

RESOURCECULTURES

Reflections and New Perspectives

International Conference of the SFB 1070

12th – 14th February 2020

University of Tübingen / Alte Aula

Münzgasse 22-30 / 72070 Tübingen

International Conference 2020
RESOURCECULTURES – Reflections and New Perspectives
Wednesday, 12.02. – Friday 14.02.2020
At the Alte Aula in Tübingen

Programme, Abstracts and Further Information

Registration Desk: Wednesday 16:00–18:00 at Alte Aula, Thursday and
Friday 08:30–09:00 at Alte Aula
Language of Conference: English

Programme and Abstracts

Wednesday, 12.02.2020

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First Town North of the Alps: Revisiting the Heuneburg after
15 Years of Modern Field Research.

19:30 Icebreaker-Party

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The Rise of a New Millet Assemblage in India.

Prof. Dr. Christoph Antweiler (Universität Bonn): **14**
Anthropocene – the Age of Humans? Diachronic and
Global Perspectives on our Planet as a Resource.

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11:15–12:45 Session II: Developments – Resources and Processes of Social Change

Session chair: Prof. Dr. Bruce James (University of Maryland)

Prof. Dr. Philippe Della Casa (Universität Zürich): **15**
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a Diachronic View on Prehistoric Cycles of Development in the
Alpine Area.

Prof. Dr. A. José Farrujia de la Rosa
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Death as a Cultural Resource?
Indigenous Remains and Colonialism in the Canary Islands.

Prof. Dr. Gyburg Uhlmann (Freie Universität Berlin): **19**
Animals as Resources? – Considerations concerning
Aristotle’s Biology

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Mobility and Social Inequality in Bronze Age Europe.

Prof. Dr. Dirce Marzoli (DAI Madrid): **21**
Near and Far. Change in the Use of Resources in the
8th Century BC in Indigenous and Phoenician Contexts in the
South of the Iberian Peninsula and Western Morocco.

Döbereiner Chala-Aldana, M. Sc. (SFB 1070): **22**
The Interaction of Nature, Landscape and Culture:
Spatial Analysis and Use of Resources in Southern Iberia
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Prof. Dr. Regina F. Bendix (Universität Göttingen): **23**
Culture and Value: A Cultural Anthropological Perspective.

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Forget about Atlantis: Plato's Invention of Tradition or
Symbolic Dimensions of Knowledge as Resource Complex.

Conference-Dinner starting 19:30

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Session chair: Dr. Keiko Kitagawa (SFB 1070)

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Maritime Resources and the Neolithisation in Aegean Anatolia.

Dr. Tamar Hodos (University of Bristol): **28**
Eggstraordinary Objects: New Understandings of the
Production Biography of Decorated Ostrich Eggs in Antiquity.

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Picture sources:

1. The Heuneburg in snow. © Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart/O. Braasch 2. Amber pendant from the hip area of the „Princess's Tomb“ of the Betelbühl necropolis and three of the extremely filigree decorated gold balls. © Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart/Y. Mühleis 3. Langenenslingen, Alte Burg. Corner situation with up to 4.2 m high transverse wall in the upper area of the ascent to the Alten Burg. © Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart/L. Hansen.

Evening Lecture

First Town North of the Alps: Revisiting the Heuneburg after 15 years of Modern Field Research.

Prof. Dr. Dirk Krause, Landesamt für Denkmalpflege, Dienstsitz Esslingen

Large-scale research projects carried out during the last two decades have provided new insights about the development and characteristics of the so-called Late Hallstatt 'princely seats' (Fürstensitze) of the 6th and 5th calBC. Special mention should be made of the Priority Programme 'Early Celtic Princely Seats', funded by the German Research Foundation (DFG) between 2004 and 2010. The new results show that the demographic and socio-political dimensions of the early-iron-age societies were larger and more complex than traditionally thought. The rise of the Fürstensitze can be regarded as the result of a process of centralisation and early urbanisation, similar to phenomena experienced in wide areas of Eurasia and the ancient Mediterranean.

