

## References

### Aktuell

HAN 2017

Jian-Chiu Han, *Comment on “Outburst flood at 1920 BCE supports historicity of China’s Great Flood and the Xia dynasty”*. [science 355 \(2017\), 1382](#).

By analyzing the data and methodology of Wu et al. (Reports, 5 August 2016, p. 579), I find that their conclusions about the scale of the dammed lake, the dating of the lake, and the peak discharge at the point of dam failure and at the Lajia site cannot be validated. The conjecture of the supposed Great Flood and its impact on the formation of the early Chinese dynasty is not substantiated.

HUANG 2017

Chun Chang Huang, Yali Zhou, Yuzhu Zhang, Yongqiang Guo, Jiangli Pang, Qiang Zhou, Tao Liu & Xiaochun Zha, *Comment on “Outburst flood at 1920 BCE supports historicity of China’s Great Flood and the Xia dynasty”*. [science 355 \(2017\), 1382](#).

Wu et al. (Reports, 5 August 2016, p. 579) reported an enormous flood in the upper Yellow River that destroyed the Lajia Ruins. However, published research shows that the Ruins were destroyed at 3950 years before the present (B.P.) by earthquakes accompanied with mudflows, whereas the landslide-dammed lake terminated about 5650 years B.P. Various kinds of sediments with different ages were taken as evidence to verify an outburst flood.

WU 2017

Wenxiang Wu, Junhu Dai, Yang Zhou & Quansheng Ge, *Comment on “Outburst flood at 1920 BCE supports historicity of China’s Great Flood and the Xia dynasty”*. [science 355 \(2017\), 1382](#).

Wu et al. (Reports, 5 August 2016, p. 579) reported geological and archaeological evidence about an earthquake-induced landslide dam outburst flood around 1920 BCE and claimed a support to the historicity of China’s legendary Great Flood and Xia dynasty. We argue that the physical evidence is unreliable and their arguments are unconvincing.

WU 2017

Qinglong Wu et al., *Outburst flood at 1920 BCE supports historicity of China’s Great Flood and the Xia dynasty, Response to Comments*. [science 355 \(2017\), 1382](#).

Qinglong Wu, Zhijun Zhao, Li Liu, Darryl E. Granger, Hui Wang, David J. Cohen, Xiaohong Wu, Maolin Ye, Ofer Bar-Yosef, Bin Lu, Jin Zhang, Peizhen Zhang, Daoyang Yuan, Wuyun Qi, Linhai Cai & Shibiao Bai

Wu et al., Han, and Huang et al. question our reconstruction of a large outburst flood and its possible relationship to China’s Great Flood and the Xia dynasty. Here, we clarify misconceptions concerning geologic evidence of the flood, its timing and magnitude, and the complex social-cultural response. We also further

discuss how this flood may be related to ancient accounts of the Great Flood and origins of the Xia dynasty.

#### YACKLE 2017

Kevin Yackle et al., *Breathing control center neurons that promote arousal in mice*. *science* **355** (2017), 1411–1415.

s355-1411-Supplement1.pdf, s355-1411-Supplement2.mp4

Kevin Yackle, Lindsay A. Schwarz, Kaiwen Kam, Jordan M. Sorokin, John R. Huguenard, Jack L. Feldman, Liqun Luo & Mark A. Krasnow

Slow, controlled breathing has been used for centuries to promote mental calming, and it is used clinically to suppress excessive arousal such as panic attacks. However, the physiological and neural basis of the relationship between breathing and higher-order brain activity is unknown. We found a neuronal subpopulation in the mouse preBötzing complex (preBötC), the primary breathing rhythm generator, which regulates the balance between calm and arousal behaviors. Conditional, bilateral genetic ablation of the  $\approx 175$  Cdh9/Dbx1 double-positive preBötC neurons in adult mice left breathing intact but increased calm behaviors and decreased time in aroused states. These neurons project to, synapse on, and positively regulate noradrenergic neurons in the locus coeruleus, a brain center implicated in attention, arousal, and panic that projects throughout the brain.

## Archäologie

#### KRISTIANSEN 2015

KRISTIAN KRISTIANSEN, LADISLAV ŠMEJDA & JAN TUREK (Hrsg.), *Paradigm Found – Archaeological Theory, Present, Past and Future, Essays in Honour of Evžen Neustupný*. (Oxford 2015).

