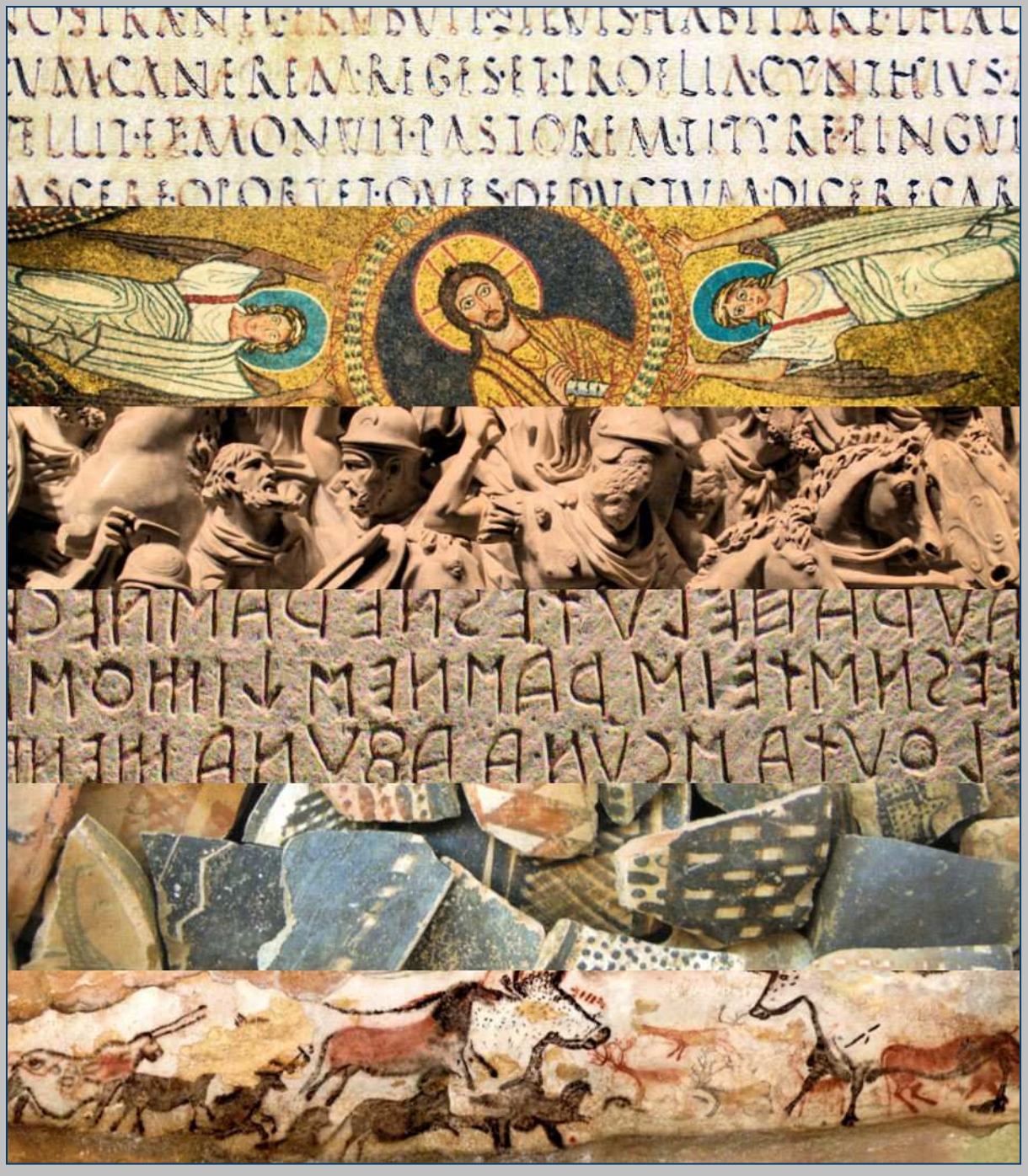
K L E O S

Amsterdam Bulletin of Ancient Studies and Archaeology



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Kleos – Amsterdam Bulletin of Ancient Studies and Archaeology is a peer-reviewed, open access (post)graduate journal that publishes original research papers in the fields of ancient history, classics and archaeology. *Kleos* also provides reviews of recent books, conferences and exhibitions. Published under the auspices of the Amsterdam Centre for Ancient Studies and Archaeology (ACASA), it primarily aims at offering (post)graduate students in the above-mentioned fields the opportunity to share their research, gain experience in publishing, and improve their scientific skills. Submissions by established scholars are also welcome. *Kleos* is issued online. For further information, readers are referred to ▸kleosbulletin2.0@gmail.com

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Cover Illustration

Vergilius Romanus, Vatican City, Biblioteca Apostolica; Mosaics in the San Zeno Chapel, Basilica di Santa Prassede, Rome (photograph: B. Steensma); So-called Portonaccio Sarcophagus, Palazzo Massimo alle Terme, Rome (photograph: B. Steensma); *Cippus Perusinus*, Perugia, Museo Archeologico Nazionale dell'Umbria (photograph: B. Steensma); Polychromal Halaf sherds, Tell Saby Abyad, Syria (photograph: R. Dooijes); Wall paintings at Lascaux, France (photograph: public domain).

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CONTENTS

The editors of *Kleos*, the Amsterdam Bulletin of Ancient Studies and Archaeology, proudly present the first issue of this new bulletin. With regard to the terms 'first' and 'new', the basic question that may come to mind is: is there a need for yet another journal, magazine or indeed bulletin? Our answer is yes. In the current competitive academic climate, which notably affects the Netherlands, newcomers to the world of research and academic debate need every opportunity to present themselves and their research. There are several paths to achieve academic excellence; publishing your work and thus making it available to a larger audience is one of them. However, writing a sound (research) article or review requires skill and experience. Mastering such skills takes time; at least, it used to. In a world that is developing and innovating at an accelerating rate, whether this is on a technical, social or academic level, even junior authors need to publish quickly and effectively, so as to contribute to an increasingly global conversation. Further challenging the ambitions of (post)graduate students are the reduced opportunities to study for a Master or PHD degree; in addition, students are expected to complete their studies within a fixed, limited time. Therefore, Kleos' primary aim is to offer an accessible international platform to (post)graduate students to publish their work. As editors we have pre-screened and selected the proposed articles by junior authors and employed the help of supervisors as well as invited (international) non-public peer-reviewers to further the quality of the articles appearing in the first issue of *Kleos*.

We are pleased to present a total of four articles, a two-way dialogue section and two book reviews. This first issue is dedicated to the theme of materiality, and the four articles, all taking an archaeological approach, deal with several overlapping facets of this concept.

Materiality is not a novel concept to archaeologists, who easily borrow theoretical approaches from other disciplines. However, the very nature of archaeological data and in particular its materiality (combined with its long-term character) increasingly offer new insights to other disciplines.[1] When we try to define the concept of materiality used in the many different archaeological contexts and fields of interest, we are confronted with diversity in usage and multiple theoretical approaches.[2] The theme of materiality clearly provides ample and challenging opportunities for students of ancient studies and especially archaeology to contribute to a broad and integrated academic debate. Below, I briefly summarize the contents of this issue and evaluate the significance to materiality of the four articles.

Iris de Fuijk explores the meaning of a single artefact from Early Iron Age Greece. She applies the perspective that the nature of the relationship between people and material culture is shaped and reshaped differently, depending on the socio-historical context. And that the adhered meaning depends on significant material characteristics which will differ per context, challenging us to think about their properties, qualities and physical affordances when engaging with material objects from the past.

Natalia Zhuravska engages with the perspective of neuro-psychology to explore the effects of seeing, handling and objectifying human remains on academic professionals such as field archaeologists, specialists examining these remains or those involved in displaying them. The focus of the article is on the cognitive processes involved and discusses the subject in the tradition of the 'sapient mind',[3] bringing together archaeology, anthropology and neuroscience in an attempt to illustrate the vast analytic potential of neuro-psychological research for archaeologists attempting to understand the effect of the material world on people.

Berber van der Meulen and Vincent van der Veen challenge the current interpretation of the inscription on a Late Roman bridge pile discovered in the river Meuse. Their multidisciplinary approach touches upon the relationship between people and their material world. By exploring different scenarios and using the archaeological record and epigraphical evidence, Van der Meulen and van der Veen venture beyond explaining the inscription as a personal name. Thus, identifying and understanding the effects that people have had on the material worlds.

In the final article Nick Mussert familiarizes us with the intricate interrelationship between material culture and identity by reviewing the existing literature on the materiality of identity. Similar to the concept of materiality he perceives identity as a multi-faceted and scaled concept, investigated from various theoretical viewpoints. He focusses on the construction of identity in the past through the production, consumption and adoption of material culture.

With our dialogue section we hope to encourage junior authors to invite established scholars to engage in a thorough examination or discussion of a subject or theoretical approach. Opening the first *Kleos'* dialogue section, my own paper discusses a lecture given on 2 October 2013, at the Free University of Amsterdam by Manuel Fernández-Götz on the proto-urban beginnings of the Heuneburg an extensively excavated site of the Early Iron Age. He was so kind to write a response for the first *Kleos* dialogue. First, he reflects on the diverse nature of the concept of Early Iron Age urbanism. He then discusses the early process of centralisation and urbanisation that led to the development of the *Fürstensitze*. Finally, he elaborates on the next phase – decentralisation – that set in at different times in different areas.

The review section includes two book reviews. It begins with the book *'1177 B.C.: The year civilization collapsed'* by archaeologist and ancient historian Eric H.Cline, the launch of which received high media exposure. The

second review is of the edited volume on historic aerial imagery for archaeology or other purposes.

The editors of *Kleos* hope that this first issue will contribute to and promote the discourse concerning the disciplines of ancient studies and archaeology. In our next issue we intend to explore the technical possibilities of online publishing. If you are interested in submitting an article or review on ancient studies or archaeology or if you have a recently published book or exhibition catalogue that you would like us to review, or if you would like to discuss co-editing a themed issue of *Kleos*, please email us at kleosbulletin2.0@gmail.com or visit us on vu-nl.academia.edu/KLEOSBulletin.

Acknowledgements

This first issue of *Kleos* would not have been possible without the support and coaching of several members of the teaching staff of both the Free University of Amsterdam and the University of Amsterdam. Our special thanks go to Jan Paul Crielaard, Nico Roymans, Vladimir Stissi and Gert Jan van Wijngaarden for listening to our ideas and giving us advice when needed. We thank the authors of the articles and reviews for believing in our project and for their patience. We are indebted to Manuel Fernández-Götz of the University of Edinburgh for accepting the invitation to contribute to the first dialogue section. The editors are particularly grateful for the assistance given by Joost Crouwel, Shanna Wielinga, and the six anonymous reviewers who commented on earlier versions of the papers in this issue. We would like to thank Mike Hanney, Joost Crouwel, Camiel Fijnenberg and Olga Scharringhausen for improving the English. Finally, we are grateful to Bert Brouwenstein for designing the logo of *Kleos* Bulletin and to Bert Steensma for the layout and the cover of this first issue.

Karin Scharringhausen
Editor-in-chief

Notes

1 I. Hodder, 2012: Introduction, in I. Hodder (ed.) *Archaeological Theory Today*, 2nd, Cambridge, 2.

2 C. Knappett, 2012: Materiality, in I. Hodder (ed.) *Archaeological Theory Today*, 2nd, Cambridge, 188.

3 D. Kaniewksi et al., 2011: C. Renfrew / C. Frith / L. Malafouris, 2008: Introduction. The sapient mind: archaeology meets neuroscience, *Philosophical Transactions of the Royal Society, Biological sciences* 363, 1935.

A miniature bronze wheel-shaped object from the Plakari hill in southern Euboea, Greece

IRIS DE FUIJK

ABSTRACT

This paper explores the meaning of a miniature wheel-shaped object, that was found in the summer of 2011 on the hill top of Plakari, located closely to the town of Karystos in southern Euboea. Recently, material characteristics have gained more interest in studies that concentrate on inferring meaning from objects of the past. In this paper, it will be argued that an object's meaning derives from both its context and its material characteristics. At the same time, it should be realized that meanings are situated in the present, dependent on the cultural context of the interpreter. In order to find the meaning of the wheel-shaped object from Plakari, both context and material are central. In order to do so, *comparanda* for the object from elsewhere in Greece, Macedonia and Kosovo will be discussed, as well as its own context, a *hestiatorion* dated to the first half of the fourth century BC. Subsequently, the object's material characteristics (material, size and design) will be considered.

Iris de Fuijk is a Research Master's student in Archaeology at ACASA, University of Amsterdam. Her research interests centre on the (Final) Neolithic and the Bronze Age. Supervisor Prof. Dr. J. P. Crielaard.

▶ *Profile page*

INTRODUCTION

The focus of this paper is a miniature wheel-shaped bronze object (Fig.1), that was found on the hill of Plakari in the context of an Early Iron Age sanctuary, situated closely to the town of Karystos in southern Euboea

Figure 1

(Fig.2).[1] The object was discovered in the summer of 2011, during the excavations of the Plakari Archaeological Project.[2] Following one of the main themes in current archaeology - understanding the meaning of material culture[3] - the question is why the wheel-shaped object was there and especially, what it meant.

In the first section of this paper, some theoretical remarks will be presented about the inferring of meaning of objects. It will be argued that our interpretation of meanings in the past is situated in the present, dependent on the interpreter. Meaning can be found in analysing the physical characteristics of the object as well as the context in which the object was found. Therefore, both the context and physical characteristics of the Plakari wheel-shaped object will be investigated.

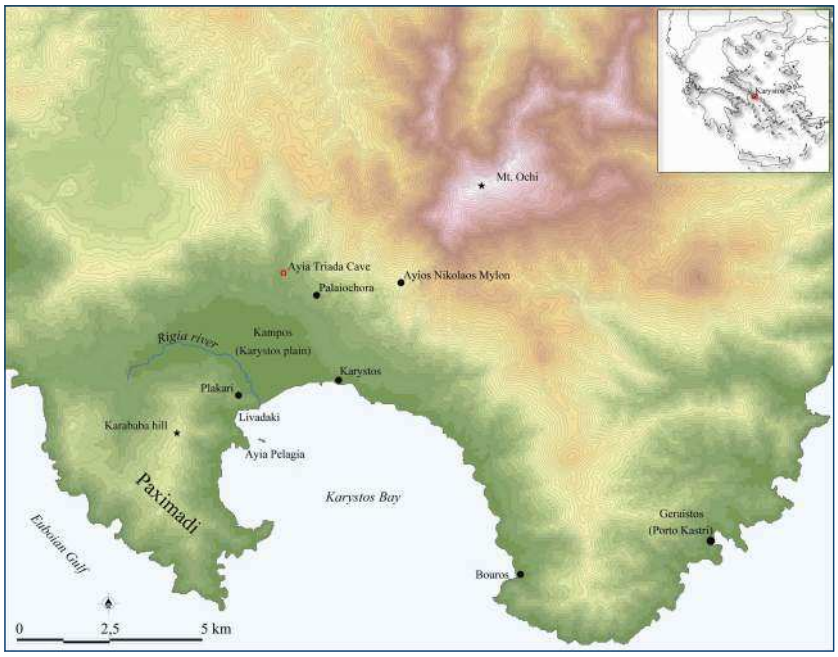

Figure 2
Map of southern Euboea
(J. Fokkema)

Inferring meaning

The understanding of an object's meaning in archaeology is not without complications. As A. Bauer has pointed out, in the 1980s and 1990s a postprocessual notion grew that archaeologists are merely constructing interpretations of material culture in their own present instead of exposing past meanings.[4] Indeed, we cannot simply 'ask the past' what things mean. How, then, can we infer meaning from objects?

One way of looking at meanings of objects has been put forward by D. Miller. According to him, objects are the material form of culture and they are part of the continual process of constructing and socializing people. The cultural context, expectations and habits are ordered by things, the things people encounter daily. *Vice versa*, people tend to categorize things around them as a way to make sense of the world. It is this cultural context that gives meaning to objects. As a result, changing spatial and/or time contexts will change meaning.[5]

Bauer largely agrees with the contextual approach of Miller. He argues that meanings of objects are contingent upon experience and the cultural background of people: we infer meaning 'from a recognition of the patterned experience people have of that object, or the sum of these acts of interpretation.'[6] In this sense, meanings are relational and mediative and they can change over time and space. Bauer envisages this in a semiotic chain: an object interacts with two kinds of 'knowers'. On the one hand, the object interacts with actors in the past and on the other hand with archaeologists in the present. The knowledge of the past actors depends on their cultural background and experience, while the knowledge of archaeologists depends on the present construction of experience.[7] In this respect, past meanings are constituted in the same manner as they are now. Therefore, Bauer believes that archaeologists can obtain a better understanding of past meanings by learning how present interpretations are constructed.[8]

Thus it should be possible to get an idea of an object's meaning by seeing patterns and at the same time by being conscious of its cultural context. Subsequently, it can be presumed that past people made similar interpretations, although, of course, we can never be sure. Yet, if the cultural context provides meaning, where does this leave the object itself? For a contextual approach assumes that meanings are not inherent in objects, but assigned to them from the outside. Miller on the other hand, seems to concern himself also with the materiality of objects and recognizes the importance of their physical characteristics. Objects have what Miller calls a certain humility. They tend to be reticent in showing what they do, which is supposed to be inherent, unconscious knowledge. This knowledge creates a frame that people use to reconstruct contexts.[9]

The importance of the material characteristics is a common theme in present-day material studies and this has also been stressed recently by A. Depner. She questions the approach of attributing meanings primarily according to cultural contexts, because she beliefs that the physicality of objects is of equal importance. At the same time, Depner demonstrates that because of the very existence of the object, people can see and touch it and in this way they can acquire information about it. Their material characteristics directs people to certain actions. On the other hand, she argues that the way in which we deal with objects, based on this acquired information, is still very much influenced by cultural backgrounds.[10] A similar point has been made by C. Gosden. He states that objects are active actors, instead of passive things. They behave independently and channel people's intentions in specific behaviour or actions.[11]

Following Depner in her two-way point of view, both notions of context and material characteristics will be used in dealing with the Plakari wheel-shaped object. On the one hand, it is accepted that objects derive their various meanings from different spatial and temporary contexts. On the other hand, the physicality of objects is recognized too, and this is regarded as an active component that gives meanings to objects. As a result, the

following analysis will focus both on context, i.e. comparable contexts in the Greek world and the local context of the wheel-shaped object, and on its material characteristics.

Broad context: wheel-shaped objects from all around

As was argued above, the understanding of meaning builds on the patterned experience of the interpreter. We look for analogies in order to find answers for what we see. In this respect, it might be fruitful to search for similar patterns for wheel-shaped objects in the Greek world. As was recently pointed out by K. Kiernan in his analysis of miniature votive objects in Romano-Celtic north-western Europe, miniatures are a widespread phenomenon in antiquity and one common form is the wheel.[12] A quick look at a variety of Greek, Macedonian and Kosovar sites reveals various miniature wheel-shaped objects in different contexts, materials and forms. They occur from the Geometric period onwards, but Sub-Mycenaean examples are also known.[13] Most wheel-shaped objects come from sanctuaries and some are known from funerary or domestic contexts.[14] Especially numerous are the bronze examples in sanctuaries, for instance in Aegina (Aphaia temple),[15] Corinth,[16] Delos,[17] Delphi,[18] Ephesos,[19] Eretria,[20] Isthmia,[21] Ithaka,[22] Kamiros,[23] Kalapodi,[24] Olympia,[25] Olynthus,[26] Perachora,[27] Pherai,[28] Philia,[29] Samos,[30] Sparta,[31] Thebes,[32] Tegea,[33] and Thermon.[34] Such objects have also been found in graves in Dedeli, Radanje, Brazda and Suva Reka (Fig. 3). Some of these wheel-shaped objects bear some similarities to the Plakari wheel-shaped object, as will become clear below.[35]

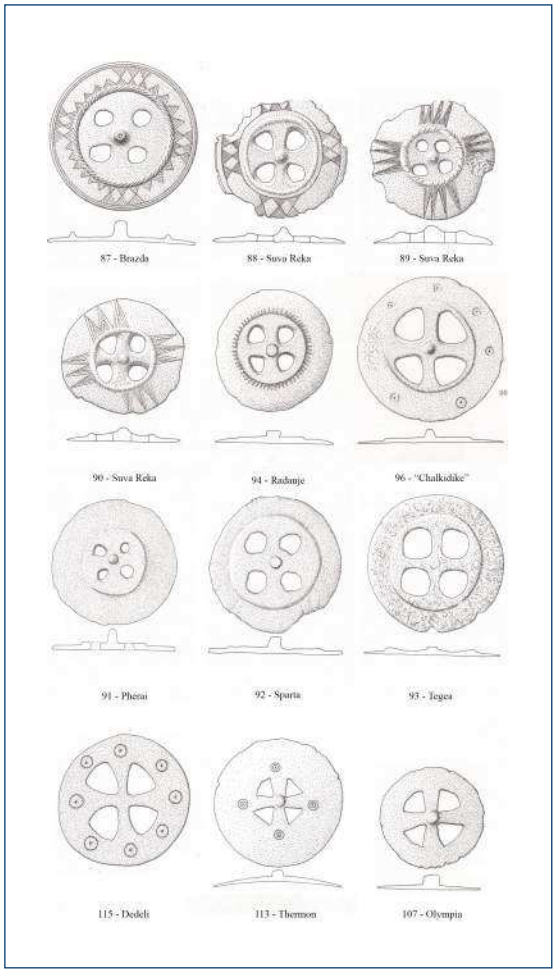

Figure 3
Miniature wheel-shaped objects from Greece, Macedonia and Kosovo (based on Kilian-Dirlmeier 1979, pls. 6-8)

Most sanctuaries yield one to three examples, but those at of Olympia, Delos, Delphi, Kalapodi, Pherai and Philia have yielded at least eight or more.[36] In this respect, the bronze wheel-shaped object of the Plakari hill is by no means a unique phenomenon. The majority of wheel-shaped objects date from the late eight to the sixth century BC. It is notable, though, that the Plakari wheel-shaped object is dated to the fourth century BC, which is late compared to most parallels. However, the wheel-shaped objects from Delos, found near the hypostyle hall, the border of the sacred lake, the Sarapieion and the house of Dionysus, seem to date from the fourth century BC or later. The same can be said for one miniature wheel-shaped object from a house-sanctuary in Eretria (Fig. 6; see below). This general absence of wheel-shaped objects can be explained by the fact that the presence of votive objects in sanctuaries seem to decline after the second half of the sixth century BC. The reason behind this change is a topic of debate which lies beyond the scope of this paper.[37]

Physical characteristics and their meaning

The wheel-shaped object from Plakari is made of bronze, a metal that on the one hand is more easy to work with than others like copper, gold and silver, and on the other hand quite durable. The object is round in shape, with four-spokes (Fig. 4). It appears to be constructed in two parts: a narrow inner circle with spokes and a central knob is attached to the inner edge of a broader circle. As a result, the inner part is at a slightly higher level. Both parts are decorated on one side, with groups of small concentric circles. These circles seem to be impressed in the bronze by a punch, as all are identical in form and size.[38] Furthermore, the rim of the outer circle has a very narrow band of incised zigzag decoration. The other side of the object is flat and blank.