The Heuneburg on the Upper Danube is the best-studied agglomeration of Early Iron Age Central Europe. Research has been carried out on the rich Hallstatt period burials from its environs since the late 19th century, while modern settlement excavations were conducted on the hilltop plateau since 1950. The discovery of a mudbrick wall based on Mediterranean prototypes and probably erected around 600 BC was spectacular, and soon attracted international attention.

In spite of this long tradition of research, new fieldwork carried out in the last two decades has radically changed our understanding of the Heuneburg. The analysis of wide areas located outside the hilltop plateau, and the application of modern research methods such as dendrochronology, isotope analysis, geomagnetic surveys, LIDAR images, digital documentation and 3D laser scanning, has led to spectacular new results and insights.

Session I: ResourceCultures

RESOURCECULTURES – a New Concept to Analyse Socio-Cultural Development

Prof. Dr. Martin Bartelheim and **Prof. Dr. Thomas Scholten**, SFB 1070

Today everyone is talking about the sustainable use of resources. In view of the possible far-reaching changes in the environment and society, scientific, social and political aspects are on the agenda side by side. Throughout human history, comparable situations have been observed at different times and in different places. The Collaborative Research Centre RESOURCECULTURES (SFB 1070) analyses just these kinds of socio-cultural dynamics resulting from the use of resources. We then re-conceptualize the concept of resources in cultural studies, identify diachronic socio-cultural and political developments, and improve our understanding of the symbolic dimension of resources. In combination with a newly developed integrative concept of resources, resource complexes and resource assemblages, RESOURCECULTURES are defined as entities of tangible and intangible means with which actors create, sustain or alter social relationships, units or identities. The SFB 1070 focuses on three socio-cultural dynamics: developments, movements and valuations. They are analysed and discussed in cross-section according to knowledge, materiality, preservation and destruction. In order to develop the new concept of RESOURCECULTURES, more than 60 researchers are collaborating closely in 20 projects in the fields of archaeology, cultural and social anthropology and geosciences as well as history and theology.

The Rise of a New Millet Assemblage in India

Prof. Dr. Roland Hardenberg, SFB 1070

In recent decades, disciplines such as agronomy, plant sciences, food science technology, and different natural sciences have produced detailed knowledge about millets, especially about their health attributes, nutritional composition, growth conditions and environmental qualities. This knowledge had an immense impact on the development of new policies for meeting the Sustainable Development Goals (SDG) such as “zero hunger”, “good health and well-being”, “responsible consumption and production” and “climate action”. Because of their draught resistance, millets have come to be recognised as highly relevant for our planet’s water security and future ecology. In India, these policies are implemented by a myriad of state institutions and non-governmental organisations, which target various communities. What effects do these policies, and the knowledge on which they are based, have for those people who produce, distribute and consume millets? In Odisha (India) these international food policies have an immense impact on local practices, valuations and forms of knowledge. This paper presents a project idea for studying this impact among people who belong to three different social categories: urban elite, rural farmers and hill-dwellers. The hypothesis is that due to the recent millet policies a new millet assemblage is emerging that connects people across regions and social divisions without overcoming the general differences between two “food-world-views”: food security and food sovereignty.

Anthropocene – the Age of Humans? Diachronic and Global Perspectives on our Planet as a Resource

Prof. Dr. Christoph Antweiler, Universität Bonn

The subject of research on the Anthropocene is humanly generated global change that is sweeping the Earth's surface. Man-made planetary change is more than just climate change. Humanity has become a fundamental geo-factor, especially through technology and resource extraction. The empirically proven finding is that humanity has changed the planet substantially so that no ecosystem without anthropogenic component exists. In view of the effects, humanity is a community of effects and – despite all political and cultural fragmentation – also a community of interests. We are dealing with a fundamental linkage of two major categories: the nexus between planet and humanity.

