element of human presence in this marginal landscape opposite shorter-lived places.

For marginal the Dunajec valley is, when compared to the fertile Loess soils in the lowlands along the Vistula river. The micro-region under study is situated in the foothills of the Western Carpathians, an area of great interest in current research for its role as a mediator of contact and exchange with communities further south in the Carpathian Basin. Such contacts are evident already in the Neolithic when there is exchange in stone and flint raw materials. Even more so in the Bronze Age when further east with the Otomani communities of the Jasło group there is more or less clear evidence for the presence of a 'foreign' population. The situation in the Dunajec valley is different, however, since the foreign element is much less marked, for example in our pottery assemblages. Hence this region may help to come to a more differentiated modelling of trans-Carpathian contacts in prehistory.

The workshop will present some results of our ongoing project work, and colleagues are invited working on related subjects to discuss our findings in a wider European context. A publication of the papers held on the workshop is planned in BAR International Series.

In order to allow representatives of various disciplines the opportunity to participate the presentations should not exceed 20 minutes. In addition there will be 10 minutes allowed for discussion following each paper. The conference is funded by the Alexander von Humboldt-

Foundation. There is funding for accommodation and adequate travel expenses for non-local participants. The number of participants will be limited but additional papers may be included in the publication of the conference proceedings

**Sections / topics proposed:**

Western Carpathians and Dunajec valley – Archaeological and topographic setting

Neolithic settlement, communication and exchange around the Western Carpathians

Bronze Age settlement, communication and exchange around the Western Carpathians

Methods and theory: Modelling spatial patterning in settlement systems and communication (including GIS applications)

**Organising Comitee**

Prof. Dr. Paweł Valde-Nowak (University of Kraków)

Prof. Dr. Tobias L. Kienlin (University of Bochum)

Marta Korczyńska M. A. (University of Bochum/Kraków)

Klaus Cappenberg (University of Leipzig)

Friday, October 26<sup>th</sup>

Arrival of participants

17.00–19.00 Registration and welcome at the conference venue:

**Instytut Archeologii Uniwersytetu Jagiellońskiego /  
Institute of Archaeology Jagiellonian University  
ul. Gołębia 11/ Gołębia str. 11  
31-007 Kraków**

20.30–22.00 Opportunity for a joint tour - Rynek Underground permanent exhibition:  
“Following the Traces of European Identity of Kraków” of the participants

Saturday, October 27<sup>th</sup>

(presentations of 20 minutes plus 10 minutes for discussion)

08.30–9.30 Registration and welcome at the conference venue:

**Instytut Archeologii Uniwersytetu Jagiellońskiego /  
Institute of Archaeology Jagiellonian University  
ul. Gołębia 11/ Gołębia str. 11  
31-007 Kraków**

9.30–10.00 Pawel Valde-Nowak (Kraków) / Tobias L. Kienlin (Bochum): Welcome and  
Introduction

### **Section I: Western Carpathians and Dunajec Valley – Archaeological and Topographic Setting**

10.00–10.30 Peter Bogucki (Princeton): The Western Carpathian Highlands during the  
Neolithic

- 10.30–11.00 Wojciech Blajer (Kraków): Die Westkarpaten als Kontaktzone in der Bronzezeit aufgrund der Hort- und Einzelfunde der Metallgegenstände
- 11.00–11.30 *Coffe break*
- 11.30–12.00 Madgalena Moskal-del Hoyo / Maria Lityńska-Zajac / Katarzyna Cywa (Kraków): Plant Remains Found in Archaeological Sites in the Carpathian Foothills - Preliminary Report
- 12.00–12.30 Michał Wasilewski (Kraków): Stones collecting and preliminary discrimination on the archaeological site - Janowice (AZP 106-65 no. 61) case study
- 12.30–14.00 *Lunch break*

## **Section II: Neolithic**

- 14.00–14.30 Paweł Valde-Nowak (Kraków) / Klaus Cappenberg (Leipzig): Long houses on hilltops, the camps in the mountains. Some aspects of the Neolithic in the Dunajec project
- 14.30–15.00 Andrzej Pelisiak (Rzeszów): Settlement, Economy and Climate between 3200 and 2500 BC. Late Neolithic Transformations in South-East Poland
- 15.00–15.30 Marek Nowak (Kraków): Settlement and economic transformations in western Little Poland around 3000 BC: internal development vs external implantation
- 15.30–16.00 *Coffee break*

