

Between 17th and 21st of May 2017 the CRC-1266 'Scales of Transformation' and Graduate School 'Human Development in Landscapes' will jointly organise the workshop *Archéologie et Gobelets* in Kiel, titled:

“Think Global, Act Local! The Transformation of Spatial Interaction and Material Culture in Beaker Contexts of the 3rd Millennium BC in Europe”.

The 3rd millennium BC in Europe is a period showing a new quality in the transregional distribution of material culture. What is more, there is a more marked duality between the fragmented pattern of local styles and the new overarching trans-regional elements of material culture, most notably expressed in archaeological terms by the Bell Beaker and Corded Ware phenomena. Such a duality, especially marked by the concept of Bell Beakers and “Common Ware”, is surely not a total novelty. But the hitherto unknown width of distribution of „global“ Corded Ware, or Bell Beaker elements is evidence of a new character of this dialectic in the 3rd millennium BC.

In this workshop, we want to explore the background of this new quality. To what extent is this re-arrangement of global and local frames of reference a consequence of a fundamental change in social organisation and economic practices? In how far does it reflect increased migration, new mobility patterns, or changing networks of interaction? Or how can we disentangle the effect of different developments that might have led to the culmination of the Neolithic sequence in European prehistory?

Abstracts

Walter Dörfler & Ingo Feeser

The Late Neolithic in Northern Germany: Evidence for over-regional fluctuations of land-use intensity

Jan Piet Brozio

Northwards - Transformations of the Single Grave Culture in the North German Plain.

The Single Grave Culture is a northern part of the intercontinental Corded Ware phenomena. It is characterized by trans-regional elements of material culture and by regional occurrences. The Single Grave Culture is distinguished by other forms of social organisation in contrast to earlier archaeological cultures and the reaction and adaption of Metallurgy in younger phases. The focal points of this talk are processes of transformations of the Single Grave Culture phenomena exemplarily for the region of Schleswig-Holstein, Germany.

Asger Meulengracht Olsen

Danish Bell Beaker Inspiration in the Early Late Neolithic - Beautiful, Intense and Short-lived. A new perspective on Danish Bell Beaker ceramics.

The material culture of the Bell Beaker Complex never fully set its roots down in the Danish Late Neolithic. Nevertheless, in the sphere of daily life and to a lesser extent in burials, Bell Beaker-inspired ornamentation on ceramic vessels testifies to close contacts with the wider European Bell Beaker area from certain parts of the Danish territory. However, the inspiration was firmly integrated and transformed into ceramic traditions that grew out of

forms and shapes of the Danish Single Grave Culture. The Danish Bell Beaker influence has its own homegrown ceramic expression with little or no space for so-called common ware. While Bell Beaker cultural symbols are mostly seen as harbingers of cultural change towards a Bronze Age culture, there may be a case for arguing that Bell Beaker inspiration in the Danish context was incorporated into resilient Neolithic traditions.

Looking at Bell Beaker-inspired ornamentation patterns and compositional design in the Danish ceramic material, it becomes clear that an apparent compositional homogeneity should be divided into a diversity of regional variation. A closer analysis of all the ceramic material from the Myrhøj settlement and statistical analysis of ceramics from settlements across Denmark shows that the internationally known "Myrhøj Style" is but one local variation in a larger sea of regional variants. Likewise, statistical analysis show that Myrhøj may not have been as central in the formation of a Danish Bell Beaker ornamental expression. Moreover, finds across the ever-expanding area, where Bell Beaker-inspiration shows up in ceramic traditions, point to a multiplicity of origins of inspiration. A direct Veluwe-connection may not be as firmly based as often cited.

It appears that the influence of Bell Beaker inspiration was not a sudden event. Elements of Bell Beaker ornamentation, techniques and design may be traced back through the later part of the Danish Single Grave Culture ceramics following a geographical path up through Jutland, rather than an original implantation in the Limfjord Area of Northern Jutland. However, through the regional variations run common approaches that also testifies to a swift and efficient exchange of ideas, techniques and rules within a network of close contacts between the potters of the regions.

The presentation thus intends to present new and maybe a bit controversial views on the significance of the Myrhøj Style, on an alleged phased introduction of Bell Beaker inspiration and Bell Beaker symbols as a medium for cultural change towards a Bronze Age society.

John Simonsen

Beaker Sites, Specialization and Settlement Continuity in North Jutland

Within South Scandinavia, the Limfjord region of northern Jutland in the 3rd millennium BC geographically was an archipelago fairly open towards the North Sea, having numerous islands, besides presence of long streams connecting to the hinterlands. Culturally, this region during the later time of the Single Grave Culture as well as during the first time of the Late Neolithic certainly welcomed novel impulses from far and near. Not least longhouses supplied with sunken floors were used for habitation in these periods. I shall present new finds of sites of such longhouses at the Beaker settlements and centre on the theme of growing household specialization and increasing sedentary settling.

