

ABSTRACTS

The Hofheim Experiment:
Understanding Michelsberg
Liveways And Dynamics
Through An Integrated
Approach

**Das Hofheim-Experiment:
Lebenswelten und Dynamiken
der Michelsberger Kultur
in einem integrierten Ansatz**

Do 14.03.2024, 9 Uhr-
Fr 15.03.2024, 13 Uhr



LEIBNIZ - ZENTRUM
FÜR ARCHÄOLOGIE

Session I: INTRODUCTION

Felix Riede (Aarhus University) The Climate of (Pre)History - Climate, Crises, and Eventful Prehistory

Stimulated by the evident impacts of contemporary climate change and human societies, the historian Dipesh Chakrabarty has written an epochal essay with the title 'The Climate of History' in which he highlights that we no longer can nor should tell stories about past societies that are not also about past climate. Chakrabarty's core thesis is that political, economic, and cultural histories must necessarily collapse with environmental history. I here build on this important thesis by combining it with the sociologist William H. Sewell's argument for eventful history - and by extending both perspectives into prehistory. In Sewell's historical logic, extended periods of incremental change are punctuated by sudden bursts - events - of pronounced social transformation. Often characterised by technological, political, as well as emotional upheavals, such events commonly amplify the agency of particular societal actors or groups and modify otherwise rigid and long-lived social structures. Taking this perspective into prehistory, I show how a combination of climate change and an extreme event - the Laacher See eruption that occurred not too far from Hofheim in the Eifel, and which is now dated to $13,006 \pm 9$

BP - catalysed social change in central and northern Europe. Against this background, I then suggest that societal change in later prehistory, too, should be seen through the lens of eventful change, and that such a perspective also has evident implications for our understanding of the present.

Dániel Kondor (CSH Vienna) Agent-based modelling of prehistoric population dynamics

Accumulating archaeological evidence shows that human prehistory was highly dynamic, with a diverse range of interactions among human groups and with their environment. Testing hypotheses about the role of different factors can be difficult however, and computational modelling can help by generating quantitative predictions that can be compared to data, along with understanding limitations in distinguishing different causes and mechanisms. In this talk, I will review our efforts for developing agent-based simulations for explaining the population dynamics of

Mid-Holocene Europe, along with results and challenges.

**Detlef Gronenborn/Anja Cramer/Ferenc Kántor/Patrick Mertl/Dieter Neubauer/Hans Szedeli/Udo Recker (LEIZA/hessenARCHÄOLOGIE)
Kapellenberg - A multiscale, approach to a complex Michelsberg hilltop site**

Looking back at 15 years of field work, one dissertation, and one installed interpretative path, we attempt to summarize past and present research results, bringing these into perspective with what we currently seem to know about this important period of eventful change in Mid-Holocene Temperate Europe.

The current age model suggests, that Kapellenberg was first settled around 4200/4100 BCE, with the Great Tumulus possibly being the first architectural feature. The hilltop area has been marked by a palisade, which burned down shortly before 4000 BCE. After a short abandonment the site was resettled and the enclosed space was extended and successively fortified. The major interior settlement appears to have existed as from 3900 BCE to 3600 BCE with a possible peak between 3750 and 3650 BCE. Apparently, the palisades burned down repeatedly (intentionally?); the last rampart phase dates after 3600 BCE. At that time the interior was only sparsely settled, if at all. The site is briefly re-used during the Late Neolithic around 2500 BCE, and during the Early Roman Period.

We will compare this local trajectory with regional developments and the wider, European scale, looking for cyclical patterns.

Session II: ÜBERREGIONALE EBENE/ SUPRAREGIONAL SCALE

Amy Bogaard (Oxford University)

From the Alps to Ireland: framing the agroecology of the 'northwestern Neolithic' (late 5th - 4th millennia BCE)

Here I assess agroecological aspects that have variously been considered to distinguish the Neolithisation of northwest Europe from the earlier establishment of farming in southern and central Europe: slash and burn farming, a rarity of pulses, increased importance of nuts/fruits, specialised dairying and arid ploughing. Of these, there is convincing evidence at various times and places for a diminishing role of pulses alongside increasing storage/year-round consumption of fruits/nuts and specialised dairying. Direct on-site archaeobotanical evidence suggests that established arable plots were the norm rather than slash and burn. Indications of cattle traction and 'ritual ploughing' can now be set in the context of earlier Neolithic traction in southern-central Europe, on the one hand, and of increasingly extensive, land-limited agriculture in late Chalcolithic western Asia, on the other.