- 16.00–16.30 Agnieszka Czekaj-Zastawny / Anna Rauba-Bukowska (Kraków):  
Technology of the Oldest Vessels in the Upper Vistula River Basin –  
Imports against Local Pottery
- 16.30–17.00 Agnieszka Czekaj-Zastawny (Kraków) / Jacek Kabaciński (Poznań) /  
Thomas Terberger (Greifswald): Cultural relations between the Great  
Hungarian Plain and the southern Baltic coast. Imports from the  
Bodrogkeresztúr Culture on the site Dąbki 9 (Middle Pomerania)
- 17.00–17.30 Harald Stäuble et al. (Dresden): One Too Many Settlements: BK-Eythra In  
the Context of Northwest-Saxony, Germany
- 17.30–18.00 Andreas Zimmermann (Köln): Patterns of Landuse Between Neolithic and  
Roman times in western Germany - a diachronic comparison
- 19.00– Opportunity for a joint dinner of the participants

Sunday, October 28<sup>th</sup>

### **Section III: Bronze Age**

- 9.30–10.00 Marta Korczyńska (Kraków) / Tobias L. Kienlin (Bochum): Vorläufige  
Ergebnisse und methodische Überlegungen zur spätbronze- und  
früheisenzeitlichen Besiedlung im mittleren Dunajectal / Preliminary Results  
and Some Methodological Considerations on the Late Bronze Age and  
Early Iron Settlement Organisation in the Middle Dunajec Valley
- 10.00–10.30 Anita Szczepanek (Kraków): Preliminary Results of the Anthropological  
Analysis of Human Bones from Janowice (AZP 106-65 no. 103)
- 10.30–11.00 *Coffee break*

- 11.00–11.30 Łukasz Oleszczak / Ireneusz Miraś / Łukasz Mrówka (Kraków): The Carpathian Influences on the Bronze Age Settlement in Wierzchosławice
- 11.30-12.00 Marcin S. Przybyła / Magdalena Skoneczna (Kraków): Early and Middle Bronze Age fortified settlement at Maszkowice (Western Carpathians). Preliminary results of the new excavation campaigns (2010-2012)
- 12.00–13.30 *Lunch break*
- 13.30–14.00 Stephan-Karl Möllmann (Schwerin): Landscape Archaeology and GIS in Upper Lusatia in the Late Bronze Age
- 14.00–14.30 Tobias L. Kienlin (Bochum) / Liviu Marta (Satu Mare): New Geophysical Data on the Internal Structure of the Gáva Sites of Andrid-Corlat and Căuaş-Sighetiu in North-Western Romania
- 14.30–15.00 *Coffee break*
- 15.00–15.30 Jozef Bátora / Peter Toth (Bratislava): Ein Beitrag zu den Siedlungsstrategien der frühen Bronzezeit im Gebiet der SW-Slowakei
- 15.30–16.00 Klára Pusztainé Fischl (Miskolc): Bronzezeitliche Siedlungsstruktur im Hernád Tal und in der Borsoder Ebene. Modelle und neue Forschungen / Bronze Age settlement structures in the Hernád-valley and Borsod Plane. Models and new researches
- 16.00–16.30 Concluding Discussion