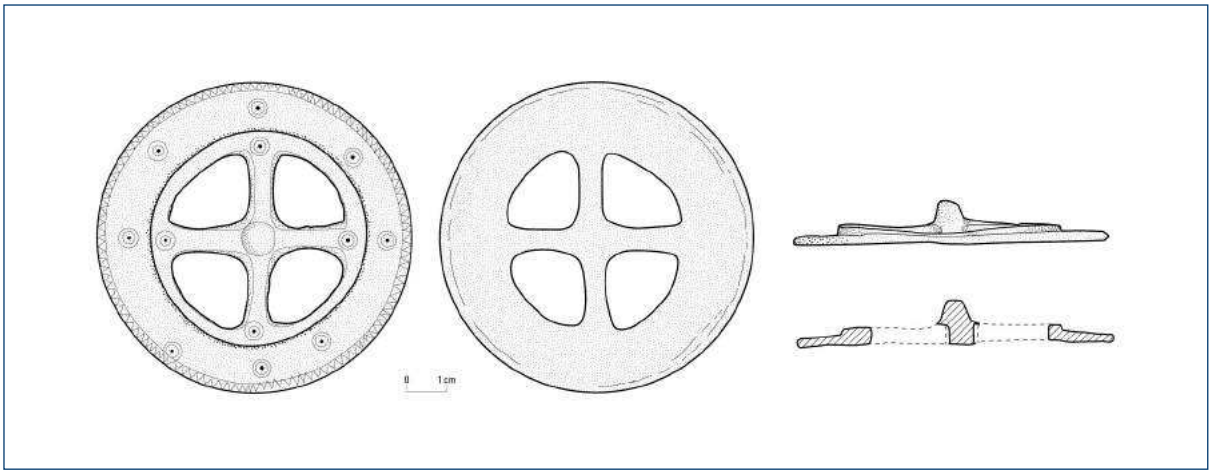

Figure 4
Drawing of the Plakari wheel-shaped object
(B. Brouwenstijn)

The shape of the object, round and with four spokes, suggests a wheel to the present-day viewer. With a diameter of 8.5 cm, it may have been part of a miniature chariot. Many examples of wheels which may have been part of miniature chariots have been found in Greece. For instance, over 500 fragments of terracotta chariots and 80 ones were discovered in Olympia, dated after the ninth century BC.[39] Other wheels that were part of miniature chariots have been found in Athens, Eleutherna and Delos.[40] These wheels have a nave, projecting at both sides, for an axle to press through.

In contrast, the wheel-shaped object from Plakari, apart from the spokes, does not possess any indications that it is a wheel or that it could have been part of a miniature chariot. For one thing, it has two different sides: one with decoration, which can be interpreted as its front side and which was meant to be shown, and one blank side. Moreover, the knob which is only present on the decorated side cannot have accommodated an axle. Altogether, it seems clear that the Plakari wheel-shaped object cannot be interpreted as a miniature wheel. On the other hand, it can be argued that the object was inspired by actual wheels.

Most scholars who have published miniature wheel-shaped objects seem to agree on the concept of *pars pro toto*.[41] In this view, the miniature form stands for larger, real wheels or chariots. In a recent analysis of small objects from north-western Europe from 100 BC to 400 AD, P. Kiernan has

put forward some ideas about the concept of miniatures. For instance, he argues that miniatures could be cheaper, portable variants of life-sized objects. Furthermore, the small form suggests non-functionality, comparable to the intentional breaking of objects for gods. In this sense, miniatures belong to the divine realm.[42] Similar notions has been brought forward by J.-M. Luce with regard to miniatures in Iron Age sanctuaries from Greece. He argues that miniatures can be interpreted in the framework of what he calls 'defunctionalisation of everyday things'.[43] In this view, objects can lose any practical use, for instance by depositing them, destroying them or by making them smaller. By doing so, objects are transformed into votive offerings.[44]

These ideas might be true in the context of, for instance, the sanctuary of Olympia.[45] The miniature wheel-shaped objects can be considered as part of the exchange of material objects for supernatural returns, for instance winning in a chariot race. The miniatures can be interpreted either as portable, cheap variants of real chariots or as non-functional objects. I believe that the Plakari wheel-shaped object can be interpreted similarly in the framework of non-functional objects for the divine. Although it is not an actual wheel, it still resembles a wheel in miniature and it is found in a religious context (see below). Indeed, its context seems roughly comparable with the contexts of other wheel-shaped objects, as the Plakari hill is known for its cult place. It may then be assumed then that the wheel-shaped object had a religious meaning.

As mentioned above, the Plakari wheel-shaped object has decoration on one side. Eight groups of concentric circles are present, as well as a narrow band of zigzag decoration; the elevated inner part has four groups of concentric circles. I believe that, apart from being decorative, the impressed and incised designs could have a symbolic meaning. The idea that wheels in the Greek world symbolized the sun has been put forward by several scholars.[46] This has also been suggested for miniature bronze wheels-shaped objects with a decoration concentric circles, zigzag patterns and a higher or delineated circle,[47] such as have been found at Plakari and other sites. The find places include sanctuaries (Olympia[48], Philia[49], Perochia[50], Pherai[51]) as well as graves (Radanje, Brazda and Suva Reka (Fig. 3).[52] As Kiernan has pointed out: 'The similarity in shape of the wheel and the sun, the movement of both, and the common motif of a solar chariot moving across the sky are the basic ideas behind the symbol.'[53]

Finally, miniature wheel-shaped objects may also be symbols of specific gods.[54] D.M. Robinson for instance, considered wheels as attributes for Isis, Nemesis and Fortune.[55] W. Deonna mentioned Fortuna, Nemesis, Tyche, Fortuna, Kairos, Jupiter and the sun-god in general.[56] Kiernan convincingly demonstrates that the wheel was an attribute of the Romano-Celtic Jupiter in north-western Europe, based on inscriptions and iconography on altars and *stelai*.[57] The dedication of wheels to specific deities in Greek sanctuaries is especially clear in cases where miniature wheel-shaped objects carry votive inscriptions, for instance to Poseidon or Apollo.[58] A

connection between the wheel-shaped object of Plakari and Apollo should not be excluded, because of the notion that Apollo or Apollo and Artemis were possibly venerated in the Plakari sanctuary.[59]

Local context: the *hestiatorion* on Plakari-hill

The archaeological site where the bronze miniature wheel-shaped object was found, is situated on Plakari hill (Fig. 2). This is the location of a sanctuary, dating back to the Early Iron Age. The site is currently being excavated, in order to understand the nature of the sanctuary and cult and the role of the site within local, regional and interregional contexts.[60] The wheel-shaped object was found in a rectangular building (4.65 x 5.21 m) in trench 2c (Fig. 5), which was first opened in 2011 and excavated further in 2012 and 2013.[61]

The rectangular building is located on a terrace that is surrounded on three sides by walls (TW2, Fig. 5). The walls are constructed with worked stones and mud-brick, while the floor consists of beaten earth. The presence of charred wood and a lack of roof-tiles point to a roof that was made of wood and organic material. The presence of charcoal, charred wood, burnt mud-brick and ash on top of the remains indicates that the building must have been destroyed by a slow fire. This would explain the good preservation of the material remains inside.[62]

Figure 5
Plan of trenches on Plakari hill after the excavations of 2013 (adapted by author based on original illustration in Crielaard, J.P., 2013, Fig. 4)

Inside the building, one hearth was found in the centre and another pyrotechnic feature near the southern wall. Against the northern wall, stone slabs were discovered, with large amounts of sherds and complete examples of plain and black gazed pottery on top, underneath and next to them. The pottery finds consist of drinking vessels, cooking pots, lamps, an incense burner and a brazier.[63] Some of the vessels carry inscriptions: a combination of *hēta* and *iota* (HI) and/or alpha and *pi* (AΠ) are abbreviations of *hieron/hieros* (meaning sacred or holy) and Apollo and/or Artemis and Apollo.[64] As M. Chidigroglou points out, these inscriptions subscribe to the cultic use of these vessels and the cultic nature of the building. Another inscription in a one-handled bowl, NIKH, is the name of the goddess Nikè. According to Chidiroglou, this bowl may refer to a victory either on a communal level, for instance a military or political triumph, or on a private level, for instance during a sympotic game or an *agon* (contest).[65]

Other notable finds in the *hestiatorion* are a *lekythos* (early fifth century BC), the head of a female terracotta figurine (mid-fourth century BC), a terracotta female figure of *korē* type (second half of the sixth century BC) and a Late Protocorinthian conical *oinochoe* (mid-seventh century BC). Also, many metal items were found, such as a bronze collar, an iron shield-shaped object which resembles a Boeotian shield, a lead disc with bronze fittings, bronze plates, two knifes, four *fibulae*, four bronze arrows and bronze furniture decorations, which implies that wooden furniture was present.[66] The bronze collar has been identified as a *peritrachilion*, which is an armour piece known from Thrace and Macedonia. The collar is inscribed with an *hēta* and *iota*, an abbreviation of *hieron/hieros*, similar to the inscriptions in some of the cups mentioned above.[67] Here, the inscription of *hieron/hieros* may signal that the *peritrachilion* was dedicated. The presence of this object in the *hestiatorion*, together with the arrows and the shield-shaped object, possibly denotes a martial interest among the participants in the sanctuary.

Contemporary to the *hestiatorion* is an empty space in front of it (Fig.5 tr.2a), which has been interpreted as its forecourt. The space was largely devoid of any finds, as a result of late fifth/early fourth levelling and cleaning activities, except in the southern part of the terrace. Here, remains of earlier cultic activities were encountered, for instance the lower part of an Archaic terracotta statuette, a terracotta rattle, an *aryballos* and a concentration of metal objects (a bronze horse figurine, a bronze ellipsoidal object, a bronze button, fragments of two iron swords, iron pins and an iron hook). In addition, three bin-like constructions and two platforms were excavated. The function of these bin-like constructions is not clear yet, but it should be noted that parallels are known from sanctuaries, dated to the Early Iron Age and later in the Cyclades.[68]

Based on the material remains and finds, the building at Plakari was interpreted as a *hestiatorion*, a hearth building, and dated to the first half of the fourth century BC.69 This type of building was intended for ceremonial

meetings, which also involved the preparation of food and eating and drinking. *Hestiatoria* are often associated with sanctuaries, but they also occur in civic contexts.[70] Yet, the building at Plakari seems to possess some peculiarities. For instance, there is the presence of older objects in the building: the *lekythos*, the *korē* and the *oinochoe*. They are currently interpreted as antiques, valued for their age and their link with the history of the hill as a cult place.71 A concern with the past is also apparent in the construction of the building. The *hestiatorion* seems to be simply built in an old-fashioned way, with a roof consisting of wood and organic material instead of roof-tiles.[72]

Another notable element of the *hestiatorion* is the absence of animal bones inside the building, which would be expected when ritual meals were prepared inside. Although some cooking pots were found in the hearth, it seems that most food preparation took place somewhere else. Thus the hearth in the building functioned mainly as source for light and warmth. During the campaign of 2013, large amounts of animal bones as well as ash concentrations were found outside, to the west of the *hestiatorion*. It is probable that the preparation of meals took place there (Fig. 5, tr. 2b).[73]

Altogether, the *hestiatorion* is best interpreted as a repository or pantry in the context of an open-air sanctuary at Plakari. The presence of cult utensils and valuables inside the building (i.e. the antiques, the *peritrachilion*, the shield-shaped object and the wheel-shaped object), the probability that the pottery was placed on shelves and the small size of the interior, suggest that the building functioned as a place for storage rather than for dining with men reclining on benches. On the other hand, it cannot be excluded that small-scale activities went on inside, as the cooking pots around the hearths suggest, and therefore the term *hestiatorion*, which refers to a hearth, is still applicable. Despite these small-scale activities, it seems that most of the cult practices took place outside. The animal bones and the fire remains found in 2013, as well as the forecourt of the *hestiatorion* with the platforms and bin-like features, point to this.

When the *hestiatorion* is considered within the context of the Plakari hill, it becomes clear that it was the first roofed cult building at the site. Before the late fifth century BC, the hill was used for cult activities in the open air. The southern slope of the hill served as an area for sacrificial refuse. It yielded large amounts of pottery, animal bones and small finds (Fig. 5, tr. 1b). This material dates from the tenth to the sixth centuries BC.[74] On the west side of the terrace (Fig. 5, tr. 2aW), a semi-circular structure, presumably an altar, which predates the *hestiatorion*. The presence of knives, a *phiale mesompholos* and concentrations of bones and charcoal suggest that this area was used for sacrifices and the preparation of ritual meals from the late sixth to the fourth century BC.[75] Together, these discoveries seem to fit the general development of open-air ritual and sacrificial activities in central Greece, starting around 900 BC, that was noted by I. Morris.[76]

Despite the continuous use of the sanctuary terrace until the fourth century BC, various kinds of archaeological evidence suggest that the settlement on the hill and near its foot was abandoned in the first half of the fifth century BC. Earlier surveys in the area exposed a seventh-fifth century settlement near the Rigia river at the foot of the Plakari hill, which was defined as Archaic Karystos. This settlement can be linked with the early sanctuary on Plakari hill.[77] During the Classical period the focus of habitation moved to a location close to the modern town of Paleochora (Fig.2). It is very likely that this movement is related to the siege of Archaic Karystos in 490 BC, mentioned by Herodotus.[78] In the late fifth century BC or early fourth century BC, the sanctuary terrace was levelled in order to build the *hestiatorion* and the forecourt. This demonstrates an awareness of a religious past of the hill and the desire to continue to use of it as a sanctuary. [79]

A miniature wheel model from Eretria

Some of the miniature bronze wheel-shaped objects found in the sanctuaries and graves mentioned above are comparable with the one from Plakari, although most of them are earlier in date. One particular interesting parallel is the bronze wheel model from Eretria in central Euboea. In the west of the ancient city, a religious deposition was found in a house (house II). The deposition included 21 bronze miniature objects consisting of animals, human limbs and tools. The objects were dedicated to various divinities and heroes, for instance Kybele, Asklepios and Herakles. A bronze wheel model was also among them (diam. 6 cm, Fig. 6.). It is one of the rare fourth century examples of such objects, like the one from Plakari. Both have four spokes and a knob in the middle.[80] Nonetheless, the shape of the Eretria example follows that of an actual wheel more accurately; instead of a knob in the middle, it has a proper nave projecting at both sides. However, contextually, the two objects seem to share certain characteristics. House II, like the *hestiatorion*, is not a sanctuary in a strict sense, but still connected to religious activities on a small scale and the keeping of votives. As was noted above, the *hestiatorion* at Plakari was probably used on small-scale occasions, including religious activities, on a hill with long-standing religious traditions.

Figure 6
Eretria wheel model, fourth century BC (by C. Riva, 2010, 136)

Conclusion

The central question in this paper is the meaning of the bronze wheel-shaped object from the Plakari hill in southern Euboea. It was argued that our interpretation of meanings in the past is influenced by the experience of the present observer. Understanding an object's meaning in the here and now could provide insights in how past meanings were constructed. Meanings are to be inferred in two ways. On the one hand, it is the context in which objects are present that directs our interpretation, while on the other hand, the material characteristics of objects are indicative too. These notions were used in the search to find the meaning of the wheel-shaped object from Plakari.

With regard to the context, it was concluded that bronze wheel-shaped objects are present in much of the Greek world. The miniature wheel-shaped objects in sanctuaries are the closest parallels with regard to context, although some examples from graves are also similar with regard to physical characteristics. The Eretria wheel-shaped object seems to be an especially good parallel with regard to its date and location. The physical characteristics of the bronze wheel-shaped object from Plakari, indicate that it is not a miniature wheel, even though it is inspired by actual wheels. Its decoration may well be more than that, suggesting a sun symbolism or a connection to deities associated with the sun.

Finally, it can be inferred from the context of the bronze wheel-shaped object from Plakari, the *hestiatorion*, the presence of eating and drinking vessels and the nature of the rest of the assemblage, that this object was a votive offering. While the cult activities on the hill mostly took place in the open-air, the *hestiatorion* was used as a repository or pantry for valuables and necessities related to these activities.

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Notes

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2 The Plakari project started in 2009 and is a collaboration of the Vrije Universiteit Amsterdam and the 11th Ephorate of Prehistoric and Classical Antiquities for Euboea, ▶plakariproject.com.

3 Bauer 2002, 38.

4 Ibid.

5 Miller 1994, 399-404.

6 Bauer 2002, 41.

7 Ibid., 42-45.

8 Ibid., 38.

9 Miller 1994, 406-409.

10 Depner 2013, 81, 86-87.

11 Gosden 2005, 194-197.

12 Kiernan 2009, 1, 11. Kiernan uses the term miniature for his research, which he considers as distinct from the term model. Models always reproduce something else. Miniatures are either reproductions of other things or small objects in itself.

13 Athens, Kerameikos, grave 141, Sub-Mycenaean: Ruppenstein 2007, 12, pl. 32; wheels depicted on Mycenaean pottery: Bouzek 1997, 125-126, Fig. 141.

14 Athens, Kerameikos, votive area: Kübler 1970, 394, pl. 9; Olynthus, house A vi: Robinson 1941, 512; Eleutherna cemetery, sector III, pithos-burial: Stampolidis 2004, 273, Fig. 338.

15 Maaß / Kilian-Dirlmeier 1998, 65, 66 Figs. 10, 83, 99.
16 Davidson 1952, 336-337, pl. 136.
17 Deonna 1938, 241-243.
18 Perdrizet 1908, 118-119, Figs. 433-437.
19 Klebinder-Gauß 2007, 175-176, 272, pl. 88.
20 Kassapoglou, 1998, 265-277, Fig. 272; Riva 2010, 137.
21 Raubitschek 1998, 11, pls. 5, 9.
22 Payne 1931-1932, 246, Fig. 10.
23 Kontis1949-1951, 347, Fig. 1.
24 Felsh 2007, 63-65, pls. 130-142.
25 Furtwängler 1890a, 68-69; 1890b, pl. XXV.
26 Robinson 1941, 512-513, pl. CLXVI.
27 Payne 1940, 176, pl. 78.
28 Kilian-Dirlmeier 1979, 19-29, pls. 4-10.
29 Id. 2002, 58-60, pls. 59-60.
30 Brize 1989-1990, 321-322, Fig. 1; Dunst 1972, 138-140.
31 Kilian-Dirlmeier 1979, 18, 22, pls. 5- 6.
32 Wolters / Bruns 1940, 41, nr. 46.
33 Kilian-Dirlmeier 1979, 22, pl. 1.
34 Ibid., 23-24, pl. 7.
35 Dedeli, cemetery grave 5: Kilian-Dirlmeier 1979, 23-24; id. 1981, 347; Radanje, grave: id. 1979, 22; Brazda, probably from grave: ibid., 20; Suva Reka, cemetery hill II: ibid.
36 Delphi (8 wheels): Perdrizet 1908, 118-119; Delos (13 wheels): Deonna 1938, 241-243; Kalapodi (12 pendants): Felsh 2007, 63-65; Pherai (27 pendants): Kilian-Dilmeier 1979; Philia (18 pendants): id. 2002, 58-60; Olympia (more than 45 wheels): Furtwängler 1890a, 68-69; (11 pendants) Kilian-Dirlmeier 1981, 345-348.
37 Klebinder-Gauß 2007, 149; for this debate see: Morris 1998, 32-33; Snodgrass 2006, 258-268.
38 Other examples of wheel-shaped objects with stamped concentric circles: "Chalkidike", Thermon, Pherai, Dedeli, see Kilian-Dirlmeier 1979, 22, 24, pls. 7-8; Olympia, id. 1981, 348.
39 Crouwel 1992, 29, 32-33.
40 Deonna 1933, 242; Kübler 1970, 394; Ruppenstein 2007, 12; Stampolidis 2004, 273.
41 Dunst 1972, 138- f140; Furtwängler 1890a, 68-69; Kilian-Dirlmeier 1981, 347; Klebinder-Gauß 2007, 175-176; Maaß/Kilian-Dirlmeier 1998, 65; Payne 1940, 176; Perdrizet 1908, 118-119; Robinson 1941, 512.
42 Kiernan 2009, 1, 6, 211-212; cf. Osborne 2004, 1-2.
43 Luce 2011, 54.
44 Ibid., 54-55, 57-59.
45 Crouwel 1992, 56-57; cf. Van Straten 1981, 91.
46 Bouzek 1997, 125-126; Deonna 1938, 341-342; Kiernan 2009, 12, 33-37; Nelson 1940, 446; Roes 1933, 10-18.
47 Kiernan 2009, 12, 33-34.

48 Furtwängler 1980b, pl. XXV; Kilian-Dirlmeier 1981, pls. 76, 1242.
49 Kilian-Dirlmeier 1979, pl. 9; id. 2002, 58-60, pl. 59.
50 Payne 1940, pl. 83.
51 Kilian-Dirlmeier 1979, pls. 6, 8-9.
52 Suva Reka, Brazda, Radanje, Dedeli: Kilian-Dirlmeier 1979, pls. 6, 8.
53 Kiernan 2009, 34.
54 Ibid., 12.
55 Robinson 1941, 512.
56 Deonna 1938, 341-342.
57 Kiernan 2009, 34-35, 37
58 Samos: Brize 1989-1990, 321-322; Kamiros (Apollo): Kontis 1949-1951, 347; Isthmia (Poseidon): Raubitschek 1998, 11; Thebe: Wolters/Bruns 1940, 41; for further references: Dunst 1972, 139-140.
59 Chidiroglou In press.
60 Crielaard et al. 2012, 95-97.
61 Crielaard et al. 2013, 43-47.
62 Ibid.
63 Crielaard et al. 2013, 47; Chidiroglou In press.
64 Crielaard et al. 2013, 44-45, Fig. 7-8.
65 Chidiroglou In press.
66 Crielaard et al. 2013, 43-47; Crielaard et al. In press.
67 Crielaard et al. 2013, 46, Fig. 10; Crielaard et al. In press.
68 Crielaard 2013, 6; Crielaard et al. In press.
69 Personal information Crielaard (2014): Most of the pottery and lamps date to the period from the late fifth to third quarter of the fourth century.
70 Thasos: Berquist 1973, 41-56; for several examples of *hestiatoria* with references: id 1990, 37-65; Börker 1983; Isthmia: Gebhard 2002, 63-74; Perachora: Pfaff 2003, 130; Tomlinson 1969, 164-172.
71 Crielaard et al. In press.
72 Morris 2009, 68: temple roof-tiles were used since 675 BC.
73 Crielaard 2013, 6.
74 Crielaard et al. In press.
75 Crielaard 2013, 6.
76 Morris 1998, 15-16.
77 Crielaard et al. 2012, 94; Keller/Hom, 2010, 4; Keller 1985, 107-108, 185-186.
78 Herodotus 6.992; Crielaard et al. 2012, 95; Crielaard et al. 2013, 55.
79 Crielaard et al 2013, 55.
80 Kassapoglou, 1998, 265-277; Riva 2010, 137.