Wolfgang Haak (MPI Leipzig)
Genomic analysis of Michelsberg-associated individuals with respect to comparative archaeogenetic data from prehistoric Europe

Archaeogenomic studies of the past few years have revealed and characterized the genomic ancestry profiles of early farmer populations, which are surprisingly homogenous across many regions of prehistoric Europe. Over time, however, varying contact and admixture histories with hunter-gatherer as well as contemporaneous farmer groups gradually resulted in patterns of regional differentiation. Given the homogenous genomic background, these regional genetic differences are subtle and often only identifiable by the type and amount of introgressed hunter-gatherer ancestry, and thus challenging to detect. However, novel analysis methods now permit the detection of shared haplotype blocks of ancestry, which also allow the tracking shared ancestry (or the lack thereof) between the many Middle Neolithic groups. While the data density for the 5th and 4th millennium BCE is not as high as for other time period, I will report on the preliminary analyses of Michelsberg-associated individuals, including the burials from Hattersheim and Frankfurt-Harheim, in comparison with relevant archaeogenetic data.

Alexander Land (Dendrochronology / -climatology Group, Institute of Biology, University of Hohenheim, Germany)

The period of the Michelsberg culture from a dendroclimatological perspective

In order to receive annual to decadal warm-season rainfall information for the millennium 4500-3500 BCE, a dendroclimatological reconstruction has been performed. During the millennium extraordinary warm-season droughts occurred in 4476, 4438, 4211, 4197, 4101, 4042, 3991, 3877, 3717, 3581, 3560 BCE, as well as five prolonged (>15 yrs) droughts: 4313-4298 (duration 16 yrs), 4114-4096 (19 yrs), 3760-3745 (16 yrs), 3597-3578 (20 yrs), 3572-3552 (21 yrs). From 4200 to 3700 BCE, the sun ran through a highly active state - including a grand solar maxima -, framed by several grand solar minima.

Frank Sirocko (Johannes Gutenberg University Mainz, Institute for Geoscience)

Decadal Oscillations in the climate of central Europe during the time 5000-3000 BCE: reconstruction from annually laminated lake sediments of the Eifel

The annually laminated Eifel maar lake sediments from Ulmen, Schalkenmehren and Holzmaar have been investigated for seasonal layer thickness.

The time series reveal activity phases of decadal cycles of 8-14 years duration. These cycles are not continuously active, but focused to specific centuries. The precise age for the on/off pattern depends on the absolute age chronology, which can be determined from the varves with a dating error ± 100 years. It is accordingly difficult to correlated these activity cycles directly to the tree-ring based dendrochronology of solar radiation. We will test several options to find the best fit between the climate cycles in central Europe and the solar activity changes.

K. Wirtz, hereon, Geesthacht / D. Gronenborn (LEIZA)

Kapellenberg and Michelsberg Culture within Late Neolithic European Population Dynamics (4400-3500 BCE)

Our accurate continental reconstruction of population growth rate 7,500-1,000 BCE, derived from summed probability distributions of >91,000 radiocarbon dates, suggests (1) a strong link of European growth rate to indices of climate stability and, more specifically, (2) two continental boom phases followed by bust phases during the time-span of the Michelsberg culture (4400 - 3500 BCE). A current Michelsberg age model generally follows these curve progressions, as does the internal Michelsberg typo-chronology. Additionally, the modelled continent-wide population dynamics quite well reflect the overall archaeological and genetic data in favour of a mainly western origin of the Michelsberg Culture.

**Tim Kerig (U Kiel ROOTS) /
Johanna Hilpert (U Cologne
HESCOR)**

**Cultural Evolution in Chang-
ing Climate: Human and Earth
System Coupled Research
Michelsberg? Eine Netzwerk-
perspektive auf kontinental-
europäische Steinrohmaterialien
(4300 bis 3500 BCE)**

Gibt es eine spezifisch Michelsberger Art und Weise des (Rohmaterial) austausches? Entsteht mit Michelsberg eine Ökonomie des Prestiges? Mit Blick auf die Steine: Kann aus der Netzwerkperspektive die Michelsberger Kultur als Summe stattgefundener Handlungen begriffen werden und ist das archäologisch sinnvoll?

Wir tragen Fallbeispiele zusammen, die auf lokaler Skale im Voralpenland und im Neckarland angesiedelt sind. Wir untersuchen, wie dieses lokale Handeln sich auf interregionaler Skale darstellt und wie diese wiederum überregional einzubetten ist. Untersucht werden der Michelsberger Kultur gleichzeitige Austauschnetzwerke aus Westeuropa. Wir analysieren die Netzwerke der räumlichen Verteilung von Rohmaterialien mit bekannter Herkunft. Dazu nutzen wir umfangreiche Datensammlungen vorhergegangener und eines laufenden Projektes (Big Exchange).