## Pub for opening meeting (Friday, October 26<sup>th</sup>, 17.00 – )<sup>1</sup>

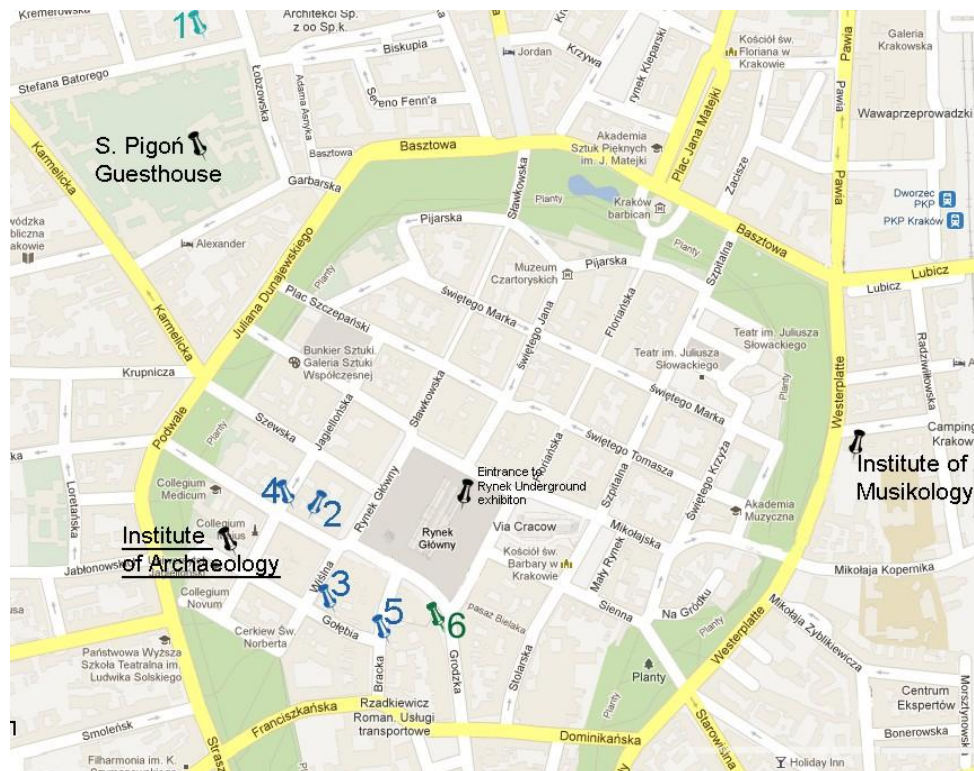
1. **Zaginiony Świat** (Entrance from the backyard)  
Batorego str. 1  
Kraków  
(Reservation of the “Slavic Room”)

### Suggested restaurants for a lunch brake:

2. **Chimera** - Salad Bar, vegetarian cuisine, św. Anny str. 3
3. **Bordo** - Restaurant, Pub Café, fusion cuisine, Gołębia str. 3
4. **Trattoria Soprano** - Restaurant, italian cuisine, św. Anny str. 7
5. **CK Dezerter** - Restaurant, galician cuisine, Bracka str. 6

## Restaurant for a dinner meeting (Saturday, October 27<sup>th</sup>, 19.00 – )

6. **Marmolada** - traditional polish and italian cuisine  
Grodzka str. 5  
Kraków  
(reservation of the “Fireplace Room”; meal costs not covered)



<sup>1</sup> At 20.30 opportunity for a joint tour - Rynek Underground permanent exhibition: “Following the Traces of European Identity of Kraków” with an english-speaking Guide.



### **Peter Bogucki (Princeton): The Western Carpathian Highlands During the Neolithic**

The purpose of this paper is to situate prehistoric societies in and around the western Carpathian highlands during the sixth through third millennia B.C. in the grand narrative of European prehistory. Mountainous regions are typically viewed as barriers that were avoided, even feared, by Neolithic peoples, but discoveries such as the Iceman in the Alps indicate that they could be familiar with high uplands, even if they chose to reside at lower elevations. Thus highlands like the western Carpathians should not be blank spots on the archaeological map but rather regions in which prehistoric human activity was quick, ephemeral, specialized, and purposive. Moreover, we see that the more luminous regions of Neolithic settlement to the north and the south have much in common, so the mountains and uplands must have been permeable for human interaction, even during the Neolithic. Understanding the prehistoric developments on either side of the Carpathian highlands thus requires examination of the interplay between local innovation and long-distance encounters.

### **Wojciech Blajer (Kraków): Die Westkarpaten als Kontaktzone in der Bronzezeit aufgrund der Hort- und Einzelfunde der Metallgegenstände**

Im Zuflußraum der oberen Weichsel sind manche Bronzehort- und -einzelfunde bekannt, die aus den Stufen BzB1 bis HaB2/3 stammen. Einen Teil der Gegenstände (vor allem Ringschmuck und Tüllenbeile) bilden Importe aus den südlich der Westkarpaten gelegenen Gebieten. Eine typologische und chronologische Übersicht erlaubt die wichtigsten Verbindungen zwischen verschiedenen Regionen beiderseits von den Westkarpaten festzustellen, wobei abwechselnde Tendenzen sichtbar sind. Daraus kann man auch Schlussfolgerungen über die Bedeutung einzelner Flußtäler und Gebirgspässe als Kommunikationswege ziehen.