Bodies in showcases. Objectification of the human body from a cognitive perspective

NATALIA ZHURAVSKA

ABSTRACT

Nowadays, even though it is quite normal to see (ancient) human remains in museums next to vases, paintings and other objects, this idea of the display of human remains is still being heavily discussed. The main aim of this article is to investigate the display of human remains in museums on a meta-level, by asking the question why do people have a problem with witnessing other, dead people in museums. An interdisciplinary approach will be used, combining archaeology, social anthropology and neuroscience and propose an answer to this question.

What do a little boy and a vase have in common? Both of them might end up in a museum next to each other after they have lost their original function: the vase as a vessel and the little boy as a living human being and both got excavated by an archaeologist and gain a new meaning as an archaeological find.

In this article an attempt will be made to get a better understanding on the subject of the display of human remains in museums as archaeological objects. The question posed in the beginning, and the research presented in this article were inspired by a particular object: a child mummy displayed in the Rijksmuseum van Oudheden in Leiden (see Figure 1).

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▶ *Profile page*

Figure 1
The mummy of a boy, Roman Imperial Period
(▶ photo: Rijksmuseum van Oudheden, Leiden)[1]

In this museum, it is the only mummy that is displayed without any wrappings, which is why it is, at least in my opinion, one of the most interesting, extravagant and even shocking pieces in the collection. The provenance of this mummy is unknown and the objects that accompanied the little boy in his grave are not on display. The mummy has been kept in private cabinets of curiosities since 1612, before arriving at Leiden on New Year's day of 1829 with the wrappings completely removed. The mummy of the child has been preserved in an excellent state (see Figure 1). The body is completely dried out and has a dark brown colour, which is common for mummies. It is covered with resin-like substance which gives a clue about the dating: this embalming technique was used during the Roman Imperial Period, however a more exact date is impossible to specify.[2]

As already mentioned before, this particular mummy served to me as an inspiration, hence the research does not focus on it specifically, but rather on the display of bodies as archaeological objects in general. Displaying human remains in museums is a much debated issue. Various articles and several books (e.g. *Human remains. Guide for museums and academic institutions*)[3] have been written on this subject, in most cases discussing the ethical aspects of this matter. And even though putting corpses in showcases seems quite like a common practice, it appears that (at least some) human beings still cannot find peace in the decision to do this. The question remains why are people so concerned about studying and displaying human remains? Is it the megalomaniac human nature that puts The Man above all else in this world and cannot accept being equated with the pots and jewellery and even stuffed animal corpses? Or is there a more nuanced explanation for it?

It is not the aim of this article to resolve the ethical debate, but rather to take a step back and try to gain an understanding of why such discussions even take place at all. An attempt will be made to explore what it is about seeing, handling and objectifying human remains that troubles the minds of the living people. There are various ways in which this matter can be approached, various perspectives from which this issue can be looked upon, and discussing them all, would result in a vast series of publications. Therefore, in this article only one approach will be discussed: how the emotional issue of displaying human bodies can be explained from the perspective of neuro-psychology.

In the past decade several attempts have been made to combine neuro-psychology, archaeology and anthropology in an interdisciplinary study, one of the examples is 'The sapient mind' project, conducted at the McDonald Institute for Archaeological Research in Cambridge by among others Colin Renfrew and Lambros Malafouris.[4] This kind of research focuses mainly on the development of the human species on a very early stage, and discusses subjects like tool use and learning processes. I believe that other disciplines like psychology can also be used as an aid in studying the way archaeological remains are being interpreted by scholars nowadays, thus providing a meta-interpretation of the post-processual

perspective. This article is in a way an experiment on such an approach. In my opinion this kind of interdisciplinary research, combining humanities with exact sciences, might be able to provide more concrete evidence on cognitive processes that guide people into certain ways of perceiving, interpreting and thinking. And in the end will hopefully provide a clearer picture and understanding of what exactly makes human remains look different from other objects in the eyes of a person.

The dead through the eyes of the living

The objectification of the human body has been an issue in different fields of the scientific community, though perhaps archaeology is one of them where it is being looked at, at the most literal level. In the archaeological sphere human remains get collected, treated, stored or displayed in the same manner as it is being done with for example pottery or metal objects. In 2010 Mary Leighton (a socio-cultural anthropologist at the University of Chicago) published an article 'Personifying objects/objectifying people' in which she discusses the way archaeologists treat human remains.[5] According to Leighton, the objectification of the dead by archaeologists is almost inevitable, as 'the archaeologist learns to recognise that certain "things" are human remains as part of their professional training – in the same way they recognise other "things" as ancient pottery'.[6] Putting excavated bones and even complete skeletons into plastic bags and labelling them is quite a common archaeological practice. Why then when it comes to dealing with a mummy, which is in fact the same as a skeleton: a dead body, only much better preserved, the situation changes and the object/person dilemma come into play on a much bigger scale?

In her article Leighton presents results of interviews conducted amongst archaeologists where this question gets extensively explored. It is interesting that one of the aspects discussed in these interviews was the language the archaeologists use to describe parts of the human remains they study. The better a body part has been preserved, the more 'human' it looks, the more 'human' names it got called: 'For instance if you were excavating bones on site putting something into a bag saying "left femur" or "skull", soon as you are dealing with something that looks more life-like or alive, or recently dead, we were talking about a "hand" or a "head"'.[7] Leighton convincingly argues that the key component of judging the degree of personhood is the degree of recognition of 'living human' aspects in the remains, it is 'highly dependent on both the physicality of the body itself, and the individual archaeologist's understanding of their own body in relation to the body being studied. [...] In their multiple states of dryness/wetness, articulation/fragmentation, age and recognition, archaeological bodies elicit emotions of curiosity or disgust, desires to create biographies or objectification, and different degrees of empathy'.[8] In another interview a woman described her experience with studying remains of a female who was approximately the same age and posture as her. The woman in question describes that she thought 'Ah I wonder what

she looked like!' and it was different than while she had studied other human remains.[9] Clearly, the more the person recognizes him or herself in the human remains they encounter, the more they identify and empathise, thus the more they treat the remains as a 'person'. The degree of empathy depends on the degree of 'personhood' that can be attached to certain human remains: 'Some remains are just an object, but an object onto which personhood can be consciously constructed and an empathetic connection actively created without arousing horror or distaste'.[10]

In the case of the child mummy in Leiden, the body is preserved in such an excellent state that it can be said to have a very high degree of personhood and almost certainly will arouse a great feeling of empathy in the minds of the living. Even though the body is dried out and has a dark colour, the body is still complete and the facial expression almost makes it seem like the boy is just sleeping. Identification with a child is perhaps slightly different from the way the earlier described woman 'recognized herself' in the female corpse she was researching, it is quite difficult to say what a living two year old would feel seeing this mummy. I think that seeing a dead child can generate a quite strong reaction in the adult psyche. I expect that the emotional reaction might be quite similar to one when a person hears of the death of a child of some distant acquaintance, thinking something like 'what a shame, he was just a boy; he died before he has lived a life'. It is also different though who exactly is looking at this child. Perhaps a young female would have a stronger emotional reaction, guided by maternal instincts, and one who already has a child an even stronger one, as perhaps imagining that a sudden death can occur to her own son or daughter. Probably the strongest feeling of empathy would be experienced by a parent who has (recently) lost a young child of their own, mentally projecting the image of their lost offspring on the little dried out corpse in front of them, imagining that this might as well have been the son they had lost. This kind of experience is different from the direct recognition and identification described by Leighton, though a child is in a way a prolongation of his parent and the empathy is being evoked by the thought 'what if this had been my child'. In any case, what is clear is that the mummy generates an association with a person, not a 'skull' or a 'femur', which then could be connected to an idea of a living child.

Leighton states that 'Individuals [...] perceived human remains in comparison with other objects found in archaeology not as indexical of personhood, but as personhood itself'.[11] This is another interesting point that needs discussing. Even though an individual might consciously perceive human remains as the person himself, in my opinion this is no more than the result of an analysis of the seen remains subconsciously done by the human brain. I believe that the perception of a corpse as still being a person exists in the human mind, and this perception is based on the association of a body with a person residing in it during one's life. This is where neuro-psychological research comes into play to help us understand what processes are responsible for this phenomenon.

Meanwhile inside our heads ...

The ability to distinguish between animate and inanimate objects as a cognitive phenomenon is noticed in human beings at such an early stage as infancy. Research and experiments in the field of developmental psychology has shown that starting from the age of 6 months, a human being is able to distinguish between animate and inanimate objects.[12] It is still not exactly clear how it is possible that a human being, is able to make this distinction at such an early age, though it is commonly thought that this distinction seems to rely primarily on the differences of the moving patterns of animate and inanimate objects.[13] Also other aspects seem to aid to distinguish between the two: 'motion onset, causal action, pattern of interaction, and causal role'.[14] By the end of the first year of life, an infant can also 'develop expectations about the motion characteristics of objects',[15] and by the age of 18 months they can also understand and distinguish the meanings of the animate and inanimate objects by differentiating various psychological cues or causalities.

Furthermore, within the animate/inanimate distinction there is another differentiation: the distinction of the human versus all other kinds of other animate objects. This is the case first of all because another human being is most similar to the perceiver, and secondly because in most of the cases people most frequently encounter other people during their first months of life. Finally, another reason could perhaps be that there is a certain instinct that makes the special attention towards other humans vital for survival in a social community.

Another interesting aspect is the excellent ability of humans to recognize faces: an adult can distinguish between hundreds of different ones. The process of face recognition works mainly on processing of relational information, called 'configural processing', which implies the processing the 'gross position of the elements' of the face (the eyes are above the nose, the nose is above the mouth, etc.). Various experiments were conducted in order to research the 'inversion effect', which lead to the conclusion that the face inverted with 180° are more difficult to recognize and also the task takes more time.[16]

Another interesting aspect of face recognition is that the more the perceived face looks like the perceiver's, the easier and faster it would be recognized. This is for example visible from what is commonly known as 'own-race bias' (ORB), a phenomenon that implies that human adults are much better in recognizing faces of people from their own ethnical group.[17]

Yet another neuro-psychological research conducted in 2009 at Princeton University by Sara Verosky and Alexander Todorov, takes this research even a step further and finds a link between face-recognition and the emotional response to it, in particular focusing on empathy.[18] An experiment was conducted where subjects were presented a series of pictures of faces, which were derived from their own faces, morphed to different degrees. They had to tell whether they found the face that has been shown to them trustworthy or not and at the same time their brain

activity at different regions of their brains was measured.[19] In conclusion the faces changed to a lesser degree were perceived as more trustworthy and generated a greater feeling of empathy than the less similar faces.[20] In short, the more someone looks like oneself, the more empathy one can feel towards that person. There is also another peculiar fact that indirectly follows from this experiment and needs to be noted: the images presented to the test subjects were morphed images, thus not images of real people, even though a response was given to them as if they actually were real people. This shows that human beings can give an emotional response, in any case produce the feeling of empathy towards an image of a person, thus projecting a certain personality onto the image, a personality that does not even exist in the real world.

The research described above focuses mostly on the perception of human faces, and this is perhaps not exactly applicable in the discussed case of perception of human remains, and in particular mummies. Surprisingly, the recognition of humans versus non-humans in general has got far less attention in the scientific world, than face-recognition. I would like to propose a hypothesis that the face-recognition and the recognition of humans in general might have a similar origin and effect in the human brain. While the face-recognition experiment by Verosky and Todorov relies only on the visible aspects of identification, from the article by Leighton it is quite clear that people can also recognize and identify with the general picture of the body (e.g. length and posture) and not only the face. In addition, a person can deduce immaterial aspects of the body, which he or she can recognize and identify with (e.g. a certain physical dysfunction). In the case of our child mummy from Leiden, the person identifies with the fact of having to deal with a dead child, a whole concept in itself, and even not so much with being dead themselves. It seems that the feeling of empathy can be evoked by many more factors than just the similarity of one's face, though I would like to argue that the more 'general' empathy probably has the same origin as the empathy documented in Verosky and Todorov's brain scans.

In the final part of this paper I would like approach the matter in more general terms. The research discussed in the previous paragraphs showed in how much detail a human being can distinguish between the visual aspects of other human beings and how the slightest differences in similarity with oneself can influence the emotional response. So if we 'zoom-out' from this kind of distinction to the more general difference between 'human' and 'non-human', what would happen with the differentiation of degrees of empathy? If you continue with the principle 'the more something is similar to oneself, the more empathy it evokes', a logical conclusion would be that the more 'human' something would appear, the more empathy it would evoke. For example perhaps monkeys would stand on the second place after the humans, then other sort of animals. Animals, or other (representations) of animate objects would still be able to evoke a feeling of empathy, because they are animate, and in

this way 'closer' to humans than inanimate objects. I think that a human cannot feel empathy for inanimate objects (except for perhaps, if they have been made to seem animate, in e.g. a cartoon or a motion picture).

In conclusion, I would like to present the hypothesis that just as human beings cannot experience empathy towards inanimate objects, in a greater or lesser degree they empathise with other animate beings, in particular other humans. The fact that the two belong to the same species and are in a way too similar to each other does not allow a human being seem as thing-like as an animate object. And as we have seen before with the morphed images of a person only the visual likeness of the observed has to resemble a human in order for a person to be able to link a certain subjective dimension to it. This subjective dimension is thus not always existent, but even if it is, it is quite probably never the same as the image of it created by the observer. The observer creates this image of another person partially by reflecting it on him or herself and comparing it to his or her own 'subject'.

Having a positive emotional response towards others who are similar to the perceiver is also a theme in social psychology. In terms of this discipline, this phenomenon has been researched with regard to relationships between living people, thus showing its functional meaning. There are several theories that try to provide an explanation. One possibility is that likeness in appearance or character refers to biological or genetic likeness.[21] Helping others 'like oneself' thus can be seen as an attempt to help genes like one's own succeed. Another theory is that the positive attitude towards others is a reflection of a positive attitude towards the familiar, which is the opposite of the fear of the unknown.[22] Yet another theory argues that we are drawn to people with whom we can best compare ourselves. Communicating with others a person can evaluate his or her attitudes or ideas on a social level, being agreed with leads to validation of self-beliefs which leads to a positive attitude.[23] These theories are perhaps not directly related to the issue discussed in this article, though they might provide an explanation for the phenomenon of empathy towards the similar.

So returning to the main discussion put in general terms: is a mummy in a museum a person or an object? Concluding from what has been discussed in this article, it is both and it is neither at the same time. Objectively speaking, thus excluding human perception as much as possible, human remains are a lifeless 'chunk of matter', an object, an 'bodysuit' for the human soul. The 'person' connected to the corpse resides only in the minds of other human beings that encounter it, simply because it is in their human nature to attach a certain immaterial, personal dimension to its material representation - the body.

Conclusion

The issue of subjectivity vs objectivity of human remains in archaeology is a quite complicated matter. If traditionally it was acceptable to distinguish the soul from the body, the material from the immaterial, nowadays

scientists try to figure out whether these are plausible dichotomies after all. The display of human bodies in museums place a problem in the minds of people: on the one hand it should be right, as the body is but an object, though on the other hand human beings cannot help but project a person onto these remains. The feeling of empathy is perhaps an emotion that is inherent to human beings only. Even being shown a picture of a non-existent human, the human brain is able to project a personality onto it and give its emotional judgement. Perhaps a similar process is happening in our heads when we see a human mummy in the museum: even though the person that resided in this body has been gone for centuries, and we have never known him, an individual would be able to empathise with it. This empathy is being created by the identification of oneself with the body he or she is seeing. Thus the personality of the corpse exists only in the perception of another human being, as objectively speaking, the dead body is an object without soul, an empty bodysuit that once had contained a soul. As long as the living are looking at the dead, the dead are not dead, as a part of the living will be projected onto them, giving them a drop of new life.

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Notes

1 ▶Photograph from the digital collection of Rijksmuseum van Oudheden, Leiden. Last accessed 19-04-2015.
2 Raven / Taconis 2005, 184.
3 Cassman et al. 2007.
4 Renfrew et al. 2008, 1935.
5 Leighton 2010.
6 Leighton 2010, 81.
7 Ibid., 89.
8 Ibid., 80.
9 Ibid., 88.
10 Ibid., 91.
11 Leighton 2010, 85.
12 Rakison / Poulin-Dubois 2001; Gaur / Scassellati 2006.
13 Rakison / Poulin-Dubois 2001, 224.
14 Ibid.
15 Ibid.
16 Pascalis et al. 2009, 63-64.
17 Pascalis et al. 2009, 63-64.
18 Verosky / Todorov 2010.
19 Ibid., 1690-1693.
20 Ibid., 1696-1697.
21 Franzoi 2005, 423-424.
22 Ibid.
23 Ibid.

The bridge on the river Meuse. Reinterpreting a Roman dedicatory inscription

BERBER VAN DER MEULEN AND VINCENT VAN DER VEEN

ABSTRACT

During the 1990s, excavations were carried out by the former *Rijksdienst voor het Oudheidkundig Bodemonderzoek* (ROB) at the location of the Late Roman bridge at Cuijk. Three intact bridge piers were discovered consisting of large wooden piles with iron shoes that were driven into the sand and the underlying gravel. On one of these piles an inscription was found. It read ETERNA, which the excavators considered to be a reference to the wish for the bridge's eternal existence. In the first half of this article we argue that it should in fact be considered a personal name, providing an analysis of the inscription itself and comparing it to a number of parallels from various military sites in Germania Inferior. In the second half we take a closer look at the archaeological and epigraphical record in an attempt to answer the questions who this person could have been and what reason he could have had to carve out his name.

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INTRODUCTION

In 1964, the late prof. J.E. Bogaers discovered the first remains of the Late Roman bridge in the river Meuse at Cuijk. During his excavations on the nearby shore he found, amongst other things, a Late Roman *castellum*. Divers sent out as part of these campaigns, secured eight wooden piles from the river bed, which originally were interpreted by prof. Bogaers as either belonging to a wooden bridge or to an embankment contemporary with the late Roman *castellum*.[1] In 1989, local divers surveyed the area and confirmed that this spot most likely was the location of a bridge over the river Meuse. This led to a pilot study in the same year, which was followed up by intensive underwater excavations during the 1990's. These excavations were carried out by the *Oudheidkundig Bodemonderzoek* (ROB) and were intended to document and conserve the bridge *ex situ*.[2]

During the surveying, large clusters of stone and wood had already been spotted. The subsequent excavations showed that in three of these clusters upright wooden piles were still present. The piles were interpreted as belonging to three intact bridge piers. Eventually, five of these were identified, with a possible sixth one that has not yet been found.[3]

The piles present in the excavated areas were tied to a noose and drawn out by a crane ship. Because they were still rather firmly embedded in the river bedding, this method led to some rope damage to the wood and many of the iron shoes, originally attached to the pointed ends of the piles, remained *in situ*.[4]

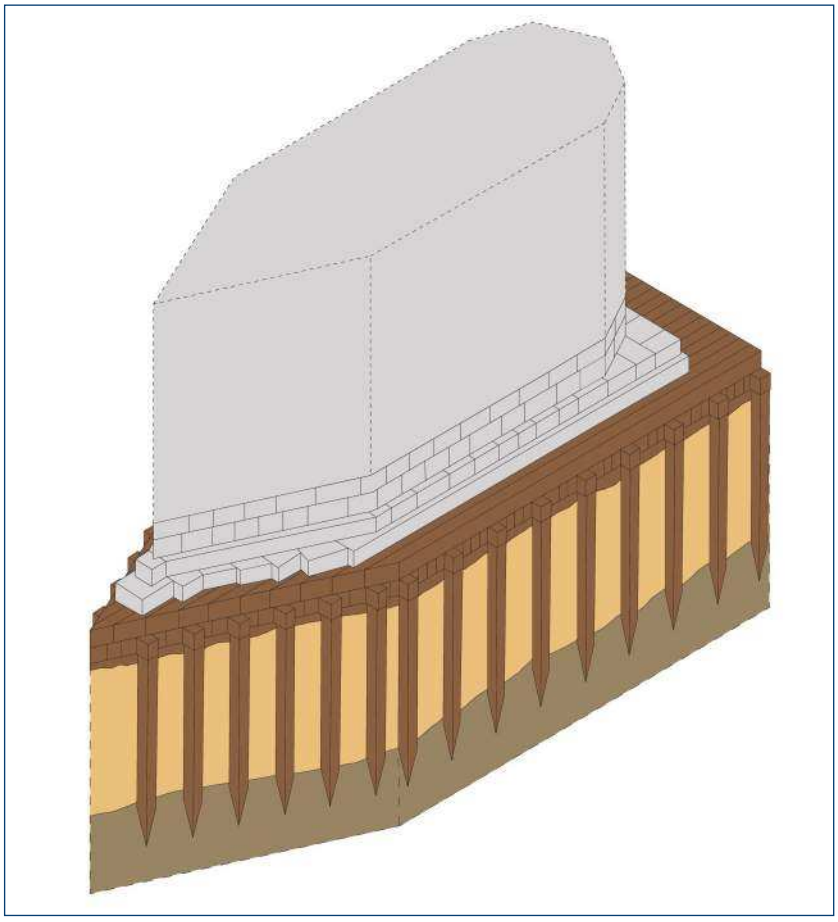

Figure 1
Technological reconstruction of one of the bridge piers. Stone elements are in grey, wood in brown. Yellow and grey-green represent the sandy topsoil and the underlying gravel. (after Goudswaard et al. 2001, Fig. 48, modified by V. van der Veen).

The wooden piles served as the foundation of the bridge (see Fig. 1). To prevent rotting, the oak wood piles were placed in such a way that they always remained underwater, thus, creating excellent conditions for conservation and dendrochronological dating. In fact, in most of the piles, some sapwood was preserved and some bark was still intact, which indicates that not only very little of the original tree had been removed, but the wood had also been used almost immediately after felling, since bark tends to come off during the seasoning process. Furthermore, toolmarks of adzes/axes are still visible on the wood to this day.

On the basis of their length, the piles can be divided into two groups. The first group consists of a few piles (type 1) that are short (60-120cm). The second group (type 2) consists of piles that are longer (120-150cm). Type 1 piles served as the main way of foundation. They were placed in between type 2 piles, functioning as beams.[5]

36 of the total of 58 dendrochronological samples were used for the dating of the bridge. This revealed three distinct phases in the felling of the

wood. The first phase dates between 347 and 349 AD, the second to the winter or early spring of 368/9 AD and the third between 388 and 398 AD, with an estimated felling date of 393 AD.[6]

On one of the type 2 piles, dating to the second phase, i.e. the winter or early spring of 368/9 AD, an inscription was found.[7] A section of the pile was smoothed prior to the carving of the inscription with an adze or axe, the lines that make up the letters being approximately 18-20cm tall and 2-3cm wide.[8]

Epigraphical analysis

Starting from the point of the pile, from left to right, the first four letters can be read fairly clearly as ETER. The last two, however, are less certain due to the fact that this part of the pile projected from the soil and is therefore badly worn. It also suffered extensively by the ropes used to retrieve it from the river bedding.