#### MELLER 2014

HARALD MELLER, ROBERTO RISCH & ERNST PERNICKA (Hrsg.), *Metalle der Macht – Frühes Gold und Silber, 6. Mitteldeutscher Archäologentag vom 17. bis 19. Oktober 2013 in Halle (Saale)*. Tagungen des Landesmuseums für Vorgeschichte Halle 11 (Halle 2014).

#### PERNICKA 2014

Ernst Pernicka, *Zur Frage der Echtheit der Bernstorfer Goldfunde*. In: HARALD MELLER, ROBERTO RISCH & ERNST PERNICKA (Hrsg.), *Metalle der Macht – Frühes Gold und Silber, 6. Mitteldeutscher Archäologentag vom 17. bis 19. Oktober 2013 in Halle (Saale)*. Tagungen des Landesmuseums für Vorgeschichte Halle 11 (Halle 2014), 247–256.

Considering the authenticity of the Bernstorf gold finds The gold finds from Bernstorf, Freising district, have been interpreted as evidence for contacts between Mycenae and Bavaria, with the gold assumed to have originated in Egypt. This provenance has been brought forward because of the similarities in the chemical composition of the gold finds from Bernstorf and a single gold find from Egypt, the so-called Akhenaten sarcophagus (KV 55). However, analyses of the gold foil from the sarcophagus published so far show apparent differences to the gold finds from Bernstorf. Hence both sample sets were reanalysed using laser ablation with inductively coupled plasma mass spectrometry (LA-ICP-MS). Results confirmed

the already published semi-quantitative analyses of the gold from KV 55 and were therefore able to at least question the provenance of the Bernstorf gold. Furthermore, a significant difference was recognised in comparison with the published results of the Bernstorf gold analyses – in particular regarding the concentrations of bismuth and antimony. The Bernstorf gold samples have a demonstrably high purity and contain a trace element pattern that is very similar to modern high purity gold samples. The possibility is therefore considered here that the origin of the Bernstorf gold could be modern and that the finds would therefore present a forgery.

Die Goldfunde von Bernstorf, Lkr. Freising, wurden als Beleg für Kontakte zwischen Mykene und Bayern interpretiert, wobei das Gold aus Ägypten stammen soll. Diese Herkunftsaussage wurde mit der Ähnlichkeit der chemischen Zusammensetzung der Goldfunde von Bernstorf und eines einzigen Goldfundes aus Ägypten, dem sogenannten Sarg des Echnaton (KV 55), begründet. Da die bisher veröffentlichten Analysen der Goldfolien von diesem Sarg aber deutliche Unterschiede im Vergleich zum Gold von Bernstorf aufweisen, wurden beide Probenensembles noch einmal mittels Laserablation gefolgt von Messungen in einem Massenspektrometer mit Anregung durch ein induktiv gekoppeltes Plasma (LAICPMS) analysiert. Dabei konnten die bereits publizierten halbquantitativen Analysen des Goldes von KV 55 bestätigt und damit die Herkunftsaussage für das Bernstorfer Gold zumindest in Zweifel gezogen werden. Zudem wurde ein deutlicher Unterschied zu den veröffentlichten Analysen des Goldes von Bernstorf festgestellt – besonders bei den Konzentrationen von Bismut und Antimon. Die Bernstorfer Goldproben weisen eine außerordentlich hohe Reinheit auf und zeigen ein Spurenelementmuster, das denen moderner Reinstgoldproben sehr ähnlich ist. Es wird deshalb die Möglichkeit in Betracht gezogen, dass es sich um modernes Gold und damit um eine Fälschung handeln könnte.

#### SØRENSEN 2013

MARIE LOUISE STIG SØRENSEN & KATHARINA REBAY-SALISBURY (Hrsg.), *Embodied Knowledge, Perspectives on belief and technology*. (Oxford 2013).

#### SØRENSEN 2013

Marie Louise Stig Sørensen & Katharina Rebay-Salisbury, *Embodied knowledge, Reflections on belief and technology*. In: MARIE LOUISE STIG SØRENSEN & KATHARINA REBAY-SALISBURY (Hrsg.), *Embodied Knowledge, Perspectives on belief and technology*. (Oxford 2013), 1–8.

#### THORNTON 2009

Christopher P. Thornton, *Archaeometallurgy, Evidence of a Paradigm Shift?* In: TOBIAS L. KIENLIN & BEN ROBERTS (Hrsg.), *Metals and Societies, Studies in honour of Barbara S. Ottaway*. Universitätsforschungen zur prähistorischen Archäologie 169 (Bonn 2009), 25–33.