### **Madgalena Moskal-del Hoyo / Maria Lityńska-Zajęc / Katarzyna Cywa (Kraków): Plant Remains Found in Archaeological Sites in the Carpathian Foothills - Preliminary Report**

New archaeological excavations have been conducted within the framework of a project concerning Neolithic and Bronze Age settlement patterns in the central part of the Dunajec river valley in the Little Poland region. These field campaigns have constituted a great opportunity for carrying out the first systematic archaeobotanical studies of this area. These studies have been aimed at qualitatively and quantitatively analyzing the plant macroremains found in five archaeological sites, which represent the Neolithic Linear Band Pottery (LBK) culture (Łoniowa, Żerków and Gwoździec) and the Lusatian culture, belonging to the Bronze Age (Janowice and Wróblowice). New archaeobotanical data have offered palaeoethnographic information concerning the type of plants available and how they were employed by prehistoric cultures. Simultaneously, it has been possible to obtain significant palaeoenvironmental information including the history of plants in the region, the characterization of plant communities that were growing in the vicinity of human settlements

in different chronological periods and an indication of human impact on local ecosystems during their occupation.

The applied methodology was of great importance in archaeobotanical analyses and therefore, the research is based on representative samples taken from different archaeological features and from various layers within each feature. Botanical materials were identified taxonomically by using a reflected light microscope and a stereomicroscope. The botanical material was divided into three groups, which provided important data concerning the interactions between people and their environment.

(A) The first group includes cultivated plants, which are found mostly in the form of macroscopic remains of plants or as plant imprints on daub. Their analysis provides valuable ethnoarchaeological data related to the ancient diet of the inhabitants of the Neolithic and Bronze Age settlements as well as they may help to characterize past crop husbandry practices.

(B) The second group includes wild plants, which may also provide palaeoethnographic information about the different uses of plants in the past. For example, a gathering of wild fruits may be important supplementary information about a former food. On the other hand, wild plants may be associated with other intentionally used plants. The presence of weeds found within the crop assemblage constitutes an excellent example, and their identification brings a series of data on habitat conditions in the areas nearby the settlements.

(C) The remains of wood constitute the last group and among them the most common are charcoals. This archaeobotanical material gives evidence of a former knowledge about the usage of wood as a raw material as well as it indicates the strategies of forest management in the past, giving mostly palaeoethnographic information. Anthracological research also allows environmental interpretation through an attempt to reconstruct the ancient forest communities. In the case of archaeological features representing the first stage of neolithisation in the region, it is also possible to infer the composition and the character of primeval forests.

### **Paweł Valde-Nowak (Kraków) / Klaus Cappenberg (Leipzig): Long houses on hilltops, the camps in the mountains. Some aspects of the Neolithic in the Dunajec project**

Some years of excavations on sites in the area of watershed in between Uszwica and Dunajec rivers in Polish Carpathians, have resulted in documenting Neolithic sequence of occupation of the Wiśnicz Foothills central part by Linear Band Pottery and Malice culture communities.

As it is commonly known the Linearbandkeramik is to occupy low landscape forms, terraces of small rivers and streams, whereas, in the Polish Carpathians (Wiśnicz Foothill) rather deep into the Foothill zone, a group of early agricultural settlements with long houses was discovered and what is interesting, all these settlements are located on tops of elevations. In one of these houses, distinguished by its enormous dimensions (41,5 m long) a grave equipped with a flint set and clay bowl was recognized. Most probably another grave discovered by the western wall of the house in this same situation, but not equipped so rich can be considered. It may be assumed that this house fulfilled a special function in that

community – it may have been a meeting place, and the person buried there may have been an eminent, especially distinguished person in that group (senior or priest). Considering the mentioned facts from a larger point of view this mysterious discovery refutes the myth of low locations, typical of, as it is said, Linearbandkeramik in whole Europe from the basin of the Danube to the Netherlands.

Thank to the latest researches an important observations can be preliminary raised. They are the early Neolithic short settled sites located in mountainous landscapes unexpectedly much lower. The topography of early Neolithic stray finds, known from Jaroszwice and Dąbrówka in Middle Beskid Mountains, in contrast to the high situated permanent occupied villages in Wiśnicz Foothills zone, is connect with slopes of semi-leveled mounds. The settlement-geographical analysis of both variants has been done during the Dunajec Project, realized by a 'conventional' Site Catchment Analysis to compare the possible settlement environments of both areas potentially pointing to differences concerning land use and duration of the early Neolithic settlements. The exploitation zone of each site has been simulated by a Path Distance algorithm to include non-euclidean impacts provided by the landform of both regions. Different factors concerning relief, soil and hydrology have been collected and their classified content area has been compared.