Erik Drenth & Jan de Koning

Two 'house-plans' from Heiloo, the Netherlands. Examples of a local/regional building tradition at Bell Beaker times?

Very recently one of the Dutch archaeological companies, Hollandia, has excavated a site at Heiloo, province of Noord-Holland; this location is situated in the dune region of the western Netherlands. Two structures have come to light, which have been interpreted as the vestiges

of a rebuilt house. 14C-dates indicate that its construction and the rebuilding must have taken around 1900 cal BC, i.e. at the end of Bell Beaker times.

The present lecture discusses both the dating evidence and the indications to consider both configurations as dwelling structures. Moreover, their dimensions and lay-out are assessed against the background of the question to what extent they represent a local/regional Bell Beaker building tradition.

Thor McVeigh

The Enduring Impact of the Beaker Phenomenon on the Boyne Valley, Eastern Ireland

The arrival of the transregional Beaker Phenomenon in Ireland during the mid-3rd millennium BC had a lasting impact on the supra-regional importance of the Boyne Valley in the eastern half of Ireland. It will be argued that elements of Beaker ideology were integrated into the pre-existing ceremonial fabric of the Boyne Valley. The compatibility of these intrusive ideologies with pre-existing beliefs facilitated the adoption and integration of Beaker elements within this milieu, resonating across the regions associated with the pre-existing Boyne-centric group-identity. Elsewhere in eastern Ireland, it may be suggested that this ideological facilitation and integration can also be identified in the deposition of material culture associated with the 'Beaker Package' in pre-existing Neolithic ceremonial contexts indicating that its associated ideology was also negotiated, interpreted and reconciled with reference to older local traditions. Ireland appears to witness a reorientation of settlement focus in the eastern half of the country following the arrival of Beakers, which ultimately lead to changes in social organization and the fragmentation of the pre-existing Boyne-centric group-identity. Changing trade networks following the arrival of copper and gold metallurgy, impacted upon the supra-regional importance of the Boyne Valley during the centuries following the arrival of the 'Beaker Phenomenon'. Ultimately, these changes in conjunction with the adoption of tin-bronze metallurgy towards the end of the 3rd millennium BC lead to the diminishing significance of the Boyne Valley as a supra-regional 'hub' by the mid-2nd millennium BC.

Madeleine Fröhlich

Neue Funden – neue Daten. Die Glockenbecher der Querfurter Platte

Durch die archäologischen Untersuchungen im Bereich der ICE-Trasse stehen für das Gebiet zwischen Saale und Unstrut (Querfurter Platte) ca. 600 Radiokohlenstoffdaten des Endneolithikums neu zur Verfügung. Diese stammen überwiegend aus Gräbern und vereinzelt aus Siedlungsbefunden. Das Material zwingt zu einer Neubetrachtung der chronologischen Verhältnisse in diesem Gebiet.

Für die Glockenbecherkultur liegen mehr als 100 Radiokohlenstoffdaten vor. Diese Datenbasis wie auch die Inventare der jeweiligen Befunde sollen Gegenstand der vorliegenden Betrachtung sein. Es erfolgt die chronologische Verknüpfung mit vorangegangenen (Schnurkeramikkultur) und nachfolgenden Kulturen (Aunjetitzer Kultur). Ebenso ist die Diskussion des singulären Siedlungsbefundes der Glockenbecherkultur von Klobikau möglich und der inneren Gliederung der Keramikformen möglich.

Jan Turek

Recent Discoveries of Bell Beaker funerary and ritual architecture in Bohemia and Moravia

In the last six years some new forms of funerary/ritual structures were discovered in Bohemia and Moravia. Two such features were discovered during large scale excavation at Hostivice, west of Prague in 2011 and 2013. The first structure consisted of large postholes in rectangular setting with cremation deposit and fragments of decorated beakers in a larger pit situated in its inner part. The second structure consisted of large postholes surrounding a pit with votive offering of four stone writguards carefully laid into a square shape. The last example comes from the Central Moravian site of Brodek near Přeřov, where was an unusual long structure outlined by alignments of post holes with kind of shrine with four pits looking just like burial cuts but containing variety of votive offerings without a visible human burial. These new features suggest a greater complexity of funerary and ritual constructions, some of which (Brodek) are probably examples of monumental architecture.

Jaroslav Bartík, Jerzy Kopacz, Antonín Přichystal, Lubomír Šebela & Petr Škrdla

Question of Chert Mining on the Stránská skála Hill in Brno (Czech Republic) by the Bell Beaker People

The Stránská skála hill, located at the eastern margin of the Bohemian Massif, is the source area of the Jurassic chert described in the literature under that name. It was an important raw material from the upper Palaeolithic till the end of the Stone Age reaching its peak in the period of the Funnel Beaker culture.