The question arises as to how the entire upper geosphere should be viewed as a resource, even in a non-economic perspective. The findings of the Anthropocene imply a revision or radicalization of the balance-oriented sustainability concept. The concept of Anthropocene combines scientific findings with a universal narrative and plenty of dystopian metaphors. The concept of the Anthropocene should remain scientific and be separated from norms. From the findings of comprehensive anthropogenic change follows no specific policy. An important field of research is the study of cultural diversity as cultural universes as human resources.

One, perhaps the central, resource-related question today is how cultures already linked through material and non-material flows can coexist on a limited planet without having to become all alike? People do not live in different worlds, but different in one world. We need a truly human science of the whole human and of all humanity: anthropology.

Session II: Developments – Resources and Processes of Social Change

From Colonization to Control and Creation of Value: A Diachronic View on Prehistoric Cycles of Development in the Alpine Area

Prof. Dr. Philippe Della Casa, Universität Zürich

1. Introduction: Cycles of Alpine Colonization and Settlement

Alpine colonization and settlement does not appear as a continuous evolutionary process, but rather as a series of individual periods or cycles of varying length and intensity, at least if we use information on find density, site frequency and human impact on landscape (e.g. from palynology) as proxies for settlement history and intensity (Della Casa 2000). Typically, a first Mesolithic cycle differentiates from a (yet fairly unknown) Neolithic one, followed by a Copper Age (the time of the Iceman), a Bronze Age and eventually an Iron Age settlement cycle. The question that arises is: Are these cycles historical realities or constructs of the research status, and if real, how can the cyclical variations be explained?

2. Theoretical Models Borrowed from Economic History and Eco-Dynamics Research

Questioning the state of research is a necessary but daring undertaking that requires a lot of energy, in particular in areas where systematic data survey is difficult to achieve. However, recent regional studies such as in the Leventina valley CH (Della Casa 2018) or Silvretta massif A-CH (Reitmaier 2017) seem to confirm the view of cyclical trends. For this paper, we propose to follow a model of “adaptive cycles” derived from the comparative study of the dynamics of ecosystems, as proposed by C. S. Holling (2001): “It focuses attention upon processes of destruction and reorganization, which are often neglected in favor of growth and conservation. Including these processes provides a more complete view

of system dynamics that links together system organization, resilience, and dynamics.”

3. Triggers and Drivers of Developmental Cycles: Climate, Innovation, and Societal Changes

Climate changes (in particular climate crises), economical developments (e.g. the advent of metallurgy) and societal changes (demographic growth, hierarchies) are often cited as triggers and drivers of non-linear developments. However, none of them can be viewed as an individual decisive factor since adaptive cycles are driven by complex system dynamics. The term ‘Panarchy’ has been re-coined to describe such evolving hierarchical systems with multiple interrelated elements (Gunderson/Holling 2009).

4. Examples from Alpine prehistory: settlement and resource mobilization, climate impact and innovation, topographic resources and control, tertiary economy and added value

Alpine prehistory offers many settings to investigate system dynamics and to test models pertaining to cycles of development as outlined in the preceding sections. We will focus in particular on aspects of resource mobilization (topographic, mineral, biotic, and human resources), climate impact such as during the ‘Lössen’ oscillation, agricultural innovation, and strategies of economic growth, along with phases of stress and decline that might help explaining cyclical processes.

5. Conclusions

Adaptive cycles, such as observable in the early history of Alpine colonization and settlement, must be explained by taking into consideration both natural and human system dynamics. Elucidating the complex roles of technological innovations (Šmihula 2011), crisis and resilience promises exciting themes for future research.