### **Andrzej Pelisiak (Rzeszów): Settlement, Economy and Climate between 3200 and 2500 BC. Late Neolithic Transformations in South-East Poland**

Significant changes of human activity (settlement patterns, economy, social organization) in south-east Poland took place between ca 3200 and 2500 BC. Sedentary way of life has been gradually replaced by mobile husbandry and pastoralism. Moreover, for a first time during the Neolithic high zones of landscape (between 400 and 800 m above sea level and up to 1200 m a.s.l.) were used. Exploitation of mountains is also confirmed by palynological data from this area, but there are no evidences of human activity in mountains earlier.

One of the important questions of prehistoric research is where, when and to what extent climate was influential factor in changes of human way of life. Results of the archaeological and palaeogeographical investigations carried out during last years in south-east Poland can be strong ground of the discussion on these problems. This area consists of the several ecological zones: lowland, loess uplands, Carpathian Foothills and mountains (Lower Beskid Mts. and Bieszczady Mts.). Regarding to this area archaeological database consists of more the 10 000 sites dated from ca 5300 BC (Linear Pottery Culture) to ca 1600 BC (Early Bronze Age Mierzanowice culture) including settlement sites, burial mounds and single finds. The Holocene history of vegetation changes and evidences of human activity comes from pollen analysis of the deposits from several palaeobotanical sites located within all above mentioned zones.

Settlement, economic and cultural changes in south-east Poland are connected with transformations of much wider geographical extend. I would like to discuss the questions which climatic events and to what extent could they stimulated cultural and economic changes. This paper will be dedicated to the Late Neolithic of SE Poland but I will especially focused my attention on the East Polish Carpathians including Foothills and Lower Beskid Mts. and Bieszczady Mts.

**Marek Nowak (Kraków): Settlement and economic transformations in western Little Poland around 3000 BC: internal development vs external implantation**

In the late fourth and early third millennia BC in western Lesser Poland a unique mixture of different archaeological traditions is clearly visible. Local archaeological units, belonging to several Central European systems of information flow (the Funnel Beaker culture, the Baden culture, the Corded Ware culture) seem to overlap in great measure, both chronologically and territorially. Important cultural changes are evidenced as well, mainly in settlement and economy, but probably also in ideological and social spheres. In the presentation I will argue that these changes, on the one hand, reflect the general patterns seen in the Central European cultural development during that period, but on the other hand, they have their own local, specific aspect. The prehistoric and anthropological interpretation of the simultaneous functioning of several archaeological phenomena in the same area will be also the topic of this presentation.

**Agnieszka Czekaj-Zastawny / Anna Rauba-Bukowska (Kraków): Technology of the Oldest Vessels in the Upper Vistula River Basin – Imports against Local Pottery**

The authors of the paper since 2011 realize (in IAE PAN) the NCN grant (N N109 181 040), entitled: Technology and chronology of the oldest pottery in the upper Vistula River basin (VI/V millennium BC). The project consists of two components, i.e. research on the technology of ceramics and absolute chronology of stylistic phases of the Linear Pottery Culture (14C dating). The objective is to define a framework of internal periodization of this culture, in the upper Vistula River basin, i.e., connection of the evolution of vessels style with the results of 14C dating and detailed tracing of patterns in the technology of the pottery in various phases of culture development.

Technological analyzes are carried out on series of pottery samples, in order to examine the relationship between morphology and technology of their production, the primary function of the various forms and noticing of chronological and territorial differences. Mineralogical-petrographic and physic-chemical analysis aimed at reconstructing of the manufacturing process of ceramics, such as sourcing and selection of materials, preparation and composition of the pottery mass, methods of making and firing, as well as to determine their physical properties and purpose.

All analyzes are carried out successively, and in that paper will be presented some preliminary results relating to the comparison of pottery technology of the Linear Pottery Culture in the upper Vistula basin with pottery imported from the area of the Eastern Linear Pottery circle

**Agnieszka Czekaj-Zastawny (Kraków) / Jacek Kabaciński (Poznań) / Thomas Terberger (Greifswald): Cultural relations between the Great Hungarian Plain and the southern Baltic coast. Imports from the Bodrogkeresztúr Culture on the site Dąbki 9 (Middle Pomerania)**