The excavators suggest a reading as ETERNA. They deemed this inscription to be unique in its kind, as from other known wooden Roman bridges, only inscribed numbers and letters have been found (e.g. in Mainz). For this reason, they interpreted the inscription as one placed there as a wish for the bridge's eternal existence.[9]

In our view the interpretative drawing in the original publication, can be interpreted in two ways.[10] Besides ETERNA, as the authors propose, the drawing could also be read as ETERNVM, the last three letters being a ligature. The second reading points to an interpretation as some sort of dedicatory inscription. When used adverbially, *aeternum* can indeed mean for ever. After examining the original photograph, however, it became clear that the first reading is the correct one, even though the letter A is rather damaged along with the rest of that section of the pile. A line seemingly connecting the letter N and A was not, as we thought, carved by hand, but rather the result of erosion. See Fig.2. for the original photograph and Fig.3. for our revised interpretation of the reading and drawing.

Figure 2
Original photograph of the inscription, courtesy of the FotoArchiefDienst Cuijk.

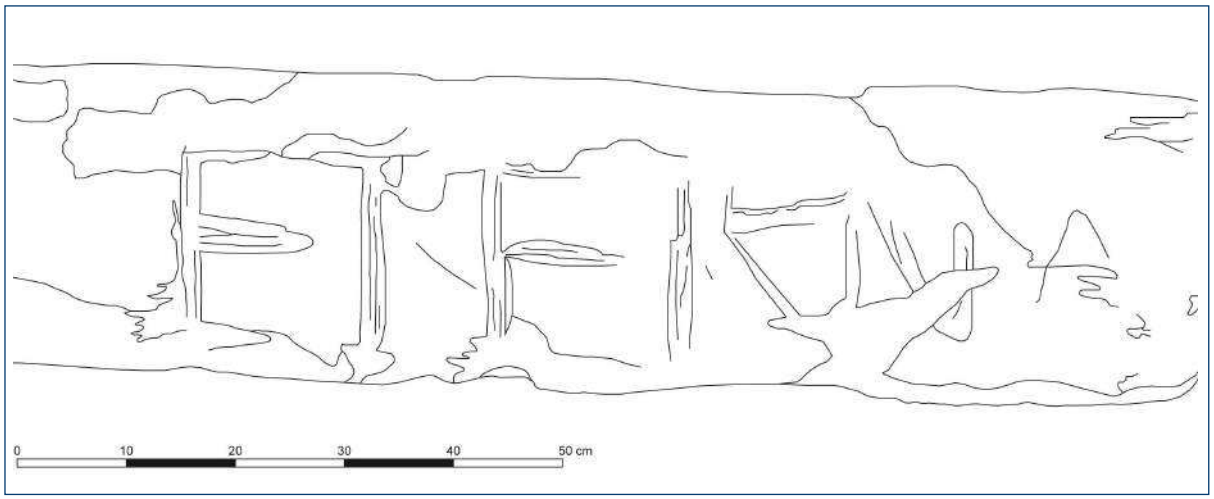

Figure 3
Interpretative drawing, V. van der Veen.

After establishing that the inscription ought to be read as ETERNA, we are left with the question of its meaning. Goudswaard et al. clearly are of the opinion that it relates to the adjective *aeternus*, meaning eternal or everlasting. The missing letter *a* in *eterna* does not stand in the way of such an interpretation, as the monophtongisation of ae to e is a common feature of Vulgar Latin.[11] If we are to believe, however, that *eterna* is an adjective; then what noun is it referring to? If the inscription refers to the bridge itself, then surely it should read *(a)eternus*, as the word *pons* (bridge) is of the male gender. A word that does correspond with the seemingly female gender of the inscription is the Latin word for life, *vita*. It could, therefore, be argued that *eterna* is a reference to the eternal life of the bridge and could thus be interpreted as a dedicatory inscription. Such inscriptions are well known for having been placed on public buildings either directly on the surface or on slabs attached to the structures. Some of the basic elements of these types of inscriptions, however, include the mentioning of the builder or commissioner of the building, information on the construction itself etc.[12] Unless Etern[...] is to be interpreted as a name element belonging to an official involved in the construction of the bridge, with the rest of the inscription not having survived, this interpretation seems rather problematic to us. First of all, the inscription lacks the above-mentioned key elements of such inscriptions.[13] Secondly, it was placed in such a location that it would not have been visible to anyone anymore after the construction of the bridge. In this light, we argue here that we have to look at other types of epigraphical evidence to understand the meaning and function of this particular inscription.

To this end, we may consider other inscriptions on Roman construction wood from Germania Inferior. On a whole, such parallels are rather scarce, since wood tends to be 'deselected' in the field prior to proper inspection.[14] For the Late Roman period these are entirely non-existent. We argue that the material on which the inscription was applied, namely construction wood, is more relevant to its interpretation than its date, based on the fact that construction techniques using wood, at least for bridges, remained

practically unchanged between the first and fourth centuries AD.[15] We assume that the same also applies to the reasons why inscriptions are applied prior to or during construction.

The following is a list of inscriptions known to us on Roman construction wood in the North-western part of the Limes. These inscriptions have been ordered according to their relevance based on their context and their reading. Although it probably is far from comprehensive, we argue that it does shed a new light on the inscription at hand. Notably, they all come from military contexts.

One inscription comes from Vleuten-De Meern.[16] Due to its 'wet context' on an oak plank of a dock dated to the late first century AD, this may be the closest parallel we have to the bridge at Cuijk. The inscription reads [...] ASSI, which clearly is the genitive case of a name. Graafstal states that the name must be of the centurion who oversaw the construction of the dock,[17] likely because he expects the name to originally to have been preceded by a retrograde c, being a common abbreviation of *centuria*. Such military units consisted of roughly 80 legionaries and were led by a centurion.[18] The name can be completed in a number of ways.[19]

Although not in a 'wet' context such as on a bridge or dock, all further inscriptions were found within a military sphere. The first of these was found in the *castellum* at Valkenburg (Praetorium Agrippinae). Here, on one of the posts of the north-western tower an inscription was found reading PLACIDI. Again, this clearly is the genitive case of a name, this time of the *cognomen* Placidus. Awaiting detailed publication, at the moment no more can be said about this inscription.[20]

In order to present an overview as complete as possible we include an inscription from the *castellum* at Alphen aan den Rijn (Albaniana). It was found on an alder plank, which supported one of the central posts of the west tower of the oldest porta *principalis dextra*,[21] and can be read as GL XVI, the meaning of which is far from clear.[22]

Finally, several inscriptions are known from the *castra* at Oberaden. The first of these, Ↄ·VINIC, was carved on a plank sharpened on one end, which was found in a barrel well.[23] As mentioned before, the retrograde *c* is a common abbreviation of *centuria*. Vinicius/Vinucius is a fairly common nomen.[24]

Another inscription was found on a wooden lintel of one of the barracks. It reads Ↄ·CA [...].[25] Too many possible *nomina* and *cognomina* exist to list here, although it is clear that the inscription again is a reference to a *centuria* and its commanding officer.

As excavation and publication took place in the first half of the 20th century, little is known of the context in which the following inscriptions from Oberaden were found. The first and most complete of these inscriptions reads Ↄ·P·POWPONI LQV [...] and was carved on a heavy oak beam.[26] The *w* in POWPONI must certainly be read as an upside down *m*, as three other inscriptions of this name are known from Oberaden featuring the letter m the normal way round.[27] Again, this inscription follows the same formula of a retrograde c followed by a name, or in this case two

names, in the genitive case. It can be translated as L(ucius) Qu[...] of the *centuria* of P(ublius) Pomponius.

The last inscription from Oberaden we discuss, was also carved on an oak beam. Even though the first half had been very badly damaged, Albrecht et al. tentatively suggest KARI/KAR(R)I/KAR()RV(S) VII, translating it as cart (*carrus*) No. 7.[28] The second half, however, can be easily read as Ↄ·[L or T] RVBRI, and can be translated as: the *centuria* of Lucius or Titus Rubrius. The nomen Rubrius also appears on a *pilum murale* from Oberaden.[29]

In sum, we can conclude that all but one of the parallels listed above are personal names, be it a *praenomen* and *nomen*, or a separate *nomen* or *cognomen*. Admittedly, there is a significant gap in date between these examples (mainly first and early second century AD) and the inscription from Cuijk (second half of the fourth century AD). However, as we have stated before we believe that this is not an insurmountable obstacle, as the possible reasons for carving these inscriptions will not have changed significantly over this time period. It can therefore be argued that the inscription of Cuijk might also be a name.

The question is what name was intended on the wooden pile in Cuijk. There are several possible completions of the text ETERNA. Dean mentions two occurrences of the *cognomen* Aeternalis, both from Moesia Inferior.[30] Kajanto lists a total of 16 occurrences of Aeternalis (15 men and one freedman) and one of Etern[us? -alis?]. He also lists twelve occurrences of the cognomen Aeternus, three of Aeterna and one of Aeternius.[31] Lörincz lists twelve occurrences of the *cognomen* Aeternalis (one each in Gallia Cisalpina, Gallia Belgica, Dalmatia, Pannonia, three in Dacia and five in Moesia Inferior), including three spelled Eternalis. All three of these can be traced back to Dacia. He also mentions one occurrence of Aeterna and one of Eterna (both from Pannonia), four of Aeternus (two in Gallia Belgica, one in Aquitania and one in Gallia Lugdunensis) and one of Eternus from Gallia Belgica. Finally, he lists two occurrences of Aetern[...], one from Hispania and one from Aquitania.[32] [33]

Dean, Kajanto nor Lörincz give dates for any of these names. On potters' stamps on *terra sigillata*, however, the names Aeternus and Eternalis were in use at least until the late second and middle third century AD respectively.[34] Although this still does not quite bridge the gap between the dates of the above mentioned parallels and the inscription at Cuijk, it does make it more plausible that the name Eterna(lis) was still in use at the time of the bridge's construction.

Another argument is that most of the above-mentioned inscriptions, the exceptions being the lintel and *pila muralia* found at Oberaden, would not have been visible. This implies that they either had some sort of ritual function or that immediate visibility was not their primary function. As none of the examples of Roman construction wood point in the direction of the former explanation (they are all on profane structures), we suggest that the latter is the most likely.

In the case of the bridge in Cuijk, this is especially poignant, as the part of the pile featuring the text was completely obscured from view by water and sediment. From other wooden bridges, such as Mainz, inscriptions of numbers and letters are known.[35] These may be interpreted as serving as an aid in the assembly of the bridge as has been the interpretation for similar marks on wooden barrels.[36] Goudswaard et al. already mention that a full text or word such as the one in Cuijk is unique in its kind.[37] We suggest therefore, that the inscriber was somehow involved in the organisation of the construction of the bridge, rather than the construction itself as its message would not have been possible to be read after construction. Supporting this assumption is the fact that unseasoned wood complete with bark was used, which rules out that the pile was reused.

Unfortunately, despite the in depth technological knowledge of the bridge at Cuijk, the organisation of its construction and repairs still remains elusive.[38] One of the first questions that come to mind is where the enormous amount of wood used for the bridges initial construction and repairs was extracted from.

The ROB excavation has yielded a number of pollen cores, but these cannot be dated more accurately than between the Iron Age and the Early Middle Ages. They do, however, indicate that the landscape in this period was a mostly open one.[39] Recent investigations in the same part of the river resulted in a similarly disappointing dating.[40] Like the ROB excavators we must use an earlier landscape reconstruction made for the entire Eastern Dutch River Area, which concluded that just before the beginning of the Late Roman period the region saw an increase in tree vegetation (to around 60%), of which 40% consisted of ash, 11% of oak, 3,5% of hazel and 2,5% of beech.[41]

The small percentage of oak trees present in the Eastern River Area and the open landscape locally suggests that the oak timber for the bridge was largely, if not completely, procured from another region. Unfortunately, no provenance studies were included in the initial report. For our current question, this is not too much of a problem, as the way in which the procurement of the wood was organised is of greater importance. Thanks to archaeological and textual evidence, we know of various ways in which supply was organised by the Roman army, all providing viable reasons why one would write their name on one of the supplied piles. The rest of this paper will provide an overview of the logistics involved in wood procurement and their reflection in the archaeological and epigraphical record.

Previous studies into Roman construction wood have mainly focused on the technical aspects of it, and have sufficiently shown that the Romans used various silvicultural systems for the upkeep of their woodlands.[42] Selective and coppicing systems are for instance mostly associated with large scale state controlled forests (*salti*).[43] These *salti* were looked after by so-called *saltuarii* (with some stewards or *vicili* under their charge) who

were in the position to overlook felling operations, select trees for felling and generally look after the affairs of the estate.[44] Several inscriptions on gravestones mentioning *saltuarii* are known from Waldfischbach.[45] Woodchoppers (*silvicaedii*), and *dendrophores* (initiates into the cult of Attis who were involved in all sorts of activities related to wood, ranging from cult festivities to felling and wood trade) are also known to have worked in these *salti*.[46]

Timber trees were also grown on a smaller scale by *villae*, as attested by Cato's list of the most important agricultural activities.[47] That wood, either from *salti* or privately owned lands, was used as a commercial commodity is attested by several inscriptions mentioning wood traders, often called *lignarii*.[48] Similar to potter's stamps, usually interpreted as marking the potter's products, these *lignarii* may have wished to mark their products to designate its origin or as a mark of quality for their customers.

A similar term is found in the military sphere. It was common for the inhabitants of marching camps and more permanent *castella* and *castra* to rely largely on the local environment for their supplies of water and wood.[49] Several inscriptions from the Rhine region mention officers *in lignariis* (one of them aptly named Silvano).[50] Another four from Germania describe *vexillationes agentes in lignariis* of the legio XII whose specific duty it was to procure timber for their legion.[51] Meiggs links these officers *in lignariis* to sawing operations for the supply of the fortresses with non-local big timber. This is based on two irregular shaped military strongholds found in Germany that feature structural evidence for large scale sawing activities.[52] The piles from the bridge in Cuijk were of course not sawn, but it seems reasonable that the activities of officers *in lignariis* comprised more than sawing, as planks are only one of the types of construction wood needed for military purposes.[53] The term *in lignariis*, furthermore, has traditionally been explained as meaning "in a timber store-base", whereas current insights have strained that there is no reason to assume timber storage in the Roman period.[54]

One final mention of collecting construction wood as part of a soldier's activities is given by Vegetius. When describing the different types of camp commanders, he mentions the *praefectus castrorum*, who was apparently in charge of supervising the construction of the camp and whose responsibility it was to ensure that there were adequate supplies of, among other things, construction wood.[55] As the civil *lignarii* above, camp commanders in charge of wood procurement may have wished to mark some of the wood to show the completion of their duty.

What remains now is to identify which one of these scenarios described above is the most likely for the inscription on the bridge in Cuijk. As the evidence from the textual record regarding the activities of wood procurers and traders is rather scarce, we will refrain from taking a side in this debate. However, we can make some general remarks on the nature of the inscription regarding the wood infrastructure in the Roman period.

We know, first of all, that the pile featuring the inscription was smoothed before the text was applied, even though the piles generally were only marginally worked. This not only shows that the inscription was placed with care and intent, but also suggests that it took place at the same location as the working of the felled trees into piles, rather than during felling or construction of the bridge. This is further supported by the fact that the same type of tool was used for working and smoothing the pile. Because the provenance of the wood is unknown, and the material culture and features of the late Roman *castellum* near the bridge have not been sufficiently published, it remains uncertain whether the trees were worked in Cuijk itself or somewhere else.

Although not mentioned above, there is yet another possibility, namely that Eterna(lis) is the name of the recipient of the order. *Tituli picti* on amphorae, for example, are commonly interpreted as featuring both the name of the producer (usually in the genitive case) and of the recipient.[56]

Although an interpretation in the military sphere seems the most probable given the military context of the bridge's construction, the absence of a retrograde C or any other clear army-related marker makes it impossible to prove that the inscriber was either a military man or a civilian.

Conclusion

We feel that our reconsideration of the inscription on the Late Roman bridge in Cuijk has shed a new light on its meaning. The fact that the inscription was in a place permanently hidden from view makes it very unlikely that it had any dedicatory significance. To the contrary, inscriptions on construction wood from various military sites in Germania Inferior indicate that more often than not, they can be read as a personal name.

The second part of this paper provides a short overview of some of the people that can be identified in the archaeological and epigraphical record as having been involved with Roman construction wood. We hope to have shown that many individuals were involved in the procurement, working and trading of construction wood and may have wished to mark some of it with their personal name. This could be explained in the same way as potter's stamps on table ware and amphorae, or brands on barrels. A wood trader (*lignarius*) could have marked his goods as a badge of quality or as a control mark. The same goes for the *praefectus castrorum* or officer *in lignariis* in charge of the procurement of construction wood. Woodchoppers (*silvicaedii* or *dendrophores*) could have marked their products so any defects could be traced back to those responsible and the same could apply to soldiers who were charged with the felling and processing of wood. Sadly, the evidence is insufficient to choose one above the other. What we can say however, writing almost seventeen centuries after the bridge's construction, is that the inscriber certainly left his mark.

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Notes

1 Bogaers 1966, 338.
2 Goudswaard et al. 2001, 443, 446.
3 Ibid., 450.
4 Ibid., 453.
5 Goudswaard et al. 2001, 459-460.
6 Ibid., 483.
7 Ibid., 462. Evidence for this phase is limited to the western part of the excavation, leading Goudswaard et al. to the conclusion that the second construction phase consisted of the addition of another pier, to counterbalance the meandering riverbed; Ibid., 495.
8 Ibid.
9 Ibid., 462.

10 Ibid., Fig. 19. This publication can be downloaded free of cost via ▶easy.dans.knaw.nl.

11 The common, spoken version of Latin as opposed to its legal, written form; Palmer 1954, 157.

12 Schmidt 2004, 57-8.

13 Although it should be noted that the inscription is not complete, it could be argued that there were no more words following Etern(a) based on the patterns in damage (see above).

14 Inscriptions can be hard to make out prior to the wood having been cleaned and conserved. As this is both a lengthy and costly process, usually only a selection of the construction wood and organic finds is selected for conservation. This problem of deselection of organic finds to cut costs has become particularly acute since the advent of commercial archaeology. As is mentioned in a report of the Cultural Heritage Inspectorate (Erfgoedinspectie), all provincial depots have noticed a significant drop in incoming organic materials, disproportionate to previous experiences and the number of excavations carried out; Boogert 2006, 19-20.

15 E.g. bridges built on foundations of wooden piles at Trier and Mainz, comparable to the one at Cuijk, date from the first century AD; Goudswaard et al. 2001, 488-489.

16 Graafstal 2000, 179-180.

17 Ibid., 179.

18 Dobson 1988, 216.

19 The most common *cognomen* being Bassus; Dean 1916, 13, while both Cassus and Crassus are also attested; Kajanto 1965, 287; Dean 1916, 81; 161 respectively; cf. Lörincz 2005.

20 Personal comment M. Polak, Sept. 2014.

21 Polak et al. 2004, 58-59.

22 It is tempting to associate the number with the *Legio XVI Gallica*, which was disbanded and reformed in 69 AD as the *Legio XVI Flavia Firma*. However, as the plank was part of the first building phase of the *castellum*, *Legio XVI Gallica* would at that time have been stationed at Mainz (Mogontiacum); Bishop 2012, 130. The identification of GL as "legion", while the abbreviation LEG is much more common, is also uncertain.

23 Kenzler 2009, 383-384.

24 Schulze 1933, 110, note 3; 380.

25 Kühlborn 1992, 171 and Taf. 51, 283; Aßkamp / Wiechers 1996, 36).

26 Albrecht et al. 1938, 82.

27 Ibid., Taf. 57, 47-49. All on *pila muralia*, reading Ↄ·P·POMPON, Ↄ·P·POMPONI and P·POMPON respectively.

28 Ibid., 82.

29 Ibid., Taf. 58, 54. ?· RVBRI.

30 Dean 1916, 129-130.

31 Kajanto 1965, 274.
32 Lörincz 2005, 31-32.
33 N.B. There may be some overlap in the references listed by these three authors. As they do not systematically cite their original sources, it is impossible to reconstruct the exact number of doublets.
34 Hartley et al. 2008a, 92-93; Ibid. 2008b, 368.
35 Goudswaard et al., 462.
36 Collingwood / Wright 1992, 1.
37 Goudswaard et al. 2001, 462.
38 Ibid., 494-5.
39 Ibid., 507-8.
40 Van Breda 2011, 29.
41 Connected to the decrease in population in that period; Goudswaard et al. 2001, 507.
42 Respectively clear cutting, selective felling, coppicing and agro-forestry; Visser 2010, 13-19. Cf. Domínguez-Delmás et al. 2014, 651ff. for their study into wood provenance for the 2nd century AD harbour of Voorburg-Arentsburg.
43 Ibid., 20.
44 Visser 2007, 112; Ibid. 2009, 6; Meiggs 1982, 330.
45 Visser 2007, 112.
46 Visser 2009, 6; See also ibid., 5 for gravestones for these *dendrophores*.
47 Cato, *De agricultura* 1.7; Visser 2009, 4.
48 See e.g. *CIL* III 12924 and XI 1620.
49 Caesar, *De Bello Gallico* 3.15.2; Vegetius, *De Re Militari* 2.19.
50 *CIL* XIII 6618 and 6623.
51 Visser 2009, 6.
52 Meiggs 1982, 186.
53 Which may include, among others, defence and siege works, bridges etc.; Meiggs 1982, 154. To this list may be added accommodation.
54 Ibid., 180.
55 Vegetius, *De Re Militari* 2.10-11. It should, however, be remembered that the book, written in the late fourth century AD, in essence is a plea for army reform. It deals with the decadence of the author's time and often describes an idealised version of the army of the Early Empire.
56 Remesal Rodriguez 1998, 191-192.

Identity – A Material Approach

ROBERT NICKOLAI MUSSERT

ABSTRACT

In this paper I explore the construction of identity in the past through the production, consumption and adoption of material culture. First, I explore the concept of identity itself, showing that identity consists of many different elements, and is dependent both on the agency of the individual and the structure in which it resides. I argue that material culture can have both an indicative and communicative function in this respect. Second, I discuss production, consumption and adoption with regards to the construction and communication of identity; I consider both conscious and subconscious choices and actions during the production process and mechanisms of consumption and adoption of material culture. I will show using examples that in all stages of the use of material culture in the past, from the production stage to its eventual use, a suitable environment was provided for the construction and communication of social and other identities. In light of the theme of this issue of Kleos, the paper provides an overview on how to think about material culture.

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Introduction

When 'confronting matter', as is the theme of this issue, it is not simply material culture[1] we seek to study and define; it is the underlying social and political processes which result in a certain material environment that is our main concern. In the end, we search for social structures, world views, and identities. The concept of identity has for a long time been an important aspect of social science. Our identity, as individuals and as social entities, describes who we are and what we are, and is thus vital for understanding both ancient and contemporary societies. When studying identities in the past, however, our sources are limited, especially in societies without a literary tradition. As archaeologists we therefore face the challenge to study this concept based on material culture. As fragmentary as the archaeological record may often be, we may still use it to reconstruct past identities. In this paper, I provide a broad overview of archaeological theory and applications in the study of identity, showing that both through the production and consumption of material culture, and the deliberate and subconscious decisions made during these processes, ancient individuals

and groups communicated their identities. I will first discuss the concept of identity itself, after which I will discuss how the production, consumption and adoption of material culture influenced either the expression of identities, or identities themselves, and how these processes can be studied.