Studies on lithic chipped industry of the Bell Beaker culture in Moravia ascertained only a low occurrence of the Stránská skála (25 artifacts out of 674). However, a field survey on the Stránská skála hill area revealed the presence of two Bell Beaker structures, one of them being geophysically examined and test sounded. In 2016, as a part of the international project financially supported by the Polish National Grant Agency, the structure in question was systematically excavated

The structure has been interpreted as a settlement object with rich evidence of local chert utilization. As systematic lithic raw material exploitation in the Bell Beaker is doubtful, more probable is the case of collecting of suitable rocks from mining dumps from the Funnel Beaker culture time.

Antonín Přichystal & Lubomír Šebela

Eneolithic and Early Bronze Age flint axes in the Czech Republic

Recently, we have collected 364 Eneolithic and Early Bronze Age flint axes in the territory of the Czech Republic. The prevalent raw material used is represented by flints from glacial sediments deposited during Pleistocene in northern Moravia and Silesia. In some cases we cannot exclude also presence of "northern flint" from primary sources in northern Germany or even Scandinavia. Especially in Moravia and Czech Silesia they were ascertained raw materials from Poland (silicites from the Kraków-Częstochowa Jurassic, variety G and Gójsć; banded silicite from Krzemionki, spotted silicite from Świeciechów and chocolate silicite from central Poland). Special type of chert preliminary called the Moravian Gate type was found in Czech Silesia and eastern Moravia. Local raw materials are extremely rare – three axes made of the Cretaceous spongolite in Bohemia and one axe polished from chert of the Krumlovský les type in Moravia. For the first time we found two pieces prepared from Bavarian Jurassic cherts in Bohemia.

From archaeological point of view, the silicite axes are connected especially with the Corded Ware culture and with the Bell Beaker culture (only in Bohemia). We believe the “know-how” of silicite axe production came to our territory especially from the northern countries (Poland, Germany) but surprisingly also from southwest Bavaria.

Ivan Cheben

Die West-Slowakei in der Epoche der Glockenbecher-Kultur und der Kosihy-Čaka-Kultur

Aus der West-Slowakei sind am Ende des Äneolithikums mehrere Funde der Glockenbecher-Kultur und der Kosihy-Čaka-Kultur belegt, deren Fundstellen deutliche Unterschiede aufweisen. Auf der Fundstelle in Skalica (Záhorie-Niederung) wurden mehrere Siedlungsgruben (mit menschlichen Skelettresten) der Glockenbecher-Kultur, aber auch der Kosihy-Čaka-Kultur, gefunden. Aufgrund des Keramikinventars datieren wir die Siedlung in die I/II. mährische Fundgruppe der Glockenbecher-Kultur. Wir vermuten, dass die Funde (geographisch) eher zum Morava-Gebiet gehören. Diese Vermutung wird durch die Tatsache gestützt, dass aus der Südwest-Slowakei nur Einzelfunde der Glockenbecher-Kultur bekannt sind. Es geht um das Gebiet (Flussgebiet von Váh, Nitra, Žitava und Hron), wo Befunde der Kosihy-Čaka-Kultur in großem Ausmaß verbreitet sind.

Ein Vergleich der „Siedlungsstrukturen“ der Glockenbecher-Kultur und der Kosihy-Čaka-Kultur zeigt mehrere gemeinsame Merkmale, aber auch klare Unterschiede. Es wird auch der Frage nach der Rolle (z. B. bei der Vermittlung von Kontakten) der Glockenbecher-Kultur in der Südwest-Slowakei nachgegangen.

Gabriella Kulcsár

Bell Beaker Budapest – New results of the investigation of Early Bronze Age sites along the Danube in Central Hungary

Our presentation focuses upon Early Bronze Age (2500/2400–2200/2100 BC) sites in central Hungary based on the results of our new research projects granted by the Hungarian Scientific Research Fund (Nr.108597) and by the Hungarian Academy of Sciences (Momentum Mobility program). At the beginning of this period the appearance of the Bell Beaker phenomenon caused considerable changes in certain territories of Europe. The possibility that the Budapest area was a meeting point of the Southeastern European and Central European regions always offered huge research perspectives.

There are many different analytical aspects of the network architecture and the temporal and spatial dynamics of the 3rd millennium BC Carpathian Basin. The main driving force behind the continuity or the changes of connections is the accessibility and the obtainability of different raw materials and other natural resources. The most important evidence for the existence of the geopolitics-based cultural network is the large-scale geographical availability of similar type and style pottery and metal objects. With the analytical extension of the traditional typochronological methodology and with the latest material analysis results we can enrich our knowledge about the 3rd millennium BC interaction zones. Cemeteries of this population with several hundred graves were recently excavated in the Budapest area. Concerning inhumation burials the ongoing stable isotope analyses will provide data for the mobility patterns of the investigated populations.