Around 5600-5500 calBC first farmers appeared at the North European Lowland initiating ca. 2.000 years lasting process of neolithisation of this area. Obviously, on such a vast territory a dynamic of this process was diversified due to several factors where demographic and economic potential of hunters-gatherers and first farmers played a basic role. Cultural relations between these so different societies in the course of neolithisation and effects of those relations were and still remain a crucial research issue. Numerous arguments documenting long-lasting character of those relations provide site Dąbki 9. A unique feature of Dąbki settlement is the presence of several horizons of imports in the Late Mesolithic and early FBC context, mainly pottery vessels. These imports point toward an important role of that place in the exchange system between Mesolithic groups inhabited Central European Lowland and Neolithic people. Beside local hunters-gatherers, groups of Linear Band Pottery, Stroke Band Pottery, Ertebølle, Brześć Kujawski Group, Funnel Beaker and finally Bodrogkeresztúr cultures were engaged in these contacts. Till 2009 on site 9 at Dąbki there were discovered 8 potsherds of the Bodrogkeresztúr culture. Ornamentation, morphology, and technology of the fragments are typical for the pottery of the culture in question. In the light of the newest evidences the beginning of the Bodrogkeresztúr culture should be placed a few centuries earlier (ca. 4300 calBC). In that case we can synchronize the discussed imports with the earliest Funnel Beaker settlement stage in Dąbki, i.e. with years 4100/4000 calBC. Interpretation of interactions observed on the site is difficult. Considering the fact that Bodrogkeresztúr communities were very mobile and maintained long-distance contacts, pottery fragments from Dąbki may testify their penetrations of southern Baltic coasts for trading with local hunting-gathering groups. These groups maintained broad multidirectional contacts from the very beginning of the settlement on the Dąbki site, dated to ca. 4900/4800 calBC. At that moment there appeared first imports from the Danubian cultural milieu (Linear Pottery, Stroked Band Pottery, Lengyel). The long-distance contact were maintained during the settlement stage linked with the Funnel Beaker culture, still of the haunting-fishing-gathering character. They also reached the areas of the Carpathian Basin, more than a thousand kilometers away.

**Andreas Zimmermann (Köln): Patterns of Landuse Between Neolithic and Roman times in western Germany - a diachronic comparison**

Land use seems to be firstly determined by environmental conditions. In fact lithosphere, pedosphere, hydrosphere, biosphere and atmosphere seem to be most influential. In the last years the atmosphere with its climate system for example is discussed as a cause for cultural disintegration in the case of the end of early Neolithic Bandkeramik in western Germany. It will be critically discussed if these arguments are convincing. With farming economy pedosphere with the focus on soil becomes an important factor. However, with farming techniques already a factor of the cultural system is involved in land use patterns. Relief of land surface as an aspect of lithology has important impact on precipitation and is without

doubt an environmental forcing for farming societies concerning land use. Nevertheless after the Ice Age and in temperate environments, it can be shown that cultural development and cultural cycles are factors for land use patterns equal ranking with environment.

**Marta Korczyńska (Kraków) / Tobias L. Kienlin (Bochum): Vorläufige Ergebnisse und methodische Überlegungen zur spätbronze- und früheisenzeitlichen Besiedlung im mittleren Dunajectal / Preliminary Results and Some Methodological Considerations on the Late Bronze Age and Early Iron Settlement Organisation in the Middle Dunajec Valley**

In this paper we report on systematic survey work on Bronze Age sites in the middle part of the Dunajec river valley, Little Poland. For some years now, excavations have been carried out on the site of Janowice AZP 106-65 no. 61. The survey work in the surroundings aims to establish the chronological and – if possible – functional relation of adjacent sites to the north and south of the hilltop site of Janowice that has a long tradition of settlement during the Bronze and Early Iron Ages. Amongst others we report on systematic surface survey work and geomagnetic prospection carried out on AZP 106-65 no. 57, a site only a little distance downhill from no. 61, on sites such as AZP 106-65 nos. 70-75 and 103 towards the north in the Lubinka valley, and on a number of sites south of Janowice no. 61 in the Zakliczyn basin and adjacent foothills further south (e.g. AZP 107-65 nos. 83 and 104). From this intensive survey work, that aims at a complete coverage and verification of sites previously reported by AZP, an increasingly better understanding of the dynamics of a (Late) Bronze Age to Early Iron Age microregion is beginning to emerge. From a methodological point of view it is asked, for example, how the pottery inventories from recent fieldwalking compare to the older finds from the archaeological survey of Poland (AZP). Furthermore methodological aspects are discussed arising from the comparison of spatial patterning in the surface finds compared to geomagnetical anomalies and targeted test excavations.