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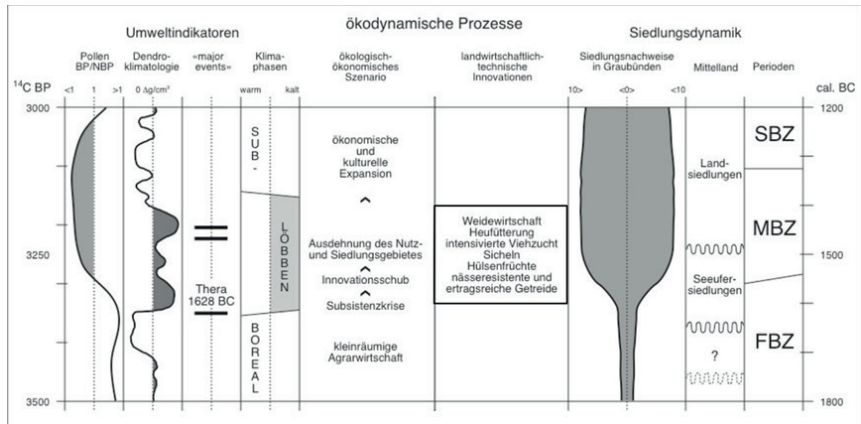


Abb. 1: P. Della Casa, *Mesolcina Praehistorica* (2000).

Death as a Cultural Resource? Indigenous Remains and Colonialism in the Canary Islands

Prof. Dr. A. José Farrujia de la Rosa, Universidad de La Laguna, Tenerife

Current notions of multiculturalism and discrimination have become problematic in the fields of archaeology and museography. There is no longer a shared set of cultural values that we can use for guidance in dealing with moral issues. Ethical principles within the fields of archaeology and museography have historically originated in a Eurocentric colonial context.

This conference examines the ethical dilemmas that stem from the exhibition of human remains, particularly in the Canary Islands, where indigenous bones and embalmed bodies are displayed in glass cases in archaeological museums. Human indigenous bones are also used for the creation of artistic installations in contemporary art exhibitions.

We also reflect on the heritage management in the Canary Islands, and the complex social, economic and cultural processes associated with the current identification of several cultural resources, such as the mummies, seen as symbols of Canarian cultural identity, in a museographic context where the introduction of new technologies, strategies and forms of resource exchange, have not change the way in which these human remains have been handled and exhibited since the 19th century.

The conference also explores the ICOM Code of Ethics for Museums in relation to the Canary Islands Law for Cultural Heritage (2019), amongst other ethical and legal standards. We draw attention to the mortuary evidence that constitutes an integral part of the archaeological record of past culture and behavior. Current local and international code of ethics legitimize indigenous social structures and organizations, as well as their right to claim for the restitution of their delicate cultural materials.

Animals as Resources? – Considerations Concerning Aristotle's Biology

Prof. Dr. Gyburg Uhlmann, Freie Universität Berlin

The lecture follows the concept of the SFB 1070, which uses social and cultural science approaches and sees resources similar to Bourdieu as the object of social negotiation processes, and, thus, as the basis for social interactions. The talk discusses the hypothesis that Aristotle develops a system of order and description of living beings in his scientific writings, which determines them through their mental potencies and rejects a submission to human purposes and calculations of benefits. Therefore, Aristotle's Biology can be regarded as a contribution to the debate about man's access to nature as a resource for man. The lecture confronts this definition of science with current approaches to try to delimit a world-historical epoch with the Anthropocene concept.

Session III: Movements – Resources and Spatial Development

Mobility and Social Inequality in Bronze Age Europe

Prof. Dr. Philipp Stockhammer, LMU München / MPI Jena

Revealing and understanding the mechanisms behind individual mobility and social structure in prehistoric societies is a major challenge. By combining genome wide data, isotopic evidence as well as anthropological and archaeological data, we go beyond the dominating supra-regional approaches in archaeogenetics and shed new light on the complexity of social status, inheritance rules and human mobility during the Bronze Age. We apply a micro-regional approach to a prehistoric society and analyse genome wide data of human individuals deriving from farmstead-related cemeteries from the Late Neolithic to Middle Bronze Age in Central Europe. Our results reveal that individual households lasting several generations consisted of a high-status core family and unrelated low-status individuals, a social organization accompanied by patrilocality and female exogamy, and the stability of this system without visible elites in our micro-region over 700 years spanning the Neolithic to Bronze age transition.