The many faces of identity

'Identity', with 'religion', 'culture' and 'person', is one of those abstract concepts that archaeologists and other students of the social sciences have racked - and are continuing to rack - their brains over, for it would almost seem as though the most important concepts in studying (ancient) societies are the most difficult to define. The problem with defining identity, being such an abstract concept, is partly one of scope: if the definition is either too general or too specific, it may become either unusable or exclusive. The definition of identity is, therefore, something that requires careful consideration before it can be used 'in the wild'.

A first indication can be gleaned from its etymological origin. The Latin word *identitas* (sameness), derived from the more widely known *idem* (same), mainly stresses the group aspect of identity: it is the commonalities (that which is 'the same' within a group) that constitute a particular group's identity. A second definition is provided by the Oxford dictionary: 'the characteristics determining who or what a person is'.[2] This definition, in contrast to the Latin translation, acknowledges the possibility of an entity having an identity existing outside the relation to other entities (where the former required commonalities and therefore more than one entity). This also opens doors for many other possible identities: a person can be a man, a woman, a child, a parent, a citizen of a certain city or village, country, continent, et cetera. These definitions are, however too general. Archaeologists (among others) have tinkered with the definition as well. The authors of *The Archaeology of Identity* describe identity as 'individuals' identification with broader groups on the basis of differences socially sanctioned as significant', and originating from a sense of belonging to a group, which entails active engagement, and is therefore constructed through continuous interaction with said groups.[3] Walter Pohl similarly defines it as 'a bundle of relationships between the individual and the social world',[4] stating that it can be seen as 'static or dynamic, as objective or subjective, as social or individual, as factual or as constructed.'[5]

As we can see, dictionary definitions as well as the more specific definitions by the mentioned authors underscore the group aspect of identity. Worryingly though, they sometimes still tend to automatically focus on ethnic identity, which is only one of many facets identity can have. In fact, identity can have multiple scales and characters. Firstly, it can manifest itself on an individual level, the person; a social level, that of a group; and on a wider cultural level. Secondly, there are identifiable facets like gender, ethnicity, religion, age, et cetera. While some of these are interrelated, they can be seen as distinct 'categories', for lack of a better

word. It must be said, however, that such 'categories' are not set or fixed, and ever changing and flowing.[6] Identities vary and differ in both time and space: 'Being four years old and female in Britain in 3000 BC would have been an entirely different experience from being ten years old and male in Rome in AD 200. Those societies would have had different expectations of how a person of a certain age should behave, dress and function as a member of that society, and this would also have been intersected by their gender, status, religion and ethnicity'.[7]

It is clear, then, that these different identities are expressed in different ways, which can be observed in the material culture. It may be wise to note here that this works both ways. Not only do objects have meaning within a context of social identities, but objects themselves may be be part of the social context which shapes social identities. Anthony Giddens, in explaining his structuration theory, states that human action cannot be seen as isolated individual choices and performances, but must be placed within a larger context of social structure. He states that these structures provide unconscious motivation for the intentions and actions of human beings.[8] These structures exist external to human action, but serve to constrain free initiative and individual action.[9] In a material sense, one could argue that objects can provide constraints on human behaviour as well. The array of objects at our disposal provides a context within which we perform actions in the world. This would mean that not only do we create objects, but that, in a sense, objects also create us. However, these structures are not just material. While some identities are actively created individually, some (if not most) are the product of long-lasting, often group-wide social structures that shape, stimulate or restrain certain identities. After all, people express themselves under social conditions and on terms that already pertain at their time of birth.[10] I would say that there are two forms in which these social structures can manifest themselves, namely history and authority. The first relies on 'how things have always been done' (although it is not uncommon for a past to be forgotten, remembered and altered to a group's needs[11]), while the second relies on control by a certain authority (such as the absence of religious freedom, or forced conformity). In the latter case, one does not speak of a subconscious structure, but an obligatory one. Nonetheless, identities are not created in a vacuum, but within a social and/or material structure.

Studying identity

During the 1860s, after Charles Darwin's publication of "On the Origin of Species" in 1859, evolutionary thought led to the idea that a certain biological inequality existed between cultures, and many believed that technologically less advanced peoples were culturally, intellectually and emotionally primitive compared to 'civilised' peoples.[12] This (now alarming) notion was then transformed into a view in which ethnic and national groups were internally homogenous and historically continuous, defined by either their culture or their language.[13] Studies from more recent decades,

however, have stressed the dynamic construction of identity and its subjective, constructed and changing nature,[14] and there is still a general consensus that identities cannot be seen as clearly demarcated and historically or spatially constant, but as changing and fluid. We must be careful, however, not to confuse identities that we ascribe to peoples with the identities they ascribed to themselves, or equating adoption of a practice with affiliation with a certain group.[15] However, even if we are careful, this will always remain an 'occupational hazard' for archaeologists.

The fact remains that one of the most important assumptions in studying identity through material culture is that the material record reflects past practices, which were generally not performed without reason, and were therefore to a certain degree meaningful and a way for an agent[16] to interact with their social context.[17] We can, then, study ancient material culture as a physical manifestation of these past practices, and therefore of these meanings. When studying social identities or identities communicated outside the self, it is social interactions and relations that need to be studied - both the use of material culture in these social interactions, and a shared way of doing things. It is important to restate my earlier point here: identity has multiple scales and categories, and one can therefore assume that we could also look at the same object in different ways, since the object will convey multiple scales of identity. So, to be as effective as possible, we must study these multiple identities.

How, then, can we derive these multiple identities from objects? While objects can exhibit multiple identities, they need not always be used for the expression of all of those identities, since some elements might be suppressed or emphasised.[18] Not only can they be variable in their expression, they can also be interpreted in different ways; human perception of objects is variable, and one culture, group or person will look upon an object in an entirely different way than another. This raises interesting questions, such as what happens when an object which holds meaning for one group ends up in another. Does its meaning change? Does it gain an extra meaning? In short, there are two sides to expressing identity through material culture: that of the expresser and that of the interpreter. It is therefore even more vital to look at the traits that the users themselves chose to articulate, since it is these traits that bring us closer to understanding the identity and meaning which objects attempted to convey. One process through which this was possible was the production of material culture itself.

Producing identities

One of the aspects of material culture that communicates identity is the physical production of an object itself. Producing pottery, for example, is a time-consuming process, and since in many periods 'mass-production' as we know it was impossible, we can assume that people spent a lot more time on a vessel than in modern society, especially if it needed to be painted or receive some other surface treatment. It follows, then, that

artisans did not just execute any action in this process without it having some meaning, or at least a reason. In most cases, there is a discernible pattern of certain groups having certain ways of doing things. Following the Binfordian concept of culture as an 'extrasomatic means of adaptation', this is reduced to nothing but technical adaptation to certain environmental conditions and functional pressure. However, this is a simplistic idea that exhibits a total disregard for social tradition and meaning.[19] To contrast this view: in an extensive anthropological study among several different communities, Olivier Gosselain noted that a wide variety of the technical choices he encountered served the same goal, while no environmental or other technical constraints played any part in the adoption of a certain production technique. It is much more likely, then, that technological choices in the production process come not from a technological motivation, but a social one.

An important element of this is the production sequence, or *chaîne opératoire*, which encapsulates these many technological choices and processes during the production of an object.

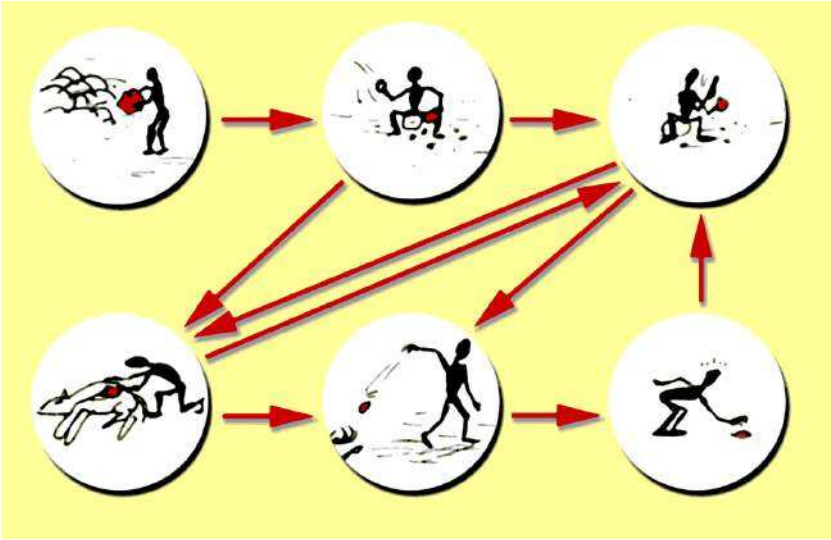

Figure 1
The chaîne opératoire: raw material acquisition, production, finishing, and additionally use and discard (by José-Manuel Benito, unpublished artwork)

The term was originally defined by André Leroi-Gourhan as the sequential nature of bodily actions as one goes about daily repetitive technological activities,[20] and is proposed to be influenced by the ideas of Mauss, who focused on how bodily actions both reflected and were conditioned by social tradition, since they were learned behaviours within a society.[21] If we can then assume that certain indicators of identity found their way into the production sequence, which leave either visible or invisible traces on the finished product, studying the *chaîne opératoire* can help to further understand how these identities relate to production. Important here is the correlation between active or passive decisions and visible and invisible traces. Gosselain states that visible traces are reflections of superficial, situational and temporary facets of identity, while invisible traces (e.g. clay selection, extraction and firing) reflect deeply rooted social facets of identity,[22] since 'potters select and transform the materials as they have

been taught to do, being neither keen to modify their habits nor interested in other ways of doing it.'[23] It is thus not just the active choices, but also the subconscious ones that communicate identity through the production process. It is the entirety of this process, and all conscious and subconscious, individual and group-wide assumptions, habits and choices that can be used for the study of individual or group identity.

An example of a certain group actively identifying themselves through production is women. While early academic thought sadly paid little mind to the role of women in production, seeing it as mainly the domain of the male, more recent studies have indicated that women in fact did take part in production, and some modern anthropological studies in Africa and New Guinea have shown that in some cases the roles were even reversed.[24] Within the production context, women actively stress their own identities, and in male-oriented societies it could be used as a means of subverting social organisation.[25] An example of this is attested in the Ilchamus culture in Kenya, where women are, among other things, responsible for the production of certain milk gourds for infants. The iconography on these gourds expresses the reproductive role and power of women, and since in the Ilchamus society male power is actually based on reproduction (of both children and cattle), this can be interpreted as subversion, since these women identify themselves with the most important element of male power. This example shows that the production of material culture is not just a technological process in which the end product expressed identity, nor is it just the techniques themselves that exhibited it. It is the active and deliberate construction and presentation of identity which expressed the identity of women in this society.

Consuming identities

Now that we have seen how identity can be 'infused' in objects, consciously or subconsciously, we can now turn our attention to the other end of the process, the consumption of objects, and how individuals and groups appropriated them to communicate their own identity.

I would argue that consumption can signify a certain identity in two ways: a functional requirement related to one's identity (for instance, a toy was used by a child, while a bow was used by a hunter), and the choices which indicate deliberate consumption or appropriation for the expression of one's identity. The first category can be exemplified by age-specific material culture. When children become older, and they are allowed to participate in adult activities, the material culture they use on a daily basis changes, for example with using a bow in hunting societies. The use of a bow signifies adulthood, and using one when one has become a man therefore changes how society view him and how he presents himself.[26] It may be entirely possible that this transition into another role, and the shifting perceptions that go along with it, have consequences for many other forms of material impression and expression. Lucy warns that these processes are highly culture-specific and cannot be used for cross-cultural

generalisations.[27] However, it is clear that certain stages of life can be linked with certain ways of consuming material culture. Another example of how consumption is related to age is the material culture of children: in some assemblages deemed 'infantile' they can be identified by miniature material culture, which can be regarded as toys and other tools for role-play. Often mixed with these miniature objects are 'adult' objects, which Lucy identifies as toys that allowed children to play at their roles as adults.[28] Contemporary parallels would be dollhouses, which simulate household management, and toy kitchens, which simulate preparation of foods.

The second category is exemplified by the consumption of status goods. An assumption here is that individuals with status will inevitably consume status goods simply because they can, and to communicate their status or richness to others. Bourdieu states that these consumption patterns '[reflect] the key forms of social inequalities while at the same time providing the foundations for the reproduction of these inequalities.'[29] In other words, consumption of status goods both reflects and maintains social inequality. Not only the rich and powerful consumed status goods, however; in much the same way that Kenyan women subvert the power of men, so could relatively poor members of society use these objects to subvert existing elites.

A great example of expression of identity (in this case status identity) through material culture is the so-called Heroon of Lefkandi. This Greek building, erected around 1000-950 BC, was one of the largest buildings of its time, and housed the graves of a man and a woman. That they were either rich, important or both becomes clear not only from the monumental architecture but also from the goods that were found in the graves themselves: the cremated male was interred in a bronze amphora significantly older than himself,[30] and not even of Greek origin, but possibly from Cyprus.[31] In other words, this was likely an antique import, making it valuable.[32] The female was buried with, among other things, golden hair coils, a golden and faience necklace with a golden pendant, two golden breastplates, golden rings, and an iron knife with ivory pommel.[33] Since the majority of these objects were made of gold, it seems safe to conclude that these goods display a tremendous amount of wealth and status. What is interesting here is that these people attached significance to their wealth, and chose to display it through material means, which can still be interpreted by us now, even though this was not communicated through literary or other means.

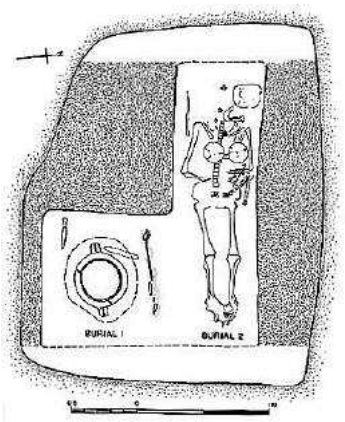

Figure 2
The burials at the Heroon of Lefkandi. Cremated male on the left, decorated female on the right
(after Popham, Sackett and Themelis 1993, plate 13)

Adopting identities

Previous considerations of identity have all focused upon production and consumption of material culture within a social context. But what happens if material culture from an external context, for example another region or country enters the local material culture repertoire?

In most cases this phenomenon takes place in an intercultural or interethnic context. One first thing to keep in mind here is that, as stated

above, cultures and ethnicities are not clearly defined in either landscape or material culture. But since within a social group at least some degree of internal cohesion can be identified vis á vis other social groups, we can assess how one group reacts to influences from another group if we keep this grey area in mind. When a new, 'foreign' element (in this case material culture) is introduced into a group, one might say that one of the following two things can happen: the group either resists it or accommodates it. However, these are rather polarised terms, and lead to binary thinking.[34] Binary thinking is, as in many facets of social science, a danger to the study of identity in the past, as it flies in the face of the fluid model of identity described above. If we are to study the effects of contact on the construction of identity, the forced construction of 'two sides' only serves to oversimplify a process that is essentially extremely complex. To combat this simplification, archaeologists have come up with several different models to better describe this process. Firstly, creolisation theory is a model in which the 'receiving' peoples adopt much of the relevant or useful elements, while retaining traditional elements, creating a new 'blend' of cultural identity.[35] However, this in my view still rather traditional and colonial model (the earliest origins of the term can even be found in New World colonialism)[36] does not improve on the situation described above, and does not incorporate the fact that in many instances both sides influence each other. Instead, it seems to imply that one side is the 'giver', dominant, greater, while the other is the 'receiver', submissive, lesser. The theories of hybridisation and Middle Ground, however, provide a less simplified approach: hybridity as a model relies on the mutual accommodation and appropriation of material culture, which ultimately leads to a community that is neither one nor the other, but a mixture of the two.[37] According to the Middle Ground theory, two sides of an interaction interact in a way that tries to mimic the other, leading to mutual misrepresentations that create a third culture which is not just a mixture of the two, but a new culture entirely.[38] These two frameworks provide a more complex and mutual view. However, I believe it is unwise to adhere to only one of these two, as they are not mutually exclusive, but not always applicable either. With these models one can now wonder how these different modes of interaction affected their own perceptions of identity. It is clear that the material culture in these cases expresses a new identity, but that is simply our interpretation of the material evidence. Whether they actually saw themselves as belonging to a 'third' or 'new' culture is a different question entirely.

When considering the interaction of multiple identities, the site of Pithekoussai emerges as a worthy example. This site was founded in the mid-eighth century BC by the Euboeans, and maintained contacts with many different peoples, among which the Greeks and the Phoenicians.[39] In the site's cemetery, a family was buried, consisting of a mother and three children. The urn used to inter one of these children is noteworthy, as it combines multiple identities. This vase was of Greek production from the

middle of the 8th century, and what is interesting about it is the inscription: the amphora contained a West-Semitic inscription that indicated that it was once used as a measure. It is believed that the buried family were Semitic-speaking people of likely Levantine or Cypro-Phoenician origin. Another interesting fact is that this family was buried according to Greek customs.[40] Thus in the context of Pithekoussai we have a Semitic (Levantine or Phoenician) family, using Greek material culture and burial practices, in a colony in Italy. This raises interesting questions, the most important one in the present context relating to the way they identified themselves: according to the writing they can be identified by us as Semitics, but they themselves seem to have appropriated Greek practices and material culture, while residing in a colony in Italy. So how did they see themselves? Did they see themselves as Phoenicians/Levantines? As Greeks? As residents of what is now Italy? Or did they see themselves as all three?

Conclusion

I have reviewed how production and consumption of material culture can be used for the construction of identity. The definition and scientific application of identity has been discussed, how it has many different faces and can be communicated in many different ways, and how conscious and subconscious actions within a structure based on history or obligation can be used as a tool. I have argued that production can be an expression of identity, and that the production process itself can be an indication of identity. Not only was the *chaîne opératoire* subconsciously used for the construction of identity, some groups used their role in the production process itself to express their own identities. Also, I reviewed how the consumption of material culture was used to construct identity, which can be broken into two categories: consumption based on the use for a social identity, and as a communication of identity, such as status. Finally, it was discussed how interacting communities leave their marks on each other, and how 'foreign' material culture was appropriated into the material record repertoire as an expression of identity.

Hopefully, it has become clear that identity is a fluid concept of construction and expression. On the one hand, identities are constructed by peoples and for peoples from underlying conditions. On the other hand, identities are actively expressed by ways of production and consumption of material culture.

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Notes

1 Objects and other identifiable physical remains of past societies.
2 ▶www.oxforddictionaries.com last accessed on 08-01-2015.
3 Díaz-Andreu et al. 2005.
4 Pohl 2010, 17.
5 Ibid., 10.
6 Casella / Fowler 2005, 8.
7 Lucy 2005, 66.
8 Giddens 1984, 6.
9 Ibid., 16.
10 Gardner 2007, 41.
11 Casella / Fowler 2005, 6.
12 Hales / Hodos 2010, 6.
13 Gamble et al. 1996, 4.
14 Ibid., 6.
15 Casella / Fowler 2005, 7.
16 Here taken to be an individual or object with the ability to perform actions or influence other agents in general.
17 Gardner 2007, 50.
18 Casella/Fowler 2005, 195.
19 Gosselain 1998, 78-79.
20 See Leroi-Gourhan 1964.
21 De La Fuente 2011, 225.
22 Gosselain 2000, 189.
23 Ead. 1998, 91.
24 Díaz-Andreu 2005, 31-33.
25 Ibid., 31.
26 Lucy 2005, 62.
27 Ibid.
28 Ibid.
29 Babiç 2005, 80.
30 Popham et al. 1993, 21.
31 Antonaccio 1995, 238.
32 Popham et al. 1993, 19.
33 Ibid., 20.
34 Casella / Fowler 2005, 39.
35 Ibid., 37.
36 Stewart 2007, 1-3.
37 See recently Van Valkenburgh 2013.
38 Malkin 2004, 357.
39 Mee 2011, 180-181.
40 Hales / Hodos 2010, 128-129.

Introduction to a dialogue

KARIN SCHARRINGHAUSEN

Kleos publishes several types of papers; one of these is a dialogue paper by at least two authors. The dialogue may be an opinion piece and one or more critical responses, or a critical review of a research paper and a response from the reviewed author, or a critical review of a research seminar presentation and a response from the reviewed author. For the first dialogue of this series of articles, Karin Scharringhausen invited Dr. Manuel A. Fernández-Götz to respond to her review of his lecture "Path to complexity: Centralization and urbanization processes in Early Iron Age Europe", given on 2 October 2013 at Free University Amsterdam.

Starting in 2012, the University of Amsterdam (UvA) and Free University Amsterdam (VU) offer research seminars which are part of the Master's programme in Archaeology.[1] These research seminars offer students an opportunity to familiarize themselves with and discuss current research developments in archaeology from various theoretical perspectives for different periods and in various geographical areas. The second lecture of the 2013 series of research seminars was given by Manuel Fernández-Götz. He argued that the recent fieldwork carried out at the Heuneburg site and other central European centres of power provide new and challenging insights into processes of centralization and urbanization, the earliest stages beginning in the Early Iron Age. Thus, challenging the traditional view that the oppida were the first urban centres of the Late Iron Age.[2]

In her review of the lecture Karin Scharringhausen focusses on the theoretical approach of Fernández-Götz. The *Kleos* dialogue review, *the urban start-up of the Heuneburg*, begins with an overview of the content of the lecture given by Manuel Fernández-Götz. Next, it reviews critically his line of argument and the use of archaeological data by comparing them to the existing literature on urbanization processes in the Iron Age of Europe or theories on ancient urbanization. In the conclusion, the innovativeness, the usefulness of the conducted research and the possibilities for further research is discussed.

Manuel Fernández-Götz kindly wrote the response to Scharringhausen for the first *Kleos* dialogue. His contribution, *the rise of urbanism in Early Europe*, presents his complementary thoughts rather than a direct response. First, he reflects on the diverse nature of the concept of Early Iron Age

urbanism and the lack of continuous development on a European scale. He then discusses the early process of centralisation and urbanisation that led to the development of the *Fürstensitze* and was followed by a phase of decentralisation that set in at different times in different areas. In conclusion, he explores the possible explanations for these cyclical phases.

Notes

1 The master programmes for Archaeology and Classics and Ancient Civilizations are offered by ACASA (the Amsterdam Centre for Ancient Studies and Archaeology) a joined venture of the Free University and the University of Amsterdam.

2 See for the content of the lecture the open access article available at ▶academia.edu (last accessed at 22-04-2015); or the article: Fernández-Götz, M./ D. Krausse, 2013: Rethinking Early Iron Age urbanisation in central Europe: the Heuneburg site and its archaeological environment, *Antiquity* 87, 473–487.