**Anita Szczepanek (Kraków): Preliminary Results of the Anthropological Analysis of Human Bones from Janowice (AZP 106-65 no. 103)**

Preliminary anthropological analysis concerns 17 features. Determinations of age at the moment of death and sex of individuals were performed on the basis of preserved elements of skeleton with reference to anatomical and morphological criteria, commonly accepted in anthropology, regarding specifications for burnt bones. Due to anthropological analysis it was evaluated that the features contained remains of 18 individuals. Only in one grave there were buried 2 individuals: an adult and a child. Most of individuals were determined as adults, but remains of 4 children there were also found. The bones were strongly and evenly burnt, of colour from grey-white to creamy white, which indicates that the temperature of funeral pyre was within a range of 600–800°C.

### **Łukasz Oleszczak / Ireneusz Miraś / Łukasz Mrówka (Kraków): The Carpathian Influences on the Bronze Age Settlement in Wierzchosławice**

The archaeological site 15 at Wierzchosławice, Tarnów district (north-western Małopolska), is situated within the floodplain of the Dunajec River, ca 1.5 km from the present-day riverbed. First traces of permanent occupation are represented by materials associated with Transcarpathian cultures of the Early and Middle Bronze Age. These groups most likely came here from the territory of eastern Slovakia or borderlands between Slovakia and Hungary, and represented several taxonomic units developing in that region, such as the Pilyiny culture, Berkesz-Demecser culture, and Suciú de Sus culture of Slovakia. Initially, they established contacts with the representatives of the Trzciniec culture from Kraków region, perhaps playing the intermediary role in the transmission of Transcarpathian elements to local milieu, and next with the 'post-Trzciniec' groups from Rzeszów Foothills and southern parts of Kolbuszowa Plateau. 'Transcarpathian' settlement at Wierzchosławice came to an end in BrD, perhaps as a result of some violent event, maybe a fire. 'Transcarpathian' occupation at Wierzchosławice was followed by a hiatus period, and the site remained unsettled for ca 200 years. It was probably not before HaB1/HaB2 that the next group of settlers appeared – this time representing the Lusatian culture population. From that moment on, the settlement was inhabited permanently until HaD.

Two occupational phases connected with the Lusatian culture may be distinguished at Wierzchosławice. To the first phase, apart from the artefacts dating to the final Bronze Age, one should also include the materials from the transition between the Bronze Age and Early Iron Age (starting from HaB1/B2, through periods HaB2 and HaB3, until HaC). To the second, younger phase one can include the finds dating to the end of the Hallstatt period (HaD).

The attribution of the Wierzchosławice settlement to a particular unit within the Lusatian culture is not unambiguous. There are finds typical of the Tarnobrzaska group, and of the Górnośląsko-małopolska group. However, the most apparent are connections with the Carpathian zone, and with a specific local variant of the Lusatian culture developing there. There are also numerous analogies to Transcarpathian cultures from Slovakia, and to East-European cultures such as the Cozia-Saharna culture or the Chernoles culture.

### **Marcin S. Przybyła / Magdalena Skoneczna (Kraków): Early and Middle Bronze Age fortified settlement at Maszkowice (Western Carpathians). Preliminary results of the new excavation campaigns (2010-2012)**

The settlement at Maszkowice is one of the best preserved long-lasting occupied prehistoric sites in the Western Carpathians. Particularly interesting is the first settlement phase of the hillfort, which may be dated to the end of the Early Bronze Age and to the Middle Bronze Age (ca. 1650-1200 BC). Results of studies on materials collected during the field research of M. Cabalska (seasons 1959-1975), as well as new excavation campaigns (2010-2012), allow us to formulate some conclusions concerning: settlement stratigraphy, spatial distribution of EBA-MBA materials, chronology of the subsequent building phases and cultural connections of the populations living in the upper Dunajec Valley during the earlier periods of the Bronze Age. In the context of last mentioned question particularly worth the attention are relics of

fortifications in a form of a dray stone wall, discovered in 2011-2012 and connected with the oldest building phase of the hillfort (ca. 1650-1500 BC).