Near and Far. Change in the Use of Resources in the 8th Century BC in Indigenous and Phoenician Contexts in the South of the Iberian Peninsula and Western Morocco

Prof. Dr. Dirce Marzoli, DAI Madrid

Since the end of the 9th century by the expansion of the Phoenicians to the coasts of the Iberian Peninsula and their interaction with the native societies, economic-technological pioneer projects developed, directly connected to the natural resources of the region. A change of priorities and of the type of the materials that were exploited, worked and traded, and in the orientation of the networks started. Traces of this development can be found also on sites where the Madrid department of the DAI is investigating and which are the topic of this contribution.

The Interaction of Nature, Landscape and Culture: Spatial Analysis and Use of Resources in Southern Iberia during the Late Prehistory

Dobereiner Chala-Aldana, M.Sc., SFB 1070

How do landscapes, their perceptions and representations develop through time? Landscapes evolve differently over time, but also differ in the way they are perceived and represented by different human groups. Depending on the discipline, landscape representations sometimes recognise or ignore different elements that could be crucial to the overall picture for a human group. Tools, such as maps showing the “expansion of a culture”, boundaries separating trends in the use of ceramics, or arrows indicating the origin of a raw material, are those graphic elements that help to understand concepts of space use by prehistoric populations. However, the fact that people have been able to perceive space in many ways has led to the aforementioned elements sometimes being taken for granted. There are various proxies for the spatial representation of a phenomenon in the past, but none of them completes the overall picture of the relationship between man and nature.

The south of Iberia has undergone several changes throughout prehistory. Material culture gives us the opportunity to know the relationships between people and the places where these materials come from. Regardless of the nature of these relationships (ritual, economic, social, etc.), material evidence allowed archaeologists to know provenances, directions and connections between objects and/or ideas flowing through human groups from one place to another.

Although the terms ‘nature’, ‘landscape’ and ‘culture’ have different meanings depending on language, country or subject, they can be used to describe perceptions/interactions and uses of space in different moments of prehistory. A few examples should help to understand these changes in meaning and how they are related to the socio-cultural changes archaeologically identified in prehistory.

This paper explores the use of landscapes in the south of the Iberian peninsula as resources, which are characterized by human interactions and at the same time shape social relations between different social groups. It will provide examples from different periods and shows how the character of human-spatial interactions has changed, providing material evidence of socio-cultural transformation processes.

Session IV: Valuations – Resources and the Symbolic Dimension

Culture and Value: A Cultural Anthropological Perspective

Prof. Dr. Regina F. Bendix, Universität Göttingen

The presentation will first trace how cultural anthropological (and volk-skundliche/folkloristic) research paradigms have contributed to or even co-created a long-term binary between “good” or “valuable culture” and other cultural forms and livelihoods considered inferior, inauthentic, tainted and so forth. Whether it be in building new political frameworks and institutions such as in the national, ethnic, or regional thrust, or in the dovetailing nostalgic desire for a preindustrial cultural pastoral, early anthropological thinking supported such ideational deploying and configuring of “culture”.

What is striking in assessing the ways in which value was associated with culture is the foregrounding of the ideational dimension at the exclusion or even denigration of treating excerpts of culture as economic resources. During the last four to five decades, this situation has been addressed vigorously. In part, this is owed to the rise of valuation regimes, in particular the heritage conventions and its precursors and follow-ups. In part, scholars have turned to study also the efforts of extracting cultural knowledge from communities’ commons through patents and other ways of generating profit from cultural resources by claiming property rights. This has opened many an eye to how the full resource potential of tangible and intangible culture has long, not to say always been an intrinsic part of everyday practice.