The urban start-up of the Heuneburg: A dialogue - Part 1: Review

KARIN SCHARRINGHAUSEN

INTRODUCTION

Fernández-Götz is not the first scholar to suggest proto-urban beginnings for the Early Iron Age. Over the past decade, there has been an increasing interest in early state formation and (proto)urbanization in the Early Iron Age of Central and Western Europe.[1] Large scale research projects have been carried out in Germany and France which provided new evidence, supporting the view that not the Late Iron Age Oppida should considered to be 'the first cities north of the Alps', but rather the proto-urban settlements, or 'centres of power', developing during the Early Iron age (ca. 600 BC until 400 BC).

The lecture by Fernández-Götz consisted of three parts. The first section gave an overview of five 'centres of power'. The lecturer continued mapping out the extensive evidence of the sixth 'centre of power' the Heuneburg site, one of the best-researched archaeological sites of this period, situated at the Upper Danube (Germany) and the main focus of the lecture. In conclusion, Fernández-Götz, discussed the relevance of this evidence for early processes of centralisation and urbanization.

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▶ *Profile page*

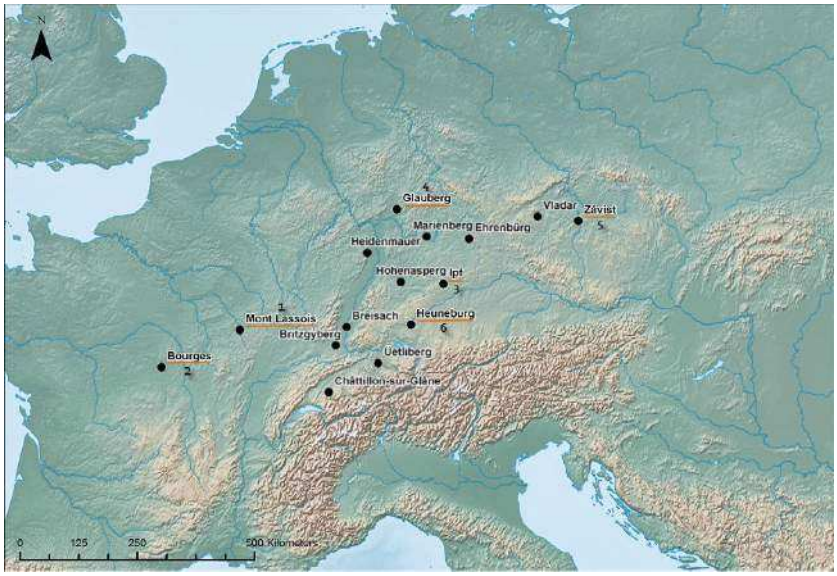

Figure 1
Map of part of Early Iron Age Europe showing the six key-sites including the Heuneburg. These fortified sites might be reconsidered to be proto-urban settlements (illustration adapted by author after Fernández-Götz, M./D. Krausse, 2013, Figure 1, original created by C. Steffen, Landesamt für Denkmalpflege).

Centres of Power

The five key-sites, or 'centres of power', Fernández-Götz mentioned are Mont Lassois (Bourgundy), Bourges (Central France), IpF (Germany), Glauberg (Germany) and Závist (Bohemia). They are spread over a vast area reaching from Western to Eastern Europe (see Figure 1). All of these sites offer evidence for early settlement patterns, specifically from ca. 600 BC (Hallstatt D) till ca. 400 BC (La Tène A), preceding the often more well-known oppida. Furthermore, these Early Iron Age sites seem to set the pace economically, politically or religiously in the surrounding area. Considering this (inter)regional role we can understand why they are preferably labelled 'centres of power'.[2]

The first site Mont Lassois is located at the upper reaches of the river Seine in Burgundy, Central France (Figure 2). Traditionally, the fortified hill-fort has been described as a Late Hallstatt princely site (*Fuerstensitz*-) settlement. It is well-known for its associated 'princely' grave; The Vix burial. This grave of a woman of high status offers evidence (jugs, mixing vessels and cups) of the importance of feasting and especially drinking and ancestor worship. Most importantly, the famous 'Vix' krater is interpreted as a diplomatic gift and thus an indicator of relations with people from the Mediterranean. The research programme "*Le Mont Lassois et son environnement*" (initiated in 2001), deals with the structure and specific development of the site.[3] The results of geomagnetic survey provided evidence for planning organization and complexity (a town plan). Recent discoveries regarding the Early Iron age include apsidal buildings, adorned with wall paintings and Mediterranean imports such as amphora, and Greek pottery. These structures are thought to be places for assembly, feasting, or political and cultural activities. In short, the sixth century BC settlement of Mont Lassois, already seems to have been a centre of political authority and a central hub in an interregional trade network.

Figure 2

Mont Lassois, France, location of the ancient hill-fort of Vix, seems to have been a centre of widespread political authority and extensive trade relations, during the sixth century BC (aerial Photo by René Goguet).

The second key-site is Bourges in Central France located on the river Loire (Figure 3). This hill-fort site is commonly known as the late Iron Age *oppidum Avaricum*, the old capital of the *Bituriges Cubi*, which Ceasar occupied and chose to call an *urbs*.[6] Less well-known is Late Hallstatt and

Figure 3
Bourges, Central France (after aerial photo from Office du Tourisme de Bourges).[4]
The central promontory occupied by the modern core of Bourges, set around its magnificent cathedral, is believed to be the focal point of an Early Iron Age town. The fate of Bourges' fragile Proto-state system fits into a larger pattern of mid-fifth century BC collapse seen in sites such as Mont Lassois and the Heuneburg.[5]

Early La Tène Bourges, which was recently excavated as part of more comprehensive programmes in Eastern France and Western Germany.[7] The excavations, covering 15ha, revealed the appearance of several settlements dating from the end of the sixth till well into the fifth century BC.[8] These proto-urban centres reveal to urban organisation of the area, which is supported by the fact that the initial Hallstatt settlement is surrounded by other settlements.[9] In addition, proof is found of rich burials, an acropolis, artisanal subunits (fifth century BC), and an impressive number of Mediterranean imports. The site was abandoned towards the end of the fifth century BC. Around the same time, the Mont Lassois and Heuneburg sites were abandoned or destructed. In sum, fifth century Bourges appears to have been an outsize type of proto-urban settlement.

The third site is mount Ipf, a Celtic hill-fort near Bopfingen, Baden-Wurttemberg in Southern Germany (Figure 4). The hill-fort built on an elevation, dominates the neighbouring landscape of the crater formed by the impact of a meteor, and was occupied from the eighth till the third century BC. The summit contained a large number of finds from the Hallstatt and a few finds from the Early La Tène, including Mediterranean imports. Evidence of a proto-urban settlement consists of the associated urn-fields, tumuli, and the contemporary settlements on the edges of the

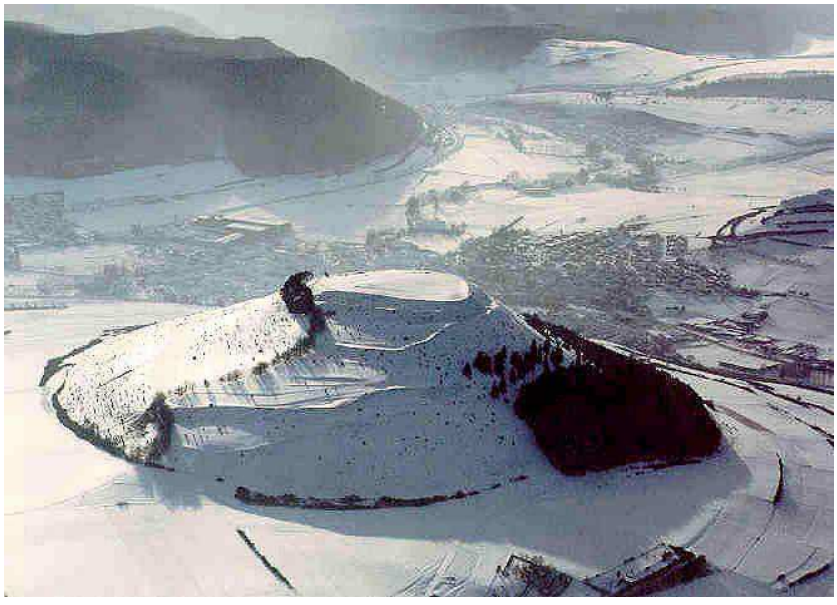

Figure 4
Mount Ipf, Southern Germany (aerial Photo by Otto Braash).

crater,[10] which imply a structured landscape and a hierarchy of settlements.[11] However, I question whether we can identify Ipf as a proto-urban settlement; since there is evidence that the nearby Goldberg hill-fort is competing for the same territory.[12]

The fourth site is the Glauberg situated on the east edge of the Wetteau (Germany) and the most north-easterly site (Figure 5). The unique life-size sandstone statue, the Glauberg Prince, is the most intensively discussed artefact. The Glauberg is called a 'princely seat'. It constitutes a typical fortified hill-fort with several burial mounds; however, it is different from the previous settlements, as it has several non-defensive structures that were found in recent years, such as a processional road leading to the largest tumuli, an open air sanctuary and a calendar structure. This late Hallstatt and Early la Tène (sixth – fourth century BC)[13] ritual complex is a unique monument indicative of creating and sustaining memory in prehistory. The Glauberg probably functioned as a regional ritual centre around fifth century BC.[14] This function, in combination with the presence of imported materials and elaborate burials, results in the re-classification of the Glauberg as a proto-urban centre of power, trade and cult, unique but befitting the various constellation of Early Iron Age power centres.

The fifth site was found in the Natural Cultural Monument of Závist in Central Bohemia , Czech Republic (Figure 6) and is called the sacred mountain, possibly a *nemeton* or *locus consecratus*.[15] An acropolis dated from the sixth until the fourth century BC on which complex structures and Mediterranean imports were found.[16] At this place a settlement continued from 175 BC and shows the characteristics of an *oppidum*. To be able to assess whether this site is rightfully listed as an early centre of power, but for its religious function requires further investigation.

Figure 5
Lidar image of the Glauberg and surrounding territory in Germany. Beneath the elevated fortifications in the centre, the large tumulus and remains of the processial road, consisting of two parallel lines, are clearly visible.
(after Posluschny 2008, Fig 5.)

Figure 6
Závist, Czech Republic
(after Photo by Lujerista on Google maps).

The Heuneburg project

The sixth and final site, being the focus of the lecture, is the Heuneburg (Figure 7). A fortified site situated at the upper Danube, in Baden-Württemberg Germany, and traditionally identified as an early Celtic 'Princely Seat' (650-475 BC). Manuel Fernández-Götz was personally engaged in the recent excavations as coordinator of the Heuneburg project in the state office for cultural heritage Baden-Wurttemberg.

The Heuneburg site has known a long history of excavations, which

Figure 7
The Heuneburg site in Southern Germany (after Fernández-Götz/Krausse 2012a, Fig 119).

produced a wealth of notable finds; the discovery of the mudbrick wall inspired by Mediterranean prototypes, and associated tumuli containing rich grave goods, such as golden neck- and arm rings, wagons, and expensive bronze vessels, all associated with elites. Until recently, the Heuneburg settlement was thought to be confined to the acropolis on the central hilltop. The chronology, expansion and function of the Heuneburg and external settlement became clear during the excavations of the last 20 years.[17] The site started out in the seventh century BC as a scatter of farms and hamlets and grew around 600 BC into a densely and uniformly built settlement. This period is called the mudbrick phase. It was destroyed by fire around mid-sixth century BC; then site occupation continues with the traditional less dense settlement pattern.[18] Before the mudbrick phase possibly a proto-urban settlement pattern had emerged. During this rather complex phase of the Heuneburg three different areas came into being: a densely built citadel (hill-top acropolis), a lower town and an outer settlement (Figure 8).[19]

Figure 8
3D reconstruction of the Heuneburg site in Southern Germany (after Fernández-Götz/Krausse 2012b, 28-Fig 1).
The overview shows the sixth century BC Heuneburg citadel, surrounded by its lower town and outer settlement.

Starting out, the lower town's discoveries were discussed. The Middle Age defences have been reassigned to the Late Hallstatt period (ca. 590 BC), based on dendrochronological analysis of the wood from the newly discovered bridge giving access to the lower town. In addition, it became apparent that the lower town was densely packed during the Late Hallstatt, Early La Tène occupation (Figure 9); for example, sloping areas were levelled to provide extra room for houses. Furthermore, a sixth century BC monumental stone gate was excavated. The gate house consisted of mudbricks set on a stone foundation and was integrated into the 5m tall rampart.[20] Viewshed analysis points to a relation between the gate of the Heuneburg and the surrounding monuments in the landscape, such as the tumuli arrangement that ensured the visibility of the Alteburg, nine kilometres away.[21] Fernández-Götz explained these finds as symbols of power.

Next, the discoveries of the outer settlement and beyond were evaluated. The enormous extent of the outer settlement of ca. 100ha is striking. Equally striking (Fig. 8) is the division of the settlement into quarters, by means of ditches and banks occupied by sets of closely spaced rectangular shaped farmsteads, which may represent a different kinship group.[22] Furthermore, a large structure (320m2) with several rooms was erected, suggesting an Etruscan influence.[23] An agglomeration of contemporary hillforts (Hallstatt D1) was located in the vicinity of the Heuneburg. It is assumed that this agglomeration is subordinate to the Heuneburg however, no evidence has been found to substantiate this assumption. Nonetheless, the subordinate nature of this relation is the key argument for a hierarchy of settlements, with the Heuneburg as the supra-regional hub or centre of power.[24]

Centralisation and urbanisation processes north of the Alps

The third section of the lecture by Fernández-Götz consisted of a reflection on the beginning of centralisation and urbanisation processes of Western and Central European societies within the Hallstatt and La Tène periods. New evidence offered by several 'Princely' sites including the Heuneburg, has led to new insights into these processes.

Importantly, he concludes that these communities mark the transition from complex chiefdoms into early states.[25] To support this view he particularly emphasises the vastness of the territories and multitude of populations, the monumental fortifications and the diversity in functions, ranging from administration, religion, production and consumption. These findings imply that the political and demographic dimensions of Western and Central European societies (sixth – fifth century BC) thus far have been underestimated.

In addition, some important patterns have emerged. Fernández-Götz acknowledges that Iron Age societies cannot be easily classified presenting a divers, variable picture. Furthermore, from the seventh until the fifth century BC and again regarding the third and the second century BC a

pattern of centralisation emerges as opposed to the decentralisation in other periods.[26] In brief, as well as there is no single Iron Age society there is neither a continuing evolutionary development.

Discussion

As a closing remark, Fernández-Götz stated, quoting J.D. Hill, that there is no such thing as *the* Iron Age.[27] The evidence offered, to support the hypothesis that the Hallstatt/ Early La Tène periods of the Heuneburg and contemporary sites north of the Alps are indeed the first (proto-)urban centres, is of a divers and variable nature. Notwithstanding the fact that the evidence is very convincing, allowing for diversity and variability does not mean that anything goes. Maybe, to avoid such a practise, Fernández-Götz does not use all six of the discussed sites to build his case.[28] Thus, the question arises with what purpose he discusses them? What theoretical framework was used to typecast the 'Princely' sites of Western and Central Europa as proto-urban? To answer such questions I will first analyse the criteria that were applied to explore urbanism in the Early Iron Age and then have a closer look at the arguments offered to classify the Heuneburg site as a proto-urban centre of power.

I would also like to cite J.D. Hill. Hill indeed proposes that the diversity of our data suggests that potentially very different Iron Age societies existed at the same time in different parts of Europe. However, he also emphasises that we should not primarily focus on manifestations of hierarchy or elitism, since most Iron Age societies were probably not clearly hierarchical or ruled by a small elite.[29] More importantly, he warns us to avoid further poverty of definition and not to concentrate on a few regions, such as the oppida; this will lead to downplaying the scale and degree of variety we could otherwise experience.[30] When we critically review the six sites discussed by Fernández-Götz, we find only the later oppida preceded by elevated, fortified sites. This bias can easily be explained by the topical research questions pursued by the large funding programmes that prefer to focus on these famous heritage sites.[31] As a result, most new evidence comes from a particular type of site and period. However, the fact that from most of these sites an early urban pattern emerges is an interesting phenomenon. But, how can we define urban with regard to this early pre-historic period?

Urbanism

Obviously, the early urban centres that we discuss here cannot be compared to our modern concept of cities. Furthermore, archaeologists can only analyse material remains. How then can archaeologists define the term urban centre or early city? There are multiple definitions of the term urban or city. Fernández-Götz follows Smith's functional definition of urbanism: "urban settlements are centres whose activities and institutions – whether economic, administrative or religious – affect a larger hinterland".[32] Fernández-Götz and Krausse obviously inspired by Smith's

definition, offer their definition of 'city': "a numerically significant aggregation of people permanently living together in a settlement which fulfills central place functions for a wider community".[33] Fernández-Götz and Krausse stress the context-dependent nature of this definition which allows for a high level of variation existing within different urban traditions and times. Unfortunately, the bias towards a selection of similar, elevated sites, which become oppida, deprives these researchers of the opportunity to intensively explore a broad spectrum of context. Thus, what opportunities does this definition offer? Again according to Smith, Fernández-Götz lists the criteria which were used to ascertain the existence of urbanism.

1 Demographic criteria, such as substantial settlement size, a relatively large population,[34] significant status differences and craft specialization.
2 Functional criteria, such as artisanal and technical functions (craft production), economic and mercantile functions (exchange and trade), political status (monumental structures, wealthy burial, and import) and religious authority (ancestor worship and sanctuaries).[35]

However, with these criteria he insufficiently substantiates the notion of people permanently living together. It seems that he fails to address the following questions: How long is 'permanently'? How do we assess the term of 'living together'?[36] During the lecture Fernández-Götz also referred to Wirth's social approach of urban developments. Wirth defines a city as: "a relatively large, dense and permanent settlement of socially heterogeneous individuals"[37]

Wirth explains that large numbers and the factor density have different social implications and that the notion of heterogeneity must comprise of more than might be expected from a large assembly of people. To make sure that a city is viable; its heterogeneity must be tolerated and favoured. In addition, the acceptance of migrants will stimulate the heterogeneity of a population.[38] Furthermore, Wirth does clarify the terms 'permanent' and' living together'. The first is required to reveal the human characteristics of city life and the second is combined with the dense built-up and thus requires the development of a more or less technological structure.[39] A social approach of urbanism could, according to Wirth, be measured by, for example, the rate of segmentation and specialisation, the increase in complexity of social structures, social mobility, and the segmentation of the city plan (districts).[40] It would be interesting to explore the workability of such a theoretical framework to assess Early Iron Age settlements. However, availability of archaeological data to quantify these factors offers a challenge in itself.

In retrospect, the definition proposed by Fernández-Götz and Krausse may be interpreted as a pioneering attempt to combine the available data, often based on research questions focussing on demographic or functional aspects, with a more social definition of urban settlements. Yet, without specifying all factors the term proto-urban will still be associated with programmed and inevitable progress as opposed to multiple and varied forms.[41]

The casus of the Heuneburg

Was the Heuneburg an urban centre and a centre of power? Could the Heuneberg indeed be the *polis* of Pyrene that lay at the Danube?[42] Fernández-Götz argues for the proto-urban status of the Late Hallstatt Heuneburg (the period of the mudbrick wall ca. 600/590 to 540/530 BC).

First, he has stated that the population density for that period, including the outer settlement of more than 100ha, is estimated at 5000 inhabitants.[43] In actual fact, the outer settlement has not been completely mapped; a conclusive find would be the recovery of additional burial grounds, giving more substantial evidence to support an estimation of population density.[44] Still, the estimated number of inhabitants implies that the Heuneburg largely depended on its outer territory for basic products.[45]

Second, Fernández-Götz emphasized the substantial settlement size and showed that the settlement pattern of especially the mudbrick-wall period was very dense when compared to the previous and succeeding period of occupation and to other settlements in the region. This was very clear from, for example, the ground plans of the citadel (Fig. 9) .

In sum, he proposed that the Heuneburg possessed important central functions. First, it must have been an important production and distribution centre. Arguments that support this statement are the wide range of artisanal workshops and wares that were found, including pottery, textiles and *fibulae*.[46] This is ample support for the function as a production centre; however, no evidence was presented of control over the distribution of site characteristic wares. Proof of external trade relations is weak; the majority of Mediterranean imports date from a more recent period than the mudbrick wall period. Second, there was some evidence found of ritual activity and the tumuli, in the vicinity of the Heuneburg site, point to ancestor worship, but we cannot speak of an explicit ritual centre function.[47] Third, the rich burials found in these associated tumuli and the recovery of a richly endowed child burial give evidence of elite presence

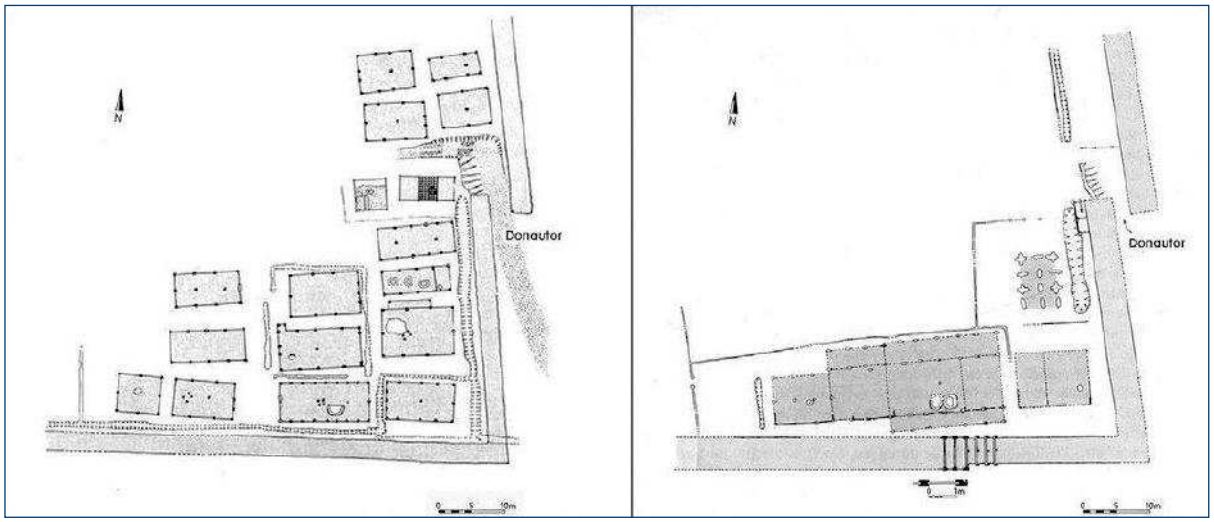

Figure 9
Successive ground plans of the citadel of the Late Hallstatt Heuneburg settlement. Left: plan of the structures during 'mudbrick' phase. Right: plan of the structures following the 'mudbrick' phase (after Fernández-Götz/Krausse 2012a, Fig. 131, 133).

and are a reflection of the position of power and elevated social position of the deceased (Fig. 10).[48] These conclusions are supported by monumental structures, such as, the monumental gate, the monumental building in the outer settlement and the fortifications. Furthermore, the spatial distribution of sites, such as the Heuneburg, and the uniformity of elite material culture suggest that the origin of such settlements should be sought in the application of the peer-polity-interaction model in which a polity equals the political unit of a settlement and its territory.[49] Importantly, Fernández-Götz argues that the prime mover for the development towards proto-urban centres is demographic growth accompanied by an increase in internal inequalities. Power and status, in such early agrarian societies, are derived from land ownership and the control of local production.[50]

Even though not all possible central functions are convincingly argued for, there is ample proof based on the settlement size and central functions (administration, trade, craft and protection) to propose that the mudbrick-wall period of the Heuneburg qualifies as a proto-urban centre.