### **Stephan-Karl Möllmann (Schwerin): Landscape Archaeology and GIS in Upper Lusatia in the Late Bronze Age**

Der Vortrag wird eine kurze Zusammenfassung meiner Masterarbeit aus dem Jahre 2008 mit dem Titel „Die Besiedlungsgeschichte in der Späten Bronzezeit im Gebiet um Bautzen in der Oberlausitz/Sachsen – Eine landschaftsarchäologische Untersuchung mit Hilfe von GIS“ im Fach Ur- und Frühgeschichte an der Universität Leipzig wiedergeben. Hauptaugenmerk lege ich dabei auf das GIS als Werkzeug in der Landschaftsarchäologie und werde nur auf einige spezielle Ergebnisse der Untersuchung eingehen. Zuerst erfolgt eine kleine Einleitung und Begriffserläuterung zur Landschaftsarchäologie und GIS. Dann wird das Untersuchungsgebiet in der Oberlausitz vorgestellt, welches einen kurzen Abriss über Geologie, Bodenkunde, Gewässernetz und Klima beinhaltet. Daran soll erläutert werden warum sich gerade dieses Untersuchungsareal für die Arbeit mit dem GIS anbietet. Danach werden die bearbeiteten naturräumlichen Faktoren (Höhenlage, Hangausrichtung, Bodenartkartierung und Entfernung zum nächsten Fließgewässer) beschrieben, sowie kurz die Möglichkeit weiterer Analysen und die Übertragbarkeit rezenter Ökofaktoren in die vorgeschichtliche Zeit erläutert. In gleicher Weise erfolgt eine kleine Einleitung über die prähistorische Besiedlung in der späten Bronzezeit in der Oberlausitz, sowie eine Auswahl von Ergebnissen. Am Ende folgt eine Abhandlung über Vorteile und Grenzen bei der Arbeit mit dem GIS.

Landscapearchaeology and GIS in Upper Lusatia in the Late Bronze Age:

- introduction and definition of landscapearchaeology and GIS
- area of examination in Upper Lusatia
- summary in geology, soil science/pedology, system of rivers/hydrology and climate – suitable area for working with GIS
- factors for environment (altitude, direction of slope, area and type of soil and distance to the next river), another possibility of analysis and transfer of recent factors of ecology into prehistoric
- overview in settlement of late bronze age in upper Lusatia and selection of results
- GIS as a tool in landscapearchaeology – possibilities and constrictions



**Tobias L. Kienlin (Bochum) / Liviu Marta (Satu Mare): New Geophysical Data on the Internal Structure of the Gáva Sites of Andrid-Corlat and Căuaş-Sighetiu in North-Western Romania**

With its dense occupation and the good preservation of its sites the Ier valley in north-western Romania offers ideal conditions for the study of long-term trends in Bronze Age land-use and settlement organisation. By means of aerial photography, geophysical survey and intensive archaeological survey important data on the spatial organisation of prehistoric settlement activity both on the intra-site and on the off-site level can be obtained. Based on such intensive survey techniques a joint project of the Muzeul Judeţean Satu Mare and the Institut für Archäologische Wissenschaften, Ruhr-Universität Bochum, seeks to develop a better understanding of the dynamics and the development of Bronze Age settlement patterns in Ier valley. In the long-run an increasingly closer coverage of the Early to Middle and Late Bronze Age sites of the Ier valley micro-region is aimed at. So far, in five survey campaigns the fortified settlements of the Late Bronze Age Gáva culture at Căuaş-Sighetiu (Sziget in Hungarian) and at Andrid-Corlat (Korlát in Hungarian) as well as a number of tell sites of the local Early to Middle Bronze Age were examined. In this paper we want to focus on the Late Bronze Age situation, more specifically on the fortified sites of Căuaş-Sighetiu and Andrid-Corlat that seem to have dominated the Urnfield period landscape in the upper part of the Ier valley. We will focus specifically on aspects of the spatial organisation of the settlement remains at Căuaş-Sighetiu and Andrid-Corlat. New magnetometer data is available that allows for the first time a comparison of the intensity of habitation at both sites and of the internal organisation of the Late Bronze Age settlements at Căuaş-Sighetiu and Andrid-Corlat.

**Klára Pusztainé Fischl (Miskolc): Bronzezeitliche Siedlungsstrukturen im Hernád Tal und in der Borsoder Ebene. Modelle und neue Forschungen / Bronze Age settlement structures in the Hernád-valley and Borsod Plane. Models and new researches**

In dem Vortrag werden die Siedlungsstrategien der RA1 zeitlichen Hatvan- und RA2 zeitlichen Füzesabony-Kultur in zwei zusammenhängenden Mikroregionen vorgestellt: im Hernád Tal und auf der Borsoder Ebene. Anhand neuer Forschungsergebnisse möchte ich die Ähnlichkeiten und Abweichungen zwischen den zwei Perioden diskutieren. Anhand der siedlungsarchäologischen Daten werde die Rolle des Hernád Flusses, die möglichen Existenzstrategien und gesellschaftliche Modelle verschiedener Regionen versucht zu klären. In Bezug auf das Hernád Tal werde ich kurz auf seine Lage und Bedeutung in Netzwerken für Fernhandelskontakte eingehen.