Archaeometallurgy has long been a rather loosely-defined field of study with few central tenets of a theoretical or scientific nature. Over the past few decades, calls for an integrated approach to ancient metallurgical practices have arisen, and certain ‘schools’ of archaeometallurgical thought have coalesced in different parts of the world. Using Kuhn’s conception of “paradigms”, this paper seeks to highlight

some of these ‘schools’ as a step towards formulating a new archaeometallurgical paradigm – one that combines scientific practice with theoretical understanding.

## Judentum

FELDMAN 1992

Louis H. Feldman, *Jewish Proselytism*. In: HAROLD W. ATTRIDGE & GOHEI HATA (Hrsg.), *Eusebius, Christianity and Judaism*. *Studia Post-Biblica* 42 (Leiden 1992), 372–408.

The only ancient religions with an idea of exclusionary “conversion” are Judaism and Christianity. Polytheism, by definition, tolerates many gods. Moreover, the fact that Judaism is not so much a religion as a peoplehood meant that conversion entailed not merely denying one’s ancestral gods but also one’s native land and family.<sup>2</sup> In this, as Josephus emphasized,<sup>3</sup> Judaism differed from such states as Athens and Sparta which rarely extended citizenship to non-natives, and shared the attitude of the Romans. To some degree entering Judaism was comparable to initiation into the Eleusinian mysteries, wherein foreigners instantly became members of the Hellenic “nation.” To be a Jew created an immediate conflict in patriotism, inasmuch as religion in antiquity was regularly a part of the state, and the Jew, ipso facto, could not worship the state’s gods. Only Rome’s exception of the Jews resolved this conflict, although whether this exemption extended to proselytes was an issue at various times. The Pentateuch and early prophets do not speak of conversion, although the prohibition (Deut 23:4) of Ammonites and Moabites entering “the assembly of the Lord” implies that other peoples might. There is no indication, however, that Israelites were active missionaries during the biblical period.

## Kultur

BUDD 1995

Paul Budd & Timothy Taylor, *The faerie smith meets the bronze industry, Magic versus science in the interpretation of prehistoric metal-making*. *World Archaeology* 27 (1995), 133–143.

In this article we address the question of the emergence and development of copper and iron metallurgy in Eurasia in relation to a historical debate within archaeology and archaeometallurgy concerning appropriate technological scales and social organizational models. We believe that the concepts of large-scale extraction and production and concomitant reconstruction of specialized activities and monoplex social roles that figure strongly in the prevailing, orthodox ‘industrial model’ are either underdetermined or unsupported by archaeological data. Such concepts represent an anachronistic back-projection of the modern notion of technological change as driven by rational science. We suggest that ritual and magical dimensions need to be given a more central place in interpretation and hypothesis formulation, and we tentatively suggest a broad social-developmental perspective that would incorporate them.

Keywords: Prehistoric | Eurasia | archaeometallurgy | ritual | science.

BUDDEN 2009

Sandy Budden & Joanna Sofaer, *Non-discursive Knowledge and the Construction of Identity, Potters, Potting and Performance at the*

*Bronze Age Tell of Százhalombatta, Hungary*. [Cambridge Archaeological Journal](#) **19** (2009), 203–220.

This article explores the relationship between the making of things and the making of people at the Bronze Age tell at Százhalombatta, Hungary. Focusing on potters and potting, we explore how the performance of non-discursive knowledge was critical to the construction of social categories. Potters literally came into being as potters through repeated bodily enactment of potting skills. Potters also gained their identity in the social sphere through the connection between their potting performance and their audience. We trace degrees of skill in the ceramic record to reveal the material articulation of non-discursive knowledge and consider the ramifications of the differential acquisition of non-discursive knowledge for the expression of different kinds of potter's identities. The creation of potters as a social category was essential to the ongoing creation of specific forms of material culture. We examine the implications of altered potters' performances and the role of non-discursive knowledge in the construction of social models of the Bronze Age.

#### KRISTIANSEN 2015

Kristian Kristiansen & Timothy Earle, *Neolithic Versus Bronze Age Social Formations, A Political Economy Approach*. In: KRISTIAN KRISTIANSEN, LADISLAV ŠMEJDA & JAN TUREK (Hrsg.), *Paradigm Found – Archaeological Theory, Present, Past and Future, Essays in Honour of Evžen Neustupný*. (Oxford 2015), 234–247.