Figure 10

Several important finds from the rich burial in the Bettelbühl necropolis, 1.5 miles (2.5km) south-east of Heuneburg, that give evidence of elite presence and reflect the position of power and elevated social position of the deceased (after Fernández-Götz/Krausse 2012b, 33).

Conclusion

The lecture provided an exciting new perspective and thus challenged traditional views on the social organisation of the Early Iron Age. It was well structured and aimed at an audience of students of archaeology and ancient history and could certainly be of interest to a wider audience. Although the content of the lecture offered new insights and presented convincing arguments for the existence of proto-urban beginnings in the Early Iron Age, some important questions remain unanswered. For example, what are the selection criteria for the discussed 'Princely' sites and what exactly do they contribute to the debate? Why only focus on a particular Iron Age site, fortified hilltops, which became oppida during the second and first centuries BC?

These gaps in our knowledge make it difficult to assess the contribution of this research with regard to the larger picture of Iron Age Europe. Based on the evidence we can conclude that the Late Hallstatt Heuneburg is a proto-urban centre, but what kind of society was this? The mudbrick wall period stands out as quite different from the traditional settlement patterns seen before and after that time. Is the mudbrick wall occupation to be associated with a new group of migrants or merely a periphery influenced by Mediterranean culture or does it represent a different lineage within the original population? These questions are being investigated by analysing material culture and using genetic analysis. The first results point towards a pattern of continuity.[51] But, do the rather short-lived (max. 60 years) and distinctive architectural features (mudbrick and plan of large house) of the Heuneburg contribute to new insights into urbanism of the Early Iron Age? Obviously, this exceptional type of urban settlement is even difficult to classify within the sphere of 'Princely' sites. Nevertheless, it was undoubtedly an urban beginning that was short lived as it was destructed by crises unknown. Does a social definition or rather the context-based definition of cities by Fernández-Götz and Krausse create a niche for the remarkable urban start-up of the Heuneburg site or was it a rare exception? To be able to answer this question I think that first the theoretical framework needs to be made more explicit and concrete. Hence, Fernández-Götz may be too optimistic concluding that this phase of the Heuneburg is part of a dynamic multi-layered society.

During his academic career the notions of power and identity have dominated Fernández-Götz's theoretical perspective. As regards the Heuneburg his research is led specifically by the notion of power. A refocus on questions concerning the social identity and organisation of early city-dwellers may help the further exploration of the diversity as well as the similarities of Iron Age centralisation and urbanisation processes. Without a doubt, further research is needed to answer all these exciting and challenging questions.

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Notes

1 For example, Augier, Buchsenschutz, & Ralston 2007; Biel & Krausse 2005; Böttinger; Chaume & Mordant 2011; Echt; Gersbach 1995/6; Herrmann 2005; Hill 2006/7; Kaenell 2010; Kimmig 1983; Krausse 2005/8, Krausse-Fernández-Götz 2012; Kurz 2010; Milcent 2007; Schenk; Sievers & Schönfelder 2012.

2 Centres of power can be defined as localized regions in the world where political, economic and cultural influence are dominant for a time, hence defining a particular age within history.

3 ▶artehis-cnrs.fr accessed on 25-10-2013.

4 ▶bourges-tourisme.com accessed on 22-04-2015.

5 Ralston 2010, 70-88.

6 "A town which is one of the most beautiful and strongest towns in Gaul and the ornament of the country ... " (Ceasar, The Gallic Wars VII).

7 Including a German Schwerpunktprogramm, directed by Professor Alfred Haffner and Dr Jörg Biel, ▶ianralston.co.uk accessed on 25-10-2013.

8 Fernández-Götz mentioned that this might be the kingdom of Ambigatus, the legendary king of the Biturges tribe according to Livy (Livy, Ab Urbe Condita). Unfortunately, this is for now mere speculation.

9 ▶ville-bourges.fr accessed on 25-10-2013.

10 Fernández-Götz mentioned the association with a rectangular earthwork enclosure (*Viereckschanze*) but this is dated third till second century B.C.) after the sparsely represented Late La Téne phase and excavated in the valley of the Eger south to the Ipf, ▶home.bawue.de accessed on 25-10-2013.

11 ▶fuerstensitze.de accessed on 25-10-2013.

12 ▶slideshare.net accessed on 26-10-2013.

13 In the fourth century BC the hill-fort appears to have been abandoned.

14 Herrmann 2002, 95-98.

15 Fernandez-Götz proposed the label *nemeton* (a sacred space of ancient Celtic religion primarily situated in natural areas) or *locus consecrates*, which also refers to a sacred place associated with the realm of the ancestors.

16 ▶arup.cas.cz accessed on 25-10-2013.

17 From 2004-2010, the priority programme 'Early Celtic Princely Centres' funded large-scale excavations and prospection of a substantial part of the surrounding area of the Heuneburg , Bad Dürkheim, Ipf and the Glauberg ▶ fuerstensitze.de accessed on 26-10-2013; Ongoing research focusses on the chronological and functional connection between the Heuneburg central settlement, the defensive ring and the external settlement (▶fuerstensitze.de accessed on 26-10-2013).

18 Fernández-Götz / Krausse 2013, 482.

19 Ibid. 475.

20 Ibid. 476.

21 The Alteburg which is partially excavated offers ample indications for ritual activity.

22 Fernández-Götz / Krausse 2013, 477.

23 During the lecture the evidence for this Etruscan influence was questioned and debated. See for references Fernández-Götz/Krausse 2012b, 32.

24 Some of these Hillforts continued after the destruction of the Late Hallstatt settlement of the Heuneburg (Fernández-Götz/Krausse 2013, 477-8).

25 Ibid. 484.

26 Ibid. 485.

27 Hill 2006, 172, 179.

28 For example Ipf and Závist are ignored in the argumentation. Furthermore, the evidence of the quite similar Hohenasperg is ignored.

29 Hill 2006, 169.

30 Ibid. 172.

31 See notes 7, 9, 13, 19.

32 Smith 2007, 4.

33 Fernández-Götz / Krausse 2013, 480.

34 Population overlaps with settlement size, because settlement size is a factor in the calculation of the population estimate.

35 Fernández-Götz / Krausse 2013, 479-480, 484.

36 The problems with these aspects of the definition may be due to the fact that 'permanently living together in a relatively small area' is part of definitions of the modern city, of which the movement of a significant larger number of the people (>50%) from rural to urban areas is a defining characteristic (Long R. 1998: *Urbanization Sociology*. Encyclopedia Britannica Article, ▶csbs.utsa.edu accessed on 25.10.2001).

37 Wirth 1938, 8.

38 Ibid. 9-10.

39 Ibid. note 10.

40 Ibid. 12-16.

41 See e.g. Kaenel 2010, 568-570.

42 Herodotus, Historiën II, 33.

43 The references that state this number of inhabitants are Fernández-Götz / Krausse 2012a, 120 and Fernández-Götz / Krausse 2013, 478, which do not offer an explanatory calculation. Calculations are available in Kurz 2010, and Kurz 2005, 23.

44 ▶fuerstensitze.de, last updated on 21-2-2008 and last accessed by author on 22-04-2015.

45 See for a crop estimation of the 1.5km surrounding radius of the Heuneburg ▶slideshare.net (slide 81) accessed on 01-10-2013.

46 Fernández-Götz/Krausse 2013, 483.

47 For example, the Glauberg and Závist present clear examples of such a regional cult centre function.

48 Fernández-Götz/Krausse 2013, 480-481.

49 Snodgrass 2006, H13.

50 Fernández-Götz refers to Gosden 1985 (Fernández-Götz/Krausse 2013, 479). In addition, the discovery of a wealthy burial for a young child is an indicator of inherited status (ibid.480).

51 Murray and Arnold: working research design, theme 2 ▶pantherfile.uwm.edu accessed on 01-10-2013.

The rise of urbanism in Early Europe: A dialogue – Part 2: Response

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URBAN DEVELOPMENT IN THE HALLSTATT PERIOD: A COMPARATIVE VIEW

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▶ *Profile page*

The genesis of large fortified central places is one of the most important phenomena in Later Prehistoric Europe. In temperate Western Europe, the origins of urbanism have long been identified with the emergence of the *oppida* of the second and first centuries BC, considered to be the 'earliest cities north of the Alps'.[1] However, large-scale research projects carried out over recent years have started to challenge this long-established view, to the point that nowadays it is possible to assert that the term 'urban' already applies to some of the so-called *Fürstensitze* or 'princely sites' of the Late Hallstatt and Early La Tène periods, i.e. around 400 years before the Late La Tène *oppida*.[2] The purpose of my 2013 lecture in Amsterdam was to present and develop these new insights, which continue to constitute one of my central research interests.[3] Studying cities in a long-term and cross-cultural perspective links the past with the present, allowing a better understanding of one of the most important developments in human history.[4] In what follows I will present some reflections that complement the comments made by Karin Scharringhausen in her review.

The 'classic' model of the Late Hallstatt *Fürstensitze* was presented by the Tübingen professor, Wolfgang Kimmig, in 1969. It was based primarily on the results of the excavations at the Heuneburg. He defined the discovered sites as political and administrative centres with a separate fortified central area on an elevated site. There were finds of objects from the Mediterranean, and sumptuous burials in the surrounding area. For a long time this picture remained the standard model in Central European scholarship. Authors such as W. Kimmig, E. Sangmeister and H. Zürn reconstructed a vertical stratification of society in Württemberg with three or four layers. Analogous to medieval feudal society or the aristocracy of the Early Archaic period, the richest burials were attributed to a ruling or aristocratic stratum which was proposed to stand at the top of a social pyramid. The middle of the pyramid consisted of a more or less wealthy class of persons who were free. Opinions varied as to whether the poor at the bottom were free men, or serfs.

However, since then the results of recent years have led to the conclusion that the settlements that are described as *Fürstensitze* are in

fact structurally much more complicated. They did not constitute in anyway a unified group of settlements.[5] They were rather centres of power that often differed significantly from each other concerning the date of their establishment, their architecture and their function as a central place. Common to almost all of them is the fact that they were inhabited for a relatively short period that only spanned a few generations, mostly for 100-200 years. Given these new results, it seems appropriate to apply the term 'town' to at least some of these centres of power such as the Heuneburg during the mudbrick wall period, or Bourges (Figure 1).

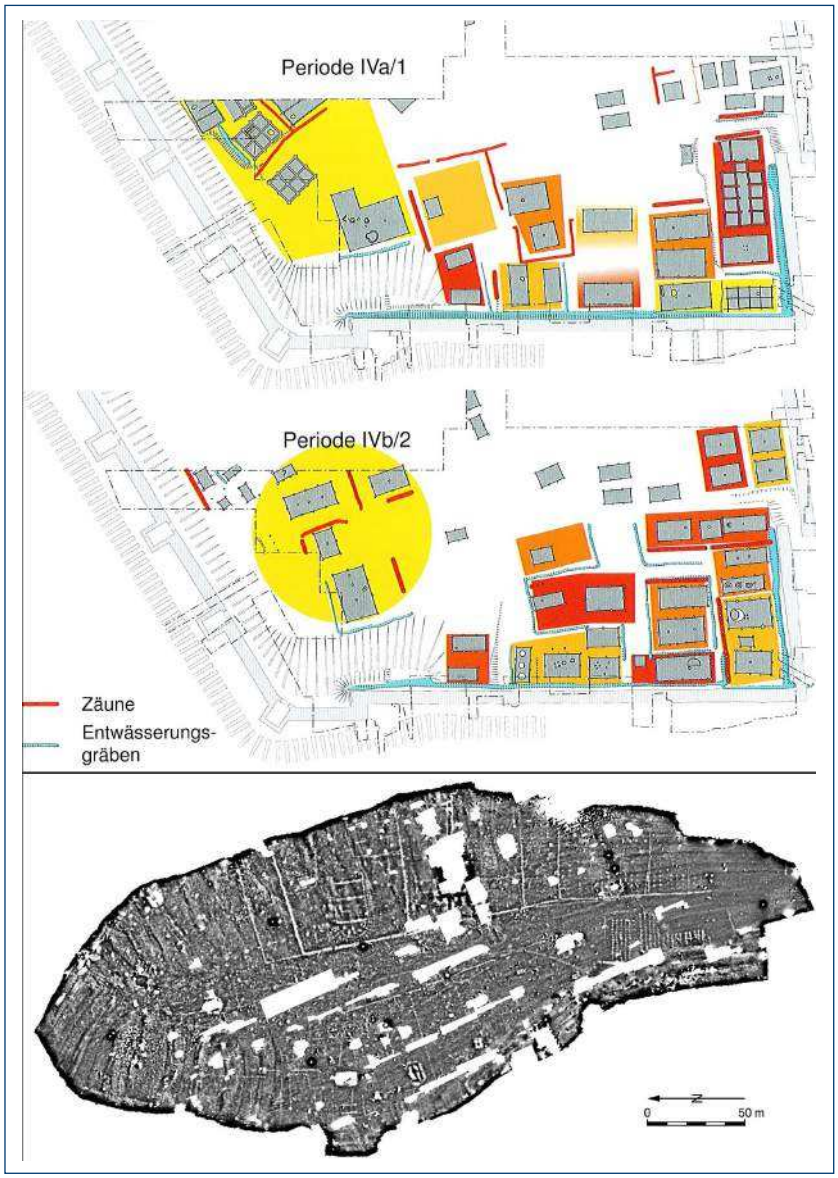

Figure 1
Two examples of regular settlement layouts as evidence for town planning in the Late Hallstatt period.
Top: Heuneburg, plans of the settlement during the mudbrick wall phase.
Bottom: Mont Lassois, geomagnetic plan of the plateaus
(after Krausse et al. 2012).

But other central places like the Glauberg these seem to have been enormous assembly places, refuges or cult sites rather than 'towns'. Reflecting on the diverse nature of the concept of Early Iron Age urbanism Michael E. Smith has recently stated:

"From one perspective, the question of whether the Heuneburg is classified as an urban settlement is not important. For our understanding of

that site, it is far more important to describe and explain the particular manifestations of Iron Age life and society than to classify the settlement [...] But from the broader perspective of comparative urbanism, re-classifying the Heuneburg as an urban settlement has two big advantages. First, it allows data from that site – and other Early Iron Age sites – to contribute to discussions of the nature of urbanism around the world. Comparative urban scholars can add another case – a unique and fascinating case – to our sample of early urban societies. Second, archaeologists who work at the Heuneburg can draw on the concepts and insights of comparative urban studies to add richness to their reconstructions of life, society, and change at the Heuneburg".[6]

'Triangular' societies and their alternatives

Apart from the mudbrick wall, in the case of the Heuneburg, evidence of Mediterranean contact and influence is minimal until the restructuring that took place after the big fire of around 540 BC.[7] Thus, trade with the Mediterranean was not the main drive of cultural change, but rather a consequence of population growth and increasing internal inequalities. In other words: even if the genesis of the *Fürstensitze* cannot be analysed completely independent of the simultaneous processes of urbanisation in the Mediterranean, it will have been above all indigenous factors that were responsible for their foundation. Rich burials of the phase Hallstatt C in Germany, such as Gomadingen on the Swabian Alb or the Prunkbestattung from Frankfurt-Oberad, bear witness to the fact that the increase in social hierarchisation and the development of powerful local elites had begun several decades before the arrival of the Greek colonists in the South of France and the foundation of Massalia (Marseille) soon before 600 BC, and so were primarily of an indigenous nature.

Analysis of the vegetational history indicates that in the sixth century BC for the first time there was dense settlement in the highland regions north of the Alps, areas with relatively poor climatic and agricultural conditions. This process of settling new land must have been immediately preceded by a period of increase in population.[8] We can assume that apart from technical innovations such as iron production and politico-organisational improvements, a period of climatically favourable conditions in the late seventh and sixth centuries BC also led to a growth in population and the settlement of new areas. These factors – population growth and an increase in available arable land and other economic resources – formed the real basis of the wealth of the social elite that is so impressively visible to us in the form of the so-called 'princely graves' (*Fürstengräber*). It is probable that the political and social upper class played a decisive role in the process of centralisation, because without suitable social conditions to guarantee exchange, trade and a minimum degree of social stability, it is hard to imagine the extent of growth and centralisation visible in the archaeological record.

In fact, Late Hallstatt communities – or at least a significant number of

them – constitute a good example of the social 'triangular' model described by Jeremy D. Hill in 2011.[9] Two main characteristics of Hill's model are: a significant social distance between the members of Iron Age societies, and very few individuals occupying the highest level, whether they are referred to as chiefs, elites or aristocracy. However, archaeological evidence reveals very varied patterns of societies during the First Millennium BC in Europe, from those that display marked signs of social hierarchy, such as the communities of the so-called Late Hallstatt 'princely seats', to others such as those of the Iron Age Sorian hillforts in Central Spain where social differentiation was much less pronounced.[10] Regional differences, synchronic and diachronic, need to be recognised and evaluated, since different types of communities with a variety of social configurations, settlement and burial patterns, ideologies, etc. would have coexisted and interacted (Figure 2). There was no uniform Iron Age society, but several Iron Age societies. The task is therefore to reconsider Protohistoric societies from the perspective of diversity, but at the same time being aware of the danger of replacing one monolithic model of 'triangular' hierarchical warrior societies with another, which is equally simplistic and static, in which there was little or no social differentiation before 'Romanization'.

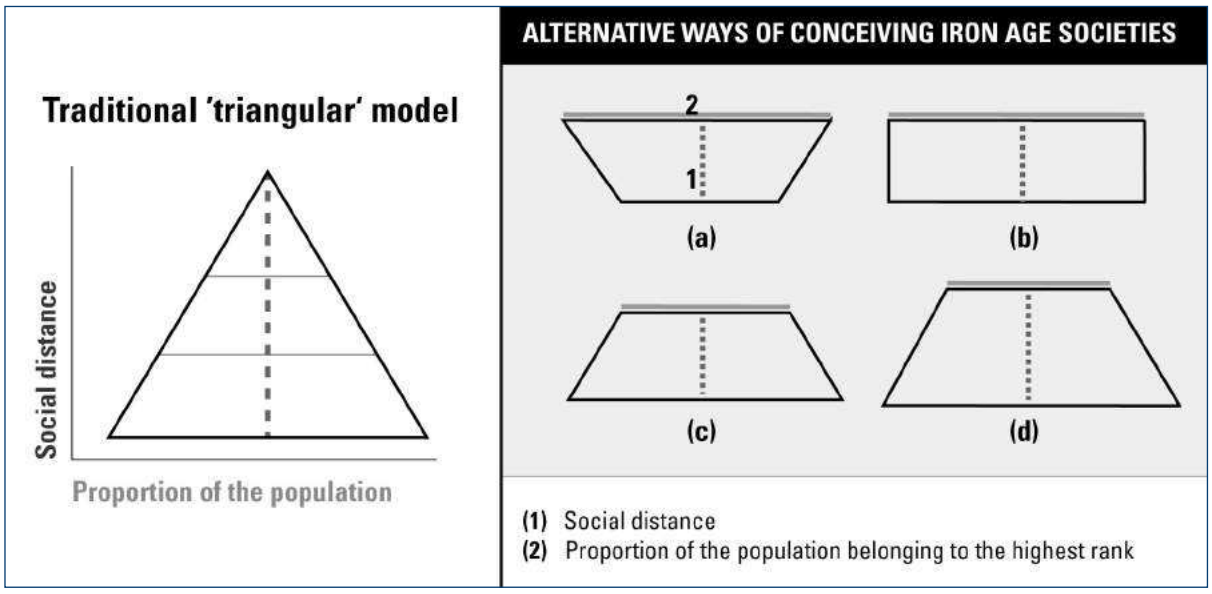

Figure 2
Traditional 'triangular' model of social organisation and alternative ways of conceiving Iron Age societies (created by author adapted from Hill 2011, Fig. 10.1).

Climate change and contested power

It is important to stress that the early process of centralisation and urbanisation that led to the development of the *Fürstensitze* was followed by a phase of decentralisation that set in at different times in different areas. In fact, if we take a broader look we can assert that there was no continual evolutionary development on a European scale from simple to more complex forms of settlements and socio-political organisation during the Iron Age, but rather multi-layered, changing and dynamic cycles of centralisation and decentralisation.[11] Very generally, and still in peril of

over-simplification, it is possible to establish the following sequence in the area immediately north of the Alps:

1 a first phase of centralisation occurred in the *Fürstensitze* of the sixth and fifth centuries BC;
2 followed by a phase of decentralisation, which largely coincided with the stage referred to as the 'Celtic migrations';
3 and a new phase of centralisation that would lead to the development of large unenclosed centres and of the fortified *oppida* of the second and first centuries BC.

This sequence is in marked contrast with the developments that can be observed in wide areas of the Mediterranean world, where many major settlements show a continual, relatively gradual development from the Early Iron Age to Roman times, and sometimes even up to the present day.[12]

The reasons for these structural shifts and changes in the landscape of power are still unclear. But it can be assumed that the changes did not always take place peacefully. For example, at Mont Lassois the heads of two statues at the sanctuary of 'Les Herbues', situated in front of the hilltop, were broken off. Apparently, this took place towards the end of the Hallstatt period. Probably at the end of Period 1 the fate of the Heuneburg was sealed by a catastrophic fire that almost completely destroyed the fortification and the buildings within the acropolis. The fact that the destruction level was relatively full of finds goes against the idea that the abandonment of the site was planned. It would seem that soon after 400 BC nearly all of the early centres of power had come to an end. It is likely that this change was linked to the social processes that were involved in the migration of 'Celtic' groups to Italy and as far as the Balkans that are mentioned by historical sources.

The circumstances leading to the decline of the *Fürstensitze* most likely operated at different levels, so that explanations based on a single cause are insufficient. But there are indications that one of the catalysts was climate change: analysis of cores from the Greenland icecap indicate that as early as the first half of the fifth century BC temperatures dropped in the entire northern hemisphere, followed by a rapid environmental degradation around 400 BC.[13] The cooler climate certainly will not have made the areas settled in Southern Germany or Eastern France uninhabitable, but it could have led to poor harvests in the areas which had been colonised just a few generations earlier.[14] This may have led to famine and migration. At the macroperspective level, the main climatic periods of the first millennium BC do indeed correspond with the most important stages of the processes of centralisation and decentralisation that took place north of the Alps.[15] The processes that led to the establishment of the Late Hallstatt *Fürstensitze* or the Late Latène *oppida* coincide with climatically warmer periods, while the Celtic migrations of the fourth century BC took place during a colder period (Figure 3). However, if we look at the situation in detail, then numerous nuances and exceptions must be

taken into account. Thus the environmental indicators do not explain so clearly why some centres of power such as Heuneburg or Mont Lassois were abandoned half-way around the fifth century BC, while others such as Breisacher Münsterberg or Hohenasperg continued to function during the second half of the same century.