Our aim is to provide a more detailed chronology, including the scientific dating of cremation burials. We also study other aspects of the cemeteries, e.g. indications of social stratification and the raw material of metal grave goods, tracing the adoption of tin bronze technology in the Hungarian Bronze Age.

Elena Leghissa

Evidence of contacts with Bell Beaker culture on the Deschmann's pile dwellings (Slovenia)

The Deschmann's pile dwellings, on the Ljubljansko barje, are one of the most remarkable sites of the Late Copper and Early Bronze Ages in the south-eastern Alpine region. In the contribution will be present the results of experiments on pottery framed to "Ljubljana culture", one of the cultural manifestation on those pile-dwellings. The experiments have shown that the ornamentation technique is very similar to the barbed-wire decoration associated to the Bell Beaker culture. Such resemblance has also been attested in some other finds, suggesting potential interactions between both cultures during the 3rd Millennium BC.

Jan Kolar

Spatial patterns of the Final Eneolithic societies in Moravia (Czech Republic)

Moravia (Czech Republic) with its position at the edge of Carpathian basin lies at the south-eastern periphery of geographic spread of the Corded Ware culture in Europe. Contemporary Bell Beaker culture, creating here one of the richest regional groups, is crossing this borders and spreads along the Danube to the current Hungary. Both of these archaeological phenomena include in this region the supra-regional components (Corded beakers, hammer-axes, amphorae, Bell Beakers, daggers, arrowheads etc.) and complementary ceramics, which has very close analogues in the material culture of the Carpathian basin. Nevertheless, even such a small region as Moravia shows evidence of regional aspects in the production and use of material culture and symbolic behaviour. What was behind these regional differences? Can we trace different social processes behind different spectra of pottery shapes in different regions? Does the use of different flint raw materials reflect the social relationships within the region or also the supra-regional connections? Why was industrial landscape of Krumlovský les, significant for flint mining, crucially important for the Bell Beaker communities? Did the Corded Ware and Bell Beaker communities share the same networks of interaction and did they form a society through it? How is the actual archaeological practice structuring the nature of archaeological evidence? These questions will be answered through polythetic approach to archaeological culture and with help of the large-scale databases, statistics and spatial analyses.

Olivier Lemerrier

Think and Act. Local Data and Global Perspectives in Bell Beaker Archaeology

In the north-western Mediterranean (Spain, France, Italy), the variety of decorative styles of Bell Beakers, the existence of a common ware, the examination of the discovery contexts and the objects associations make it possible to propose chronological phases of the Bell Beakers styles.

This makes it possible to observe the appearance and insertion of the Bell Beakers in the local sequences as well as its developments and the acculturation of the local groups.

If the first phenomenon marked by the arrival of elements of foreign origin to the region (objects, ideas, individuals?) showing a wide movement on a continental scale, the recent phase of Bell Beakers, marked by multiple regional groups from the point of view of ceramic decoration shows, at the same time, the existence of large cultures from the point of view of the common ware and a very large community or European network of exchanges of objects, practices or ideas format perhaps a broad Bell Beaker Civilization.

Iñigo Olalde & David Reich

Western Europe during the third millennium BCE: A genetic characterization of the Bell Beaker Complex

The Bell Beaker Complex (BBC) was the first widely distributed archaeological phenomenon of western Europe, arising after 2800 BCE probably in Iberia and spreading to the north and east before disappearing at the latest by 1800 BCE. An open question is the extent to which the cultural elements associated with the BBC spread through movement of ideas or people. We present new genome-wide DNA data from 196 Neolithic and Bronze Age Europeans – the largest report of genome-wide data in a single study to date – and merge it with published data to form a dataset with 109 BBC individuals that provides a genomic characterization of the BBC across its geographic and temporal range. In contrast to people of the Corded Ware Complex who were partly contemporaries of the BBC in central and eastern Europe and who brought steppe ancestry into central Europe through mass migration and replacement of local populations, we show that the initial spread of the BBC into central Europe from the Iberian Peninsula was not mediated by a large-scale migration but rather through communication of ideas. However, the further spread of the BBC beyond central Europe did involve mass movement of people. Focusing on Britain, which includes 81 of our new samples in a time transect from 3900-1300 BCE, we show that the arrival of the BBC around 2400 BCE was mediated by migration from the continent: British individuals associated with Beakers are genetically indistinguishable from continental individuals associated with the same material culture and genetically nearly completely discontinuous with the previously resident population. Such discontinuity persists through to samples from the Bronze Age, documenting a demographic turnover at the onset of the Bronze Age that was crucial to understand the formation of the present-day British gene pool. The arrival of the BBC in Britain can thus be viewed as the western continuation of the massive movement of people that brought the Corded Ware Complex and steppe ancestry into central Europe a few hundred years before.