The Construction of Liminality in the Pre-Roman Iron Age: A Case Study from the Swabian Jura, SW Germany

Dr. Jan Johannes Miera, Universität Leipzig

In Prehistoric Archaeology, the expansion of settled territories has often been explained with reference to economic factors such as the need for certain resources or space for growing populations. This applies in particular to the colonization of landscapes considered less suitable for agriculture. In order to overcome simplistic explanatory patterns like these, theoretical considerations are needed that open up new perspectives on the material remains of the past. The concept of RESOURCECULTURES provides such an alternative, because it connects the appropriation of landscapes with both material as well as immaterial resources. By studying resource complexes, i.e. networks of objects, individuals as well as knowledge and practices, archaeologists are able to describe dynamics in the conceptualization and perception of landscapes.

This can be illustrated by using the Heuberg as an example. The Heuberg is a 10 x 20 km large landscape in the southwestern part of the Swabian Jura, in SW Germany. In contrast to adjacent landscapes, the Heuberg has a low density with regard to prehistoric sites. Since the late 19th century, this has been explained as the result of the agricultural conditions: infertile soils, low annual temperatures, high amounts of precipitation as well as long winter and frost periods characterize this landscape. Furthermore, the Heuberg is a karst landscape with limited access to water.

By applying the concept of RESOURCECULTURES, it is possible to identify a resource complex indicating symbolical dimensions in the conceptualization of this landscape, at least during the Hallstatt and the La Tène period. The distribution of settlements and burials mounds points to a symbolic appropriation of the Heuberg. A pivotal role in the conceptualization of the landscape can be attributed to the Heidentor (“pagans’ gate”) near Egesheim.

The site consists of a rock formation in the form of a six-meter high and four-meter wide gate. It is situated ca. 925 m above sea level on a north-facing slope, whose steepness partly exceeds 50 degrees. The site

became well known in archaeological research in the 1990s, because it was heavily damaged in the course of lootings and had to be excavated in order to save it from further destruction. Altogether, about 143 kg of pottery fragments, about 3 kg of bone fragments, several brooches, finger- and earrings, glass beads, arrowheads, hairpins, belt hooks and a so-called rainbow cup were found. The distribution of the finds focused on the area below the rock formation. Therefore, it was concluded that the objects were tossed through the Heidentor, most likely in the course of ritual activities during the Hallstatt and the La Tène period.

Based on the distribution of contemporary settlements and burial sites, three different areas can be identified on the Heuberg: (I) an area with both settlements and burial mounds, (II) an area with burials mounds and (III) an area with no sites at all apart from the Heidentor itself. Using the concept of liminality, this resource complex can be interpreted as follows: a “landscape of the living”, a “landscape of the ancestors” and the “void” with the Heidentor as the key site in this ritual landscape. These symbolic dimensions were probably maintained, in order to perform rites of passage at the Heidentor. Current archaeological evidence strongly suggests that these different landscapes only existed as long as the Heidentor was used for ritual purposes. With the abandonment of the ritual use of the site, the conceptualization of the Heuberg changed again.

Consequently, this case study illustrates how new theoretical concepts help to overcome old narratives and open up new perspectives on the appropriation of landscapes in the past.

Forget about Atlantis: Plato's Invention of Tradition or Symbolic Dimensions of Knowledge as ResourceComplex

Prof. Dr. Irmgard Männlein-Robert, SFB 1070

The Atlantis story we find in two of Plato's dialogues: In the *Timaeus* and in the *Critias* (in the following we are mainly focused on the *Timaios*-version). The context of these dialogues is a conversation between Socrates and a few others on the ideal state. It is Socrates's friend Critias who tells about the hitherto unknown war story between the contrary states of ancient Athens and Atlantis, about the war between them and how the ancient Athenians triumphed. So ancient Athens is said to have been – once upon a time – the ideal state. This is relevant and important especially for Plato's (mainly) Athenian audience and his intention with these texts. The detailed description of the chain of tradition, through which Critias has learned about ancient Athens and Atlantis, we regard as an example of a quasi-historical apparatus of remembering and certification. My main focus will be on the phenomenon of 'transfer' in this chain of tradition, which proves itself to be a key phenomenon. The different modes of transfer, I want to analyze, imply a personal, temporal and spatial shift of knowledge, power, or culture. The supposed reconstruction of knowledge about prehistoric actions turns out to be (mainly) fiction of a story, which should stabilize the Athenian identity now and in the future. Without memory and recollection, there is no knowledge transfer achieved and, therefore, also no adaption to new spaces, cultures, people, or contexts. So I will propose that in Plato's famous story of ancient Athens and Atlantis the phenomenon of transfer proves to be an dynamic literary method to construct a 'historical tradition', which is meant to be an important symbolic resource complex for the contemporary Athenians and for Plato's projects of future ideal states. The aim of this paper will be to evaluate different values created by the Atlantis story as 'historical' resource.