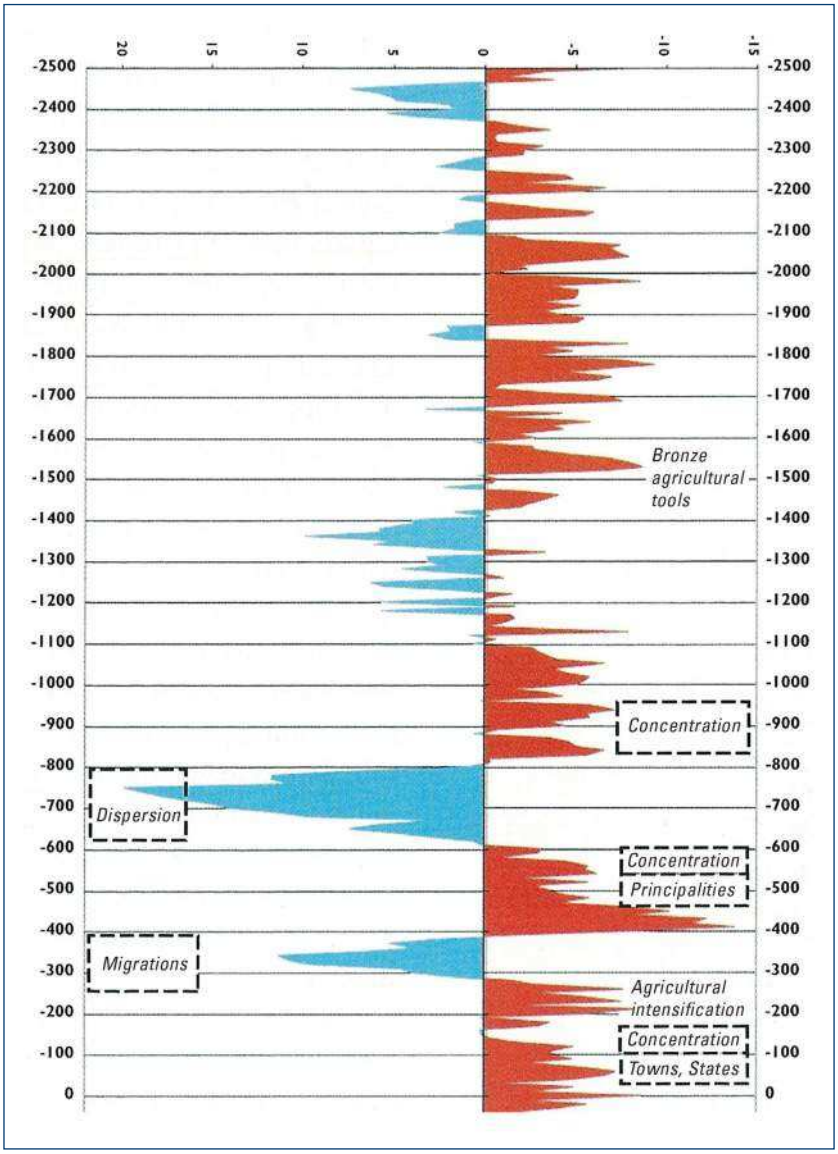

Figure 3
Evolution of solar activity between ca. 2500 BC and the beginning of the Common Era, with cold periods marked in blue and warmer periods in red (after Brun/Ruby 2008).

An explanatory model that should be considered, and is perhaps complementary to the climate change model, concerns the role of migration as a mechanism for regulating power relationships. The emigration of part of the population can indeed be a means of reducing social inequalities. As a whole series of historical and ethnological studies demonstrate, during the course of history societies have employed various strategies in order to counter the development of state organisations. The separation of part of the group is a mechanism that is often used in this process, and in the case of the early Celtic societies could also have served as a reaction to the increasing social inequalities of the sixth and fifth centuries BC north of the Alps.[16]

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Notes

1 To paraphrase the title of the famous book by Prof. John Collis, 1984: *Oppida: earliest towns north of the Alps*.

2 Krausse 2008, 2010; Sievers and Schönfelder 2012.

3 See e.g. Fernández-Götz 2014b; Fernández-Götz and Krausse 2013; Fernández-Götz and Krausse forthcoming; Fernández-Götz et al. 2014.

4 Clark 2013; Smith 2012.

5 Krausse 2008; 2010.

6 Smith 2014, v.

7 Krausse et al. 2015.

8 Fernández-Götz 2014a; Krausse 2006.

9 Hill 2011.
10 Ruiz Zapatero/Fernández-Götz 2009.
11 Fernández-Götz 2014a; Salaç 2012.
12 Garcia 2013.
13 Maise 1998; Sirocko 2009.
14 These areas were less favourable for settlement, but cultivated due to population growth.
15 Brun/Ruby 2008, 55; Fernández-Götz 2014a, 134-137.
16 Demoule 1999; Fernández-Götz 2014a, 138-141.

Eric H. Cline (ed.), 2014: *1177 B.C. The year civilization collapsed*, Princeton/Oxford: Princeton University Press (Turning points in ancient history).

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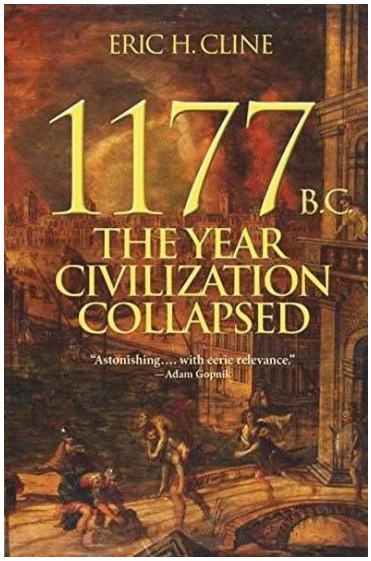

Scholars and students of antiquity may already have encountered the dramatic ▶trailer of Eric Cline's new book on the internet. The same painting features on the glossy cover of the book itself. *1177 B.C. The year civilization collapsed* is the first volume in a new series of Princeton University Press: 'Turning points in history'.

Summary

1177 B.C. pursues several goals at the same time: Cline argues that the destructions at the end of the Late Bronze Age (LBA) in the Aegean and Eastern Mediterranean are worthy of the title 'turning point in history' (preface and prologue). He immerses the reader in the interconnected Mediterranean of the 15th-13th centuries B.C., aiming to show that this was a globalized network of societies similar to our modern world (chapter 1-3).

He presents the most recent understandings of the destruction sites, going over the archaeological and textual material known from Northern and Southern Syria, the Philistine *pentapolis*, Mesopotamia, Anatolia, the Greek Mainland, Cyprus and Egypt (chapter 4) and he investigates the possible causes for destruction at the end of this era (chapter 5), including earthquakes, climate changes, famine, internal rebellion, (Dorian) invaders, collapse of international trade, decentralization, rise of the private merchant and the Sea Peoples. For each of these causes, Cline argues that that cause alone cannot have been enough to bring down all of the involved civilizations. Thus, he proposes to follow the concept of 'Systems Collapse', which sees a 'multiplier effect' in the occurrence of the different destruction causes mentioned above.

Structure

Although the chronologically ordered chapters on the development of the Mediterranean network (1-3) cover a vast number of societies and events and are based on an enormous amount of textual and archaeological evidence, they read almost like a historical novel. Fernand Braudel could not have wished for a more capable author to carry out his suggestion of describing the major events and personae of this era in dramatic form (p. xvii). One flaw in the otherwise excellent structure of the book is the

emphasis on the Sea Peoples in the first half of the book. These peoples are only explicitly mentioned in the Egyptian inscriptions, where they are said to have raided Egypt for a second time in the year 1177 B.C. However, the Sea Peoples are not the only cause proposed for the destructions at the LBA, and other theories, pointing for instance to natural or economic causes for the destructions, have been in vogue for some decades.[1] Nevertheless, Cline takes the Sea Peoples as a general point of reference, both in choosing his title, and in discussing destructions and abandonments of a number of sites in the Aegean and Eastern Mediterranean. Other possible causes of destructions are systematically explored in chapter 5. This hold-off could possibly lead to confusion about the current state of the debate among laymen.

Style

Cline is able to draw from an immense wealth of information and to present the evidence in an engaging and accessible way. *1177 B.C.* is written like a script of a BBC documentary (which will, hopefully, follow the publication in due time), in the way it captivates readers, explains difficult issues and sketches the general history of the rise and fall of the interconnected Mediterranean in the LBA.

The book is littered with amusing references and anecdotes (including Hercule Poirot, Lawrence of Arabia, a Hittite law against nose biting and the ice house of the king of Mari). Possibly difficult concepts such as cuneiform and faience are explained, as well as Akkadian as a *lingua franca* and Tudhaliya I/II's name. (The term 'Canaanite', which is used throughout the book, could have been defined more clearly.) For scholars familiar with the LBA, Cline's explanations are no doubt obvious, but for undergraduate students in archaeology, history or Ancient Near Eastern studies, the book is a pleasant starting-point for a deeper engagement with the period.

Also helpful for novices are a map of LBA societies and a list of 'dramatis personae' (p. vi-vii, 177-80). The map however does not include all the 'major players' listed by Cline and could have included more of recent scholarship on the Anatolian West Coast (Arzawa countries, presence of Ahhiyawans). The absence of Luwians as 'players' in the LBA is remarkable, as they may have played an important part in the interconnectivity of the period.[2]

The comparisons between events and developments in the ancient and modern world (such as the Arab spring and the importance of oil) are insightful and make the content more accessible.

The description of the 'bloom' of the interconnected LBA civilizations is definitely one of the strongest features of *1177 B.C.* It is in this account that Cline's knowledge and evident passion for the period shines through the prose. Cline is able to conjure the (imagined) atmosphere of this period, for instance in describing merchants contributing to cultural exchanges:

> *Such transfer of ideas undoubtedly took place not only at the upper levels of society, but also at the inns and bars of the ports and cities along the trade routes in Greece, Egypt and the Eastern Mediterranean. Where else would a sailor or crew member while away the time waiting*

for the wind to shift to the proper quarter or for a diplomatic mission to conclude its sensitive negotiations, swapping myths, legends and tall tales? (p. 59)

Audience

Cline should be applauded for his successful attempt to engage a more general audience without losing sight of the complexity of the period and problem at hand. Despite Cline's explanations, the complex world of the LBA could still be a bit overwhelming for a layman. Though perhaps unsuitable as a textbook, *1177 B.C.* is greatly recommended to students starting in ancient history, archaeology or languages, who are interested in the earlier stages of Mediterranean antiquity, as well as scholars specialized in later periods who would like to know more about the early Mediterranean. Those interested in history in general, who are not easily scared off by a multitude of names and periods, will find *1177 B.C.* a very rewarding read.

Further remarks

A few passages in the book show how difficult it can be to maintain the precarious balance between storytelling and scholarship. In the preface and prologue especially, Cline emphasizes the abrupt and cataclysmic end of the Bronze Age societies, while recent scholarship tends to stress gradual decline and abandonment. Cline's emphasis is probably needed to valorise the treatment of this period as the first of the 'Turning Points in history' series, but it is difficult to align with the conclusions of the book, where it is stressed that the disruptions were not caused by one entity or event.

Although the author does explain why the year 1177 B.C. specifically is chosen as a 'convenient point' of the end of an era (p. 172), it is debatable if this year really is 'the most representative of the entire collapse' and one might wonder why the more conventional dating, 1200 B.C., has been abandoned in favour of *1177 B.C.*, when neither represents 'the' collapse as a whole.

Cline provides the audience with a nuanced exposé of the destruction sites and causes, including recently gained insights (e.g. new evidence for violent destructions at Tell Tweini[3] and climate changes at the Bronze-Iron transition:[4] p. 113, 145-7). Oliver Dickinson's[5] argument, that destructions at many Mycenaean centres could have resulted from 'a prolonged period of major internal unrest, which could have involved both warfare between Mycenaean states and internecine strife within them',[6] is not part of Cline's inventory of calamities. Cline includes 'internal rebellion' as a destruction factor, but disregards possible competition between Mycenaean polities. Dickinson's criticism on the idea of overcentralization too,[7] is absent from *1177 B.C.*

References to Homer (to explain the Hittite-Egyptian war incited by the death of the Hittite prince Zannanza) and the presence of wooden writing boards on the Uluburun shipwreck (p. 70, 78) may be attractive to a general audience, but since the usability of the Homeric epics for LBA studies is still

under debate, a more elaborate explanation may be necessary to use those reference for the discussion about the end of the LBA.[8]

Networks

In the last part of *1177 B.C.*, Cline introduces complexity theory to nuance 'systems collapse' as the overarching cause for the destructions at the end of the LBA (p. 166-170). Cline argues that the interdependency of the LBA societies was 'open to instability the minute there was a change in one of the integral parts' (p. 168). The metaphors describing the LBA world as a complex system (power grids, traffic jams) are insightful for the general reader.[9]

A more explicit use of Network Theory, which emphasizes the vulnerability of complex networks, would have explained exactly why 'such a globalized international, vibrant, intersocietal network as was present during the Late Bronze Age' could not recover from the systems collapse. *1177 B.C* contains network theoretical figures (p. 61, 107), but these are not referred to nor is their theoretical background explained. These are only methodological minutiae, as Cline argues convincingly that the collapse of the LBA was 'messy' and that 'a multitude of factors were present at the end of the LBA that could have helped destabilize, and ultimately led to the collapse of the international system (…) (p. 170).

Conclusion

1177 B.C. The year civilization collapsed is a marvellous account of the Mediterranean societies of the Late Bronze Age and the eventual demise of their interconnected world. Cline's delightful storytelling and his nuanced exposé on the destructions and their causes make this book a must-read for both history lovers in general and for those already acquainted with the Late Bronze Age.

Thalia Lysen

Notes

1 For criticism on the role of the Sea Peoples see J.T. Hooker, 1976: *Mycenaean Greece*, London, 156-60, and several entries in W.A. Ward/M.S. Joukowsky, 1992: *The crisis years. The 12th century B.C. from beyond the Danube to the Tigris*, Dubuque. For other destruction theories, see for instance P.P. Betancourt, 1976: The end of the Greek Bronze Age, *Antiquity* 50, 40-7; J.T. Hooker, 1982: The end of Pylos and the Linear B evidence, *Studi Micenei ed Egeo-Anatolici* 23, 209-17; K. Kilian, 1988: Mycenaeans up to date, trends and changes in recent research, in: E.B. French / K.A. Wardle (eds.), *Problems in Greek Prehistory*. Manchester, 115-52; E.S. Sherratt, 2001: Potemkin palaces and route-based economies, in: S. Voutsaki / J.T. Killen (eds.), *Economy and Politics in the Mycenaean palace states*, Cambridge, ch. XIV.

2 See for instance the entries by A.M. Greaves, A.T. Millington and A. Teffeteller in Mouton/Rutherford / Yakubovitch, 2013: *Luwian identities: culture, language and religion between Anatolia and the Aegean*, Boston, and the introduction (as well as other entries) of B.J. Collins, M. Bachvarova and I. Rutherford (eds.), *Anatolian Interfaces: Hittites, Greeks and their Neighbours: Proceedings of an International Conference on Cross-Cultural Interaction* (September 17-19, 2004, Emory University, Atlanta, GA), Oxford.

3 D. Kaniewksi et al., 2011: The Sea Peoples, from Cuneiform Tablets to Carbon Dating. *Public Library of Science One* 6/6, e20232.

4 D. Kaniewski e.a., 2013: Environmental Roots of the Late Bronze Age Crisis. *Public Library of Science One* 8/8, e71004.

5 O. Dickinson, 2006: *The Aegean from Bronze Age to Iron Age. Continuity and change between the twelfth and eighth centuries B.C.*, London/New York, 50, 54-5.

6 Ibid. 54.

7 Dickinson op. cit., 35-8, 55.

8 For a recent discussion on the writing boards see W.Waal, 2011: They wrote on wood. The case for a hieroglyphic scribal tradition on wooden writing boards in Hittite Anatolia. *Anatolian Studies* 61, 21-34.

9 See for instance B. Routledge / K. McGeough, 2009: 'Just what collapsed? A network perspective on 'palatial' and 'private' trade at Ugarit', in: C. Bachhuber/R.G. Roberts (eds.), *Forces of transformation. The end of the Bronze Age in the Mediterranean*, Oxford, 22-29; I. Malkin, 2011, *A Small Greek World. Networks in the Ancient Mediterranean*, Oxford. For a general and accessible introduction into Network Theory and the vulnerability of complex networks, see A.L. Barabási, 2003: *Linked*. New York, esp. 109-122.

William S. Hanson / Ioana A. Oltean (eds.), 2013: *Archaeology from historical aerial and satellite archives*, New York: Springer.

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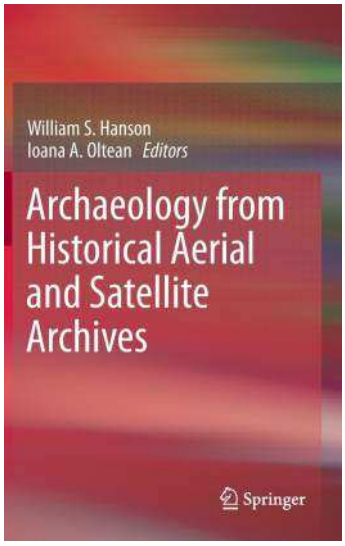

Archaeology from Historical Aerial and Satellite Archives edited by Hanson and Oltean contains contributions of the editors and 27 additional authors from the UK, Australia, USA, Belgium, Italy, Spain, Hungary and Russia. The editors' primary aim is 'to draw to wider attention the existence, scope and potential access to historical archival aerial and satellite photographs in order to encourage their use in a wider range of archaeological and landscape research.' (p. 9). It is written to address a wide audience ranging from students to researchers working within different fields of Archaeology although it is especially useful for those working within the field of Landscape Archaeology.

The authors focus on historical photography taken at least 40–50 years ago for purposes other than archaeological survey, e.g., military or cartographic purposes. The editors started to work on the subject after the Advanced Research Workshop on Aerial Archaeology in Leszno, Poland, in November 2000. Here, their attention was drawn to the fact that Second World War aerial reconnaissance photography offered a great potential for archaeology and that this potential was largely unexploited. The annual Aerial Archaeology Research Group conference in Copenhagen held in September 2007, showed that the subject was still current and under-examined, which stimulated the editors in compiling this book.

Summary of content

The book consists of three parts divided into 18 chapters: Part I: Introduction (chapter 1), Part II Opening Doors: Aerial and Satellite Archives (chapter 2-4) and Part III: Historical Aerial and Satellite Photographs in Archaeological Research (chapter 5-18). 118 figures, most black and white, and four tables are included. The introduction offers the context for the extensive examples of the use of aerial and satellite photographs in archaeology that feature in Part III. It discusses the range of archival sources that are available, their accessibility and the benefits of using them, e.g.: the visualisation of the landscape as it was before the destructive impact of late twentieth-century urbanisation, industrialisation and mechanisation of agriculture; time-change analysis of the condition of archaeological monuments; and the discovery of unknown archaeological

sites that are now destroyed. Part I also draws attention to differences between countries concerning availability of aerial imagery. E.g., closed-skies policy in Greece, Turkey and Bulgaria impede the use of aerial photography for archaeology in these countries.

Part II focuses on the different archives that are available worldwide and discusses the access to the archives as well as the importance of best practice in using historic aerial photographs. Most important and extensive historical aerial imagery is derived from military sorties, e.g. RFC/RAF, Luftwaffe and USAAF, taken during and shortly after both the First and Second World Wars. Many of these photographs are housed in three major international archives: The National Collection of Aerial Photography in Edinburgh, also known as The Aerial Reconnaissance Archives (TARA), the Imperial War Museum in London and the National Archives and Records Administration (NARA) at various locations in the Washington D.C. area in the USA. Another source of historical aerial imagery consists of declassified US CORONA satellite photographs taken between 1960 and 1980 for military intelligence and mapping purposes. These images are available through the United States Geological Survey (USGS). Unfortunately, accessibility to some of the archives is problematic because finding aids often have not been catalogued. Continuing efforts are made to improve this.

Part III is the most extensive part and the core of the volume. It contains fourteen case studies that illustrate the use of historical aerial and satellite archives for archaeological research. The papers range widely both geographically and chronologically: 'in order to demonstrate the widespread applicability of the methodological approach both to students and academic researchers' (p. 9). Their geographical coverage extends across eastern and western Europe, the Middle East and South America. The timeframe of the case studies ranges from prehistoric to World War II Archaeology. In most case studies the focus lies on the use of aerial photography, derived from First World War or Second World War intelligence-gathering reconnaissance or from internally generated survey photography. Two papers illustrate the value of declassified Cold War satellite photography and two cases demonstrate the benefit of the integration of both aerial and satellite imagery.

Evaluation

Part II is, in my opinion, the most valuable part of the book for students and researchers wanting to use historical aerial imagery. It offers practical information on the available archives and how to access them, including website URL's. Of course, this is also a weakness, since it is information that can easily become out-dated. In any case, the book gives an excellent overview of the state of affairs in 2011. Also, it offers an update to previously released books on the subject e.g., Images of Conflict: Military Aerial Photography and Archaeology (2007) by Birger Stichelbaut and others.[1]

An essential read is the chapter on best practice in the use of historic aerial photographs. This chapter addresses the importance of scale of photographs; wrong ideas on the scale of the image lead to misidentification of archaeological features. Also, the need for understanding the relationships between the nature of expected archaeological features (e.g. buried structures, earthworks) and the way in which they can register on aerial photography is stressed. Furthermore, the benefits of using stereoscopic viewers are discussed.

The case studies in Part III nicely illustrate the use of historical aerial and satellite photographs. One can browse through the wide range of subjects and select a chapter that suits ones specific interest or field of study. Many case studies include methodology issues and offer further information on the archives that are available in different countries. If one reads all the case studies, the conclusions become a bit tedious, since the importance of historic aerial imagery for discovering unknown sites and assessment of the changing landscape is stressed again and again. The message would have been clear enough when just five or six case studies had been presented. Although the case studies range widely chronologically and geographically, they are strongly tied together by the shared focus on the use of historic aerial and satellite imagery. Also, the introduction in Part I places the case studies in a broader context.

The figures included in the book are mostly examples of aerial images. Unfortunately, many figures lack arrows pointing at features discussed in the text and figure captions. Whilst the features might be easily recognizable to those familiar with the subject, for less-experienced readers it is not always clear what one should see.

Overall, the book is written in excellent style, one does not notice that many different contributors have worked on the volume. The book is generally well-structured: each chapter begins with an abstract and ends with a summarizing conclusion. But the order of the case studies seems to be more or less random; they are neither chronologically nor geographically ordered.

In conclusion

The book is highly recommended to those with an interest in using historic aerial imagery for archaeology or other purposes, since it offers practical information on the availability and access to the photographs and addresses issues of methodology. The editors succeed in convincing the reader of the added value of historic aerial and satellite images for archaeological research.

Marijke Bekkema

Notes

1 B. Stichelbaut / J. Bourgeois / N. Saunders / P. Chielens (eds.), 2007: Images *of conflict. Military aerial photography and archaeology*, Newcastle upon Tyne.