Phillip Stockhammer, Corina Knipper, Alissa Mittnik, Ken Massy, Fabian Wittenborn, Stephanie Metz, Steffen Kraus, Ernst Pernicka, Johannes Krause

The Bell Beaker Complex in the Lech Valley: a Bioarchaeological Perspective

While the integration of archaeological and scientific – especially genetic – evidence has enabled a better understanding of the Corded Ware Complex in the last years, similar data for the Bell Beaker Complex has not been published yet. However, in the last years we have conducted an interdisciplinary bioarchaeological research program on 85 Corded Ware, Bell Beaker and Early Bronze Age burials in the Lech Valley south of Augsburg, which is now a key region to understand the social transformations during the 3rd millennium BC. We will present the archaeological evidence of the Bell Beaker Complex in the Lech valley and integrate the data in an archaeological-diachronic perspective as well as with regard to the

broad range of scientific analyses (ancient mitochondrial, Y and nuclear DNA, stable isotope ratios of strontium, oxygen carbon and nitrogen, radiocarbon dating, lead isotope analyses, etc.). The isotope data demonstrate a striking pattern of patrilocality and female exogamy during the Bell Beaker Complex and the Early Bronze Age where more than half of the females were non-local, while there were only rare occurrences among the male and subadult individuals. The DNA analysis enables us to understand family relations within the burial sites as well as the transformation of the genomic patterns from the Corded Ware to the Bell Beaker Complex and further on to the Early Bronze Age. In the end, we are able to present a new narrative for the genesis as well as the end of the Bell Beaker Complex at least for the Lech Valley south of Augsburg.

Harry Fokkens

The Late Neolithic and Early Bronze Age in the Netherlands: the different evidence from settlements

Since 1976 we are used to the 'Dutch Model' as one of the mayor issues in thinking about the Bell Beaker phenomenon in the Low Countries. Since settlements were scarce in comparison to burials, these models relied heavily on burial evidence. In recent years, however, several settlements and settlement data have come to light, many under the regime of development-led archaeology. This settlement evidence shows does not confirm at all the existing ideas of farmers living with their backs to nature, as Louwe Kooijmans once put it. It shows that in the Low Countires Corded Ware, Bell Beaker and Barbed Wire Beaker using communities between 2900 and 1700 BC choose locations for farming that we barely would associate with farming at all. Yet we have several large complexes of arable land associated with these small scale and evasive settlements. At the same time there is a lot of evidence for fishing, hunting and fowling, indicating that these farmers were using all possible resources to full extent. Also their settlement locations show a preference for places where this extended farming economy could be practised. In these locations also burials, even burial mounds have been found, but with a different kind of evidence than we find in the classic Beaker Burials. I will use evidence from the cemeteries at Oostwoud, Schokland and Hattemerbroek to illustrate my point.

Marie Besse

Prehistoric Pottery: Social Organisation in the Upper Rhone valley during the Final Neolithic, the Bell Beaker Culture and the Early Bronze Age. A New Research Project

We propose a multifaceted research programme focusing on pottery assemblages dated from the Final Neolithic through the Bell Beaker culture to the Early Bronze Age. Ceramic material stemming from the Upper Rhone valley in SW Switzerland will form the main study material for this project, and will be studied following three mutually interrelated lines of inquiry – typological, technological, and raw material choices. The relationships between the world of the dead and the world of the living (mainly within the settlements) are at the very core of this research proposal. The latter takes into account both long-term and short term aspects, in that the world of the dead is represented by the megalith cemetery of Petit Chasseur in Sion (Valais, Switzerland), which features long-lasting occupations dated from 3200 to 1600 BC, whilst in contrast the world of the living, the settlements, which are numerous in the Upper Rhone valley, mirror only a few centuries of occupation.

Elisa Guerra Doce

Maritime Beaker pots were the salt of the Earth: A hypothesis of the international style and the circulation of salt in Western Europe

The production and circulation of salt has been well attested to in Europe since the Neolithic. In Iberia, there is evidence for intensification of the production in the late 4th/early 3rd millennium BC, and shortly after this Beaker groups apparently assumed control over this substance, as revealed by the occurrence of Beaker pottery close to salt resources or at the salt-processing sites themselves. The aim of this paper is to assess the importance of this “white gold” in the exchange networks of the Beaker territories, and to suggest the relationship between this product and the origin of the Maritime Beaker pots, as skeuomorphic designs of salt-trading pouches.