We welcome a discussion about the differences between the Neolithic and the Bronze Age, because it raises some fundamental theoretical and interpretive issues about the nature of later European prehistory. We have criticized TB's ((Tobias Kienlin)) analysis for its lack of organizing theoretical principles and for disregarding the economic role of interaction and long-distance trade. The inability by TB to see the difference between Neolithic and Bronze Age society reflects, we believe, a typological misconception of societies defined by a descriptive list of archaeological traits. What is critical is how those traits are organized (instituted) as political systems that structure social segments in particular power arrangements. Even more critical is to understand the geographical scale of the economy, and thus the balance between wealth and stability. This balance changed dramatically during the Bronze Age, which accounts for the qualitative differences that separated the two historical epochs, with correspondingly different world-views and power structures as a result.

#### KUIJPERS 2013

Maikel Henricus Gerardus Kuijpers, *The sound of fire, taste of copper, feel of bronze, and colours of the cast, Sensory aspects of metalworking technology*. In: MARIE LOUISE STIG SØRENSEN & KATHARINA REBAY-SALISBURY (Hrsg.), *Embodied Knowledge, Perspectives on belief and technology*. (Oxford 2013), 137–150.

The methodology explored in this paper is based on one of the core arguments of phenomenology: that the world around us is experienced and understood from the perspective of the embedded and sensual human body. I have argued that Bronze Age metalworking technology was, in the first place, experienced rather than rationally understood. That is not a denial of rational knowledge in prehistoric metallurgy, but rather a necessary change of perspective towards craft, craftsmanship and skill. Although skill has often been used in arguments regarding the meaning and importance of metalworking, it is not a properly understood

concept and exploring the skills that are actually involved in metalworking is a rather neglected field in metallurgical research. One of the reasons for this might be the highly qualitative and elusive nature of this 'data'. Nonetheless, there are ways to quantify skill, even archaeologically, as for example done by Budden and Sofaer (2009). Although this may be useful for certain analyses, I do not feel that such a distinctively quantitative approach is always necessary to incorporate skill in archaeological research. The methodology proposed here, an archaeology of the senses, may further our understanding of the relationships between the body, materials and knowledge, which underpins skill. The heuristic power of a sensory archaeology cannot yet be assessed, as it is still in its initial stages. It does lead, however, to a different way of exploring the data and hopefully a better and more holistic understanding of prehistoric metalworkers and their craft. Furthermore, it may challenge the dichotomy between discursive and non-discursive knowledge, for which it has been argued that this opposition is too absolute.

#### SOFAER 2006

Joanna Sofaer, *Pots, Houses And Metal, Technological Relations at the Bronze Age Tell at Százhalombatta, Hungary*. [Oxford Journal of Archaeology 25 \(2006\), 127–147](#).

At the Bronze Age tell of Százhalombatta, Hungary, techniques used for making pottery echo those used in other media. Pottery and architecture have a close relationship. Not only were both made of clay, but methods of making pots echo those used for building. Similarly, pottery and metalwork share common themes and technologies for working with clay and bronze. Since choices made by potters are not solely confined to the environment, raw materials and tools, but are also socially and culturally defined, by implication the transfer of know-how must be situated within social networks between people. This paper considers how the identification of technical relationships between different media at Százhalombatta can be used to explore social relations in Bronze Age society, thereby suggesting relationships that work on both technical and social levels.

## Methoden

#### SMITH 2015

Michael E. Smith, *How Can Archaeologists Make Better Arguments?* [SAA Archaeological Record 15 \(2015\), iv, 18–23](#).

Perhaps the most basic stipulation of good social-science argumentation is expressed in the epigraph: You have to be able to tell when you are wrong. This can be achieved by formal hypothesis testing or by more informal methods that evaluate alternative explanations. Although some archaeologists do not approve of this emphasis on testing (Johnson 2010:223), it is hard to see how we can achieve rigorous results and build a solid body of knowledge without it. In this paper, I advocate that archaeologists maintain an explicit consideration of the structure of their arguments, while avoiding pitfalls such as ad-hoc analogies and empty citations. The methods of strong inference and natural experiments hold promise for archaeology, particularly when used together with what social scientists (but not Lewis Binford) call middle-range theory.