Lit.: T. Kerig/J. Hilpert et al., Interlinking research: The Big Exchange Project. Antiquity 2023

Session III: REGIONALE EBENE/ REGIONAL SCALE

Anthony Denaire (Université de Bourgogne / Philippe Lefranc, Université de Strasbourg)

Ex occidente. The Michelsberg culture between the Paris Basin and Alsace and its Neighbours

The aim of this communication is to discuss about the Michelsberg in France, and more generally the cultural situation in the Nord-East part of France, between the Seine and the Rhine valley, since the end of the Cerny around 4400 cal BCE and the end of Michelsberg which occurred around 3800/3700 BCE in these regions.

We will therefore be talking a lot about Michelsberg, but also about Noyen - a contemporaneous ceramic group closely linked to Michelsberg and arguably its origin -, about Chasséen de type Chassey, Chasséen septentrional, Néolithique Moyen Bourguignon and Bischheim occidental as well. The focus will be on their ceramic production and their cultural definition, their chronology and their distribution area, but also on other aspects like monumentalism and megalithism.

Bart Vanmontfort (KU Leuven, Centre for Archaeological Research of Landscapes)
Enclosure sites on the northwestern edge of Michelsberg Culture territory

This contribution deals with the neolithic enclosure sites of the Michelsberg Culture and connected cultural groups on the northwestern edge of Michelsberg Culture territory (Belgium and Northwestern France). Renewed research, including fieldwork and the discovery of new sites brings the opportunity for a revision of interpretations and to get more grip on the way these sites functioned within Neolithic society. The remarkable variability in dimensions, constructive elements and material culture raises a number of questions that will be tackled: to what activities do the associated remains actually correspond? can we identify a connection between the individual enclosure sites? how do these interpretations fit with recent insights from elsewhere in Northwestern Europe?

Niels Bleicher (Stadt Zürich) **It's the taphonomy, s...**

Was there really a population decline in the early fourth millennium BCE? The boom-and-bust hypothesis has become a kind of common belief and it seems we have forgotten that it is in fact only a hypothesis. What were the indications that were used to put this hypothesis forward? And how strong are they actually?

In my talk I want to cast a critical eye on the data and methodology that are at the heart of the boom and bust-narrative and I will bring up a possible alternative hypothesis for discussion.

Caroline Heitz (Bern University, Institute for Archaeological Sciences) **Spatial Mobility and Translocality in the northern Alpine Foreland (3950–3800 BCE)**

The paradigm of cultural history still has an influence on how forms of Neolithic social cohabitation are imagined. Once established for the purpose of relative chronology, and based on pottery, concepts of Neolithic cultures implied the existence of homogeneous, static social units with more or less clear spatial-temporal boundaries. Even if their initially ethnic interpretation has long been rejected, the prevention of any other social interpretations led to a blind spot, which was filled unintentionally by top-down projections of premises onto the past. Furthermore, we observe a lack of

epistemological and theoretical reflections on what determines different forms of social cohabitation and how they could be approached archaeologically. By taking mobility as an epistemological entry point to understanding forms of social cohabitation, we will explore pottery production and distribution practices by drawing on ceramics from precisely dendrochronologically dated Neolithic wetland sites on the northern Alpine Foreland (3950–3800 BCE). Inspired by Bourdieu's theory of habitus and social practice, we propose an inductive bottom-up approach to explore typical local pottery production practices. Following Wenger, it is assumed that pottery was produced within settlements in so-called communities of practice, leading to the (re)production of typical local pottery styles. However, shifting to a supra-regional perspective, it can be shown that stylistic and thus social and cultural diversity in settlements was not an exception but a reoccurring phenomenon that suggests cross-regional entanglements, which were related to spatial mobility between settlement groups with different pottery production practices. The material and social histories of ceramic vessels correspond well with known settlement histories. From a social archaeological perspective, both point to the residential mobility of individuals or subgroups and can be understood as forms of horizontal social organisation of translocal social groups and thus sociospatial configurations.

Julian Laabs (Leipzig University) / Caroline Heitz, Bern University)

Climate fluctuations and settlement dynamics in the Northern Alpine Foreland (3950-3200 BCE)