Martin Hinz

Beaker shapes

Since the beginning of scientific archaeology, vessels have been classified primarily by their form. Therefore, it is not surprising that this was also the case in all attempts to systematize this classification (and seriation, eg. Flinders Petrie). Especially since the advent of computer science in archaeology there has been a variety of attempts to achieve this classification by means of metric measures and on a statistical basis. An example of this approach is presented by

Koch 1998, where the vessels were recorded at significant measuring points and then compared. Of course, the (subjective) selection of the measuring points is a decisive and time-consuming aspect of the procedure. Another approach involves methods in which the entire form is digitized and evaluated (Mom 2005, Chapman et al., 2006, Keogh et al., 2009, primarily projectile points). However, these methods are frequently complex in terms of the underlying mathematics and the processing of the data. That might be the reason why they not have been widely accepted so far.

Our approach follows in general the second premise, but is very simple on the other hand: we consider the vessels as a rotation body, and evaluate one side of the profile with regard to its relative shaping, by transferring it into measuring points, by means of a simple script, in the desired resolution. The resulting measurement series can then easily be evaluated by common multivariate methods. Other nominal features such as e.g. rim shape or decoration can be added as additional parameters.

In this paper, we would like to present the approach and our analysis of the Bell Beakers of the southern Iberian Peninsula in relation to the rest of the European Bell Beaker ceramic material. By means of the proposed method, it is readily possible to process large quantities of vessel profiles and to follow development trends beyond the classical typological classification.

Michael Bilger

The mapping of the Bell Beaker in Europe

This work is based on a study from 2015. It provides a cartographical visualization of the eponymous vessel of the Bell Beaker phenomenon, which occurred during the Eneolithic period across large parts of Europe. The first goal of this work is to census the Bell Beakers and to provide a minimum number of the vessel. As not only whole vessels were taken into

account but also sherds, a level-based certainty classification was used to accomplish this. The collected data is visualized via a series of GIS-based maps, mapping not only the different levels of certainty regarding the minimum number of Bell Beakers per region, but also a context-based differentiation of the material. This allows a distinction of the number of beakers found in graves and in settlements. In a final step, a density-based analysis was carried out, to find out the highest concentration of Bell Beakers in Europe. As a result, some regions can be identified where this density is significantly higher than in others.

Ralf Lehmphul

Bell Beaker common ware and Giant Beaker. Final Neolithic and Early Bronze Age pottery as an indicator of a Western European communication sphere.

Based on a well- preserved Final Neolithic to Early Bronze Age settlement stratigraphy, located on the western edge of a lowland area in east Brandenburg, originates the possibility to derive a model of Final Neolithic settlement dynamics. The features in the sequence show a settlement pattern, which would be difficult to detect under regular conditions of preservation. Both the settlement pattern and the subsistence strategies recognized from the stratigraphic sequence are apparently not only the reasons of the difficult source situation, but can further serve as an explanation for larger spheres of interaction within second half of the 3rd millennium BC.

Quentin Favrel & Julien Ripoche

Technical changes in the making of pottery in Brittany from the spread of the Bell Beaker phenomenon to the genesis of Early Bronze Age. The transition between Neolithic and Bronze Age in Brittany with regard to the "*chaîne opératoire*"

The transition between Neolithic and Bronze age in western France is marked by numerous changes in both the cultural practices and the material culture. Our research focus on the forming process and sequence of pots and on the different steps of the chaîne opératoire. For this presentation we will present examples of pottery making technics from late Neolithic to Bronze age and question different problematics : The role played by the bell beaker phenomenon in the genesis of Bronze age pottery, his perduration till the end of the third millenia B.C. and the relationship maintained along the atlantic coast with other regions.

Ralph Grossmann

The dialectic relation of Corded Ware and Bell Beaker between Rhine and Saale

Beaker cultures extend throughout Europe with primary areas. Burials of the Corded Ware phenomenon situate mainly in Eastern Europe whereas those of the Bell Beaker phenomenon situate insular in Western Europe. Both have regions of contact in Central Europe. This project concentrates its investigation to two of these regions: namely the Oberrhein and Thuringia.

Due to statistical analyses of the beakers, a typo chronology is recognizable for both regions. Especially between 2480 and 2300 BC, there was a coexistence of both phenomena. As a result, both phenomena interrelated to each other. This is shown by common elements in decoration of the beakers and common burial goods and rituals. And these elements appear

especially in a spatial closeness. Thus, there existed social networks and interactions between the groups of Corded Ware and Bell Beaker.

Furthermore, the results explain regarding to the chronological phases that there were shifts of spread, whereby both the Corded Ware and the Bell Beaker phenomenon preferred specific soils and altitudes. Moreover, there is heterogeneity in beaker decorations within both phenomena depending to the respective region and time. Overall, the lecture presents the results of the author's thesis published in 2016.

Matthieu Labaune

Synthesis and perspectives on Bell Beaker metal and metallurgy in Western Europe

The purpose of our presentation is to present an unprecedented synthesis on Bell-Beaker metal and metallurgy in Western Europe. The work is based on a catalogue of data: 667 archaeological sites, 1371 metallic objects, 641 analyses of the elemental composition and 23 lead isotopes analyse. The interpretation of these data makes it possible to specify the appropriation of the metal by the Bell-Beaker phenomenon and to appreciate the consumption of metallic objects and the circulation of the raw material thanks to the geochemical analyses.

Janusz Czebreszuk

Amber and the Bell Beakers

Baltic amber (succinate; in this article we will use the term: amber) is a raw material which was only locally important for millennia, with its occurrence being restricted to regions to which it was native. The situation changed in the third millennium BC. At that time, amber began to be known all over Europe and the Mediterranean. Its cultural importance was based on its religious and prestige value. In the process of its spreading, a key role was played by two cultural units: the Globular Amphora culture and Bell Beakers, which marked two stages of the process: Central European (Globular Amphora culture) and Pan-European (Bell Beakers). The paper puts special focus on the Bell Beakers as a manifestation of a Pan-European network of contacts between regional elites. It also outlines the history of research into and the current state of discussion of amber use in Bell Beaker-related societies. Specifically, it presents basic archaeological data on the number and types of sites, the dispersal of finds and the typology of amber goods known from Bell Beaker contexts, as well as the significance of this phenomenon for the whole process of cultural adaptation of amber in Europe.

Enrico Giannitrapani & Filippo Ianni

Social complexity, material culture and the Bell Beakers in Late Copper Age Sicily

The presence in Sicily of the so-called "Bell Beaker package" (i.e, beakers, shell and bone ornaments, metal objects, megalithic burials), have been recognised since the first half of the last century. These have been traditionally interpreted as elements coming mostly from the western Mediterranean, acquired by the communities particularly of western Sicily, and integrated in the local material culture between mid-3rd and early 2nd millenium a.C. The Sicilian Bell Beaker is present in this area mostly as part of the grave goods of rock-cut graves.

The available evidence is however limited by the lack of data from the villages, almost unknown in the western part of the island. Furthermore, these funerary contexts have been often upset by quarries or by uncontrolled excavations, with the most valuable objects flowed into private collections. The chronological attribution of the Sicilian Beakers, mostly based only on typological comparisons, is then some how affected by the lack of reliable stratigraphic data and updated radiocarbon determinations.

In the last decade, however, new researches carried out mostly in central Sicily, together with updated analysis of old contexts excavated last century in central-eastern Sicily, allow to reconsider the social meaning of the Sicilian Bell Beaker, its chronological interpretation, dating between 2600-2300 cal. a.C., and its distribution pattern, now interesting also the central part of the island. The recent investigations, concentrated particularly along the Imera meridionale river valley, also allowed to explore some important domestic contexts, yielding significative data for the Bell Beakers, always accompanied with locally produced wares. These data, also integrated by a series of radiometric, archaeometric and petrographic analysis, from one side allow to reconsider the role of Bell Beakers for the constitution of an early social differentiation of the Late Copper Age Sicilian communities. On the other, these data also indicate the existence of extended networks of contact and exchange between inner Sicily and the wider Mediterranean basin

Gabriel García Atiénzar & Miriam Alba Luzón

Beaker pottery in the Peñón de la Zorra (Alicante, Spain): change and social complexity between the Neolithic and the Bronze Age

The emergence of the characteristics that define the Bronze Age - settlements in height, defensive systems, hierarchy - in the Levant of the Iberian Peninsula have traditionally been associated with the social, economic and political influence that Argar Culture, but also from other cultural areas, exerted on this territory. However, recent archaeological excavations have revealed that the processes of social complexity developed several centuries earlier, coinciding with the appearance of the first Beaker vessels. In this paper, we present the Beaker pottery from the Peñón de la Zorra (Villena, Alicante, Spain), as well as the archaeological context to which it is associated. The formal characteristics of this set refer to the Late Beaker (incised), although it has remarkable similarities with other styles of the Iberian Peninsula, like Ciempozuelos. In the archaeological record of the Peñón de la Zorra stands out an extraordinary set formed by more than 20 decorated vessels that appeared inside House 5, a small domestic enclosure linked to a defensive structure that can be related to the territorial control. In this way, this site would reveal that it was during the Beaker period when the social and political changes that were developed during the II millennium Cal BC appeared.

Patricia Ríos, Corina Lisau, Lorenzo Galindo & Concepción Blasco

Bell Beaker impact in the societies of the 3rd millennium BC in central Iberia. Chronological and spatial distribution of Bell Beaker materials in domestic contexts of chalcolithic settlements

The Scientific Bibliography has emphasized the study of the Bell Beaker phenomenon through the funerary contexts. These remains are much more visible and outstanding than those few recovered in the domestic spaces. They have been systematically marginalized in the fieldwork because of the difficulty of interpretation in their function within those contexts. Nevertheless, it is indispensable to approach the investigation of both contexts in order to understand the dynamics of Bell Beaker occupation.