Since the dendrochronological revolution, we know that Neolithic lake and wetland settlements in the Northern Alpine Foreland were short-lived and their communities highly mobile. This was not in keeping with the expectations of sedentary agriculturalists in other regions or earlier periods of pre-historic Europe. Over time it became clear that the transience and mobility of lakeshore settlement communities was not only forcefully driven by climatic fluctuations, but first and foremost by sophisticated forms of socio-economic organization. However, the intensity of lakeshore settlements varied over time. Early on, it was suggested that climatic changes in environmental conditions - namely lake levels - led to the abandonment and re-settling of the settlement locations situated at the lakeshores. This hypothesis still needs further evaluation. In this presentation we examine a dataset of dendrochronologically dated lakeshore settlements in the northern Alpine foreland to test if climatic fluctuations were a central driving force to settlement dynamics. On the basis of a yearly precise sequence of contemporaneous lakeshore settlements, correlations with a number of climate proxies can be tested and interpreted. We put special emphasis on the first half of the 4th millennium BCE, as this is the initial phase of the

so-called 'lake-dwelling Neolithic' in the Circum Alpine region and corresponds to the Michelsberg Culture. Preliminary results suggest correlations between climatic fluctuations and the (re-)settling and abandonment of lake shores in the Three-Lakes Region of western Switzerland and beyond. With our data, we aim to explore the resilience of local 'wetland communities' to changing climates and environments through their mobile lifestyles, and possible impulses for extending models of settlement dynamics in other regions and time periods.

Sandra Fetsch (Universal-museum Joanneum, Graz) Michelsberg Culture in Hesse

A study of the Michelsberg Culture in Hesse (2011-2017) aimed to present the sites and inventories - especially pottery inventories. They were typologically dated, settlement processes were modelled and landscape use was reconstructed by the use of statistical and GIS-based methods. Some central outcomes will be discussed here. In particular, the surprising results of the chronological evaluation will be described. They raised elementary questions about the correctness of the existing phase classification of the Michelsberg Culture that had been common till now.

Michelsberger Kultur in Hessen

Eine Studie zur Michelsberger Kultur in Hessen (2011-2017) hatte zum Ziel,

die Fundstellen und Inventare - insbesondere Keramikinventare - vorzustellen. Sie wurden typologisch datiert, Siedlungsprozesse wurden modelliert und die Landschaftsnutzung mit Hilfe statistischer und GIS-basierter Methoden rekonstruiert. Zentrale Ergebnisse dieser Auswertung sollen hier diskutiert werden, insbesondere die überraschenden Ergebnisse der chronologischen Auswertung. Sie warfen elementare Fragen nach der Richtigkeit der bisherigen Phaseinteilung der MK auf.

Birgit Regner-Kamlah
(Landesamt für Denkmalpflege Baden-Württemberg, Karlsruhe)

The Michelsberg enclosure of Bruchsal „Aue“, Baden-Württemberg.

The Michelsberg settlement, enclosed by three ditches, is situated upon a loess hilltop at the transition of the upper Rhine valley to the hill country of the "Kraichgau". The analysis of the fully investigated ditches and numerous finds enabled to identify 3 reconstruction works and 5-6 datable ditch-fill layers within 4200 and 3600 BCE. Discussion will be focussed on different occupation phases, relationship to and between the three other MK earthworks nearby (Bruchsal-Heidelsheim „Altenberg“, Bruchsal „Scheelkopf“, eponymous „Michaelsberg“), possible functions of the place and some archaeogenetic results of human bones.

Sabine Meinen (SOLWODI Deutschland, Boppard)
Aller guten Dinge sind drei? Die Michelsberger Kultur im Mittelrheingebiet

Das Erdwerk Urmitz war 1899 nicht nur eines der ersten entdeckten der Michelsberger Kultur, es stellte sich schnell auch als eines der größten heraus. Nur wenig später kam es zur Auffindung der Grabenanlage in Mayen, die eine erheblich kleinere Fläche umschloss. Für eine lange Zeit blieben Urmitz und Mayen die einzigen beiden Grabenanlagen im Neuwieder Becken, auch wenn durch den schnell voranschreitenden Bimsabbau in der Region immer wieder kleinere Fundstellen der Michelsberger Kultur bekannt wurden. Es sollte beinahe 100 Jahre dauern, bis erneut Spuren eines Erdwerks bei Kobern-Gondorf entdeckt und untersucht werden konnten. In Bezug auf die Besiedlung im Mittelrheingebiet brachte die Anlage einige neue Erkenntnisse.

All good things come in threes? The Michelsberg culture in the Middle Rhine region.

In 1899, the enclosure of Urmitz was not only one of the first of the Michelsberg culture to be discovered, it also quickly turned out to be one of the largest. Only a short time later, the earthwork in Mayen was uncovered, which enclosed a considerably smaller area. For a long time, Urmitz and Mayen remained the only two ditch systems in the Neuwied Basin, even though the rapidly advancing pumice quarrying in the region repeated-

ly brought to light smaller sites of the Michelsberg Culture. It was to take almost 100 years before traces of another earthwork were discovered and examined near Kobern-Gondorf. In the context with the settlement in the Middle Rhine region, the site brought some new insights.

VENUE

Onsite

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Online

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