To achieve the present objective it has been analysed whether the extent of the Bell Beaker records represent a significant change with respect to pre-existing populations. In central Iberia, it is necessary to emphasize the intensification of the exploitation of certain resources and exchange networks of raw materials as well as objects.

Ana Catarina Basílio

Read between the lines: The social Role of Bell Beaker in Perdigões (Reguengos de Monsaraz, Portugal)

A phenomenon with a large-scale incidence, the Bell Beaker pottery has a contextual multiplicity that necessarily translates different and regionalized ways to deal, absorb and reinterpret it. In this context, the ditched enclosure of Perdigões (south Portugal) illustrates a regional tendency where contexts with beaker sherds and associated package are mostly present outside funerary contexts, where they performed their social role, contradicting an European tendency (and of other Iberian regions), where a more tight relation between decorated Beakers and funerary contexts is documented. By having Perdigões as the case study, we intend to present the existing data, that seem to indicate a permanence in the pre-existing order, with the integration of this new cultural expressions into current practices, having been verified the presence of elements of the "beaker package" disarticulated, being the decorated sherds essentially present in central contexts of the enclosure, where a complex set of practices and activities are documented. One can add the mapping of stylistic diversity in Alentejo region, reinforcing this social/spatial complexity, since it was recognized that in large ditched enclosure, such as Perdigões or Porto Torrão, also in the south of Portugal, sherds with a great stylistic diversity are present, unlike the smaller regional sites, like Porto das Carretas, São Pedro and others, where a mono thematic trend was observed. Therefore, we intend to present a case study that reinforces the notion of "integration in continuity" and plurality of social roles, which seems to increasingly indicate the need to fragment the functional and contextual unity frequently associated with these vessels and communities that used them, while remaining articulated with the main traits of a large scale phenomena and shared social trajectory - a plural equality (Linden, 2007).

Helena Barbosa

Contribution for the Study of Bell Beaker Contexts in Northern Portugal

The purpose of this paper is to discuss the archaeological contexts and the contexts of use of bell beaker pottery in the north of Portugal.

The major increase of field work (survey and excavation), which started specifically in the 1980's, has driven some authors to elaborate interpretative proposals on the regional occurrence of such ceramics so typified in their forms but, above all, in their technical and decorative organizations. Such interpretations have been framed as part of the search of explanations, either chronological or cultural, to the relation of bell beaker pottery with local funerary, residential or ceremonial contexts. However, not often chemical analysis were carried out on ceramical paste with the purpose of seeking to identify how the manufacture and/or the circulation of this pottery type is anchored in local or regional traditions.

Regional idiosyncrasies in the use of this kind of ceramic containers demonstrate that the "bell beaker" occurrence shouldn't have been a short-term phenomenon, focused, as it was

believed, in the late 3rd/early 2nd millennium BC. This evidence is supported by the diversity of studied sites and also the dates obtained by C14, although scarce, are contributing to reorient former interpretations.

We will outline some interpretative reflections on the adoption and manipulation of this pottery by local communities, since 2nd quarter of the 3rd millennium to the 1st quarter of the 2nd millennium BC, from the global analysis of a number of sites placed in the North of Portugal (and also the Douro river basin at its south) where bell beaker pottery was identified.

Therefore, this paper will use several case studies – Crasto de Palheiros I, Buraco da Pala I (both dated by C14), and Pastoria, at first, and Mamoã 1 de Chã de Carvalhal, in second, given that they allow access to well preserved archaeological contexts, constitute the most solid archaeological base to support our exposure.

Pilar Prieto Martinez

Imitations of Bell Beaker pottery in the third millennium BC in Galicia: acculturation, or resistance?

Imitation in prehistory is a difficult parameter to identify, especially if we consider the production of pottery. Nevertheless, we believe it is possible to identify certain types of imitation through systematic research.

The archaeological sites from the Early and Mid Chalcolithic period in the western half of the Iberian Peninsula are characterised by what is known as 'Penha-type' pottery, or symbolic pottery, in many cases with large incised decorations, and motifs included in metopes. In particular, a small number of vessels have been found from around the middle of the third millennium BC in certain parts of the NW Iberian Peninsula, which seem to be the result of combining two completely different methods of production –Penha-type pottery and Bell Beaker pottery– obtaining a 'hybrid' of both types of pottery. We therefore suggest that these 'hybrid' or 'anomalous' vessels are imitations.

In order to be able to discover why these objects were made using a mixture of styles, we have to explore all of the possible levels of information that are available (shape, decoration, clays, archaeometry, contexts, chronology, territory), based on a study of the operational chain, the manufacturing process, their use, and their deposition.

We will attempt to verify the hypothesis that these imitations could have been a result of acculturation, or perhaps a kind of social resistance from the potters towards the community in which they lived, factors that may have been associated with the mobility of populations at that time.