Session V: Materiality of Resources

Maritime Resources and the Neolithisation in Aegean Anatolia

Prof. Dr. Barbara Horejs, OREA Institute, Austrian Academy of Sciences

This contribution aims to highlight the role of different resource complexes in the process of the crucial transformation from mobile hunter-gatherer-fishermen societies into Neolithic village communities. The regions in focus are the Aegean and western Anatolia in the early to mid Holocene between 9th and 7th millennia BC. Long-term field investigations and multi-disciplinary material studies offer new primary data for integrating resource complexes in the formation of Neolithic house-based societies around 6700 calBC. The changing access, use, management and exchange of maritime resources will be discussed on site-based and supra-regional levels. Resources are broadly understood in this contribution by integrating nutrition, communication routes, raw materials, skills and technologies related to the Sea. Seafaring mobile groups appear to play an important role in the transfer of the nautical knowledge established over many generations to the incoming Neolithic pioneers. This nautical package did not only include seafaring skills, but also the knowledge of routes to important sources on the Aegean Islands, such as jadeite or obsidian. While the use and exchange of obsidian is a well-known topic, the recent discovery of the jadeite source on the Syros Island and its procurement in the 7th millennium BC is highly promising to offer new insights into maritime networks. The impact of the Mesolithic seafaring networks on the Neolithisation process of the regions in focus remains as an open question and will be re-evaluated in the perspective of resource complexes.

Eggstraordinary Objects: New Understandings of the Production Biography of Decorated Ostrich Eggs in Antiquity

Dr. Tamar Hodos, University of Bristol

Decorated ostrich eggs were luxury items in antiquity. They were engraved, painted, and embellished with ivory, precious metals and faience fittings. They were deposited primarily in elite funerary contexts from Mesopotamia and the Levant to the wider Mediterranean throughout the region's Bronze and Iron Ages, particularly during the 2nd and 1st millennia BCE. Along with decorative objects of ivory, bronze, silver and gold, they represent shared elite status indicators across competing cultures of their respective ages.

Since ostriches are not indigenous to Europe, however, decorated eggs from Bronze and Iron Age archaeological contexts in Greece, Italy and Spain must have been imported from the Middle East and/or North Africa, where ostriches were indigenous during these periods. Previous interpretations of where the eggs came from, who decorated them and how they were traded have relied upon iconographic analysis and comparison with other worked media, but answers remain uncertain. This is particularly problematic for the second and first millennia BCE, because craftspeople were mobile and known to be in service to foreign royal patrons.

Therefore, to understand the origins and chaîne opératoire of these particular luxury items, a collaborative team of researchers from Bristol and Durham Universities and the British Museum has recently adopted a different suite of approaches. Using the British Museum's assemblage of ancient ostrich eggs from the broader eastern Mediterranean zone, we have considered isotopic indicators to investigate geographical origin and assess trade patterns. We have also used digital and scanning electron microscopy to characterise decorative techniques to assist in recognising culturally distinct decorative techniques and styles or regional preferences.

Methodologically, our results suggest that both avenues of analysis are essential steps towards establishing a deeper understanding of the production and dissemination biographies for this class of recognised luxuries desired by competing Mediterranean cultures. For instance, we

have determined that the eggs were acquired directly from the wild, and we have been able to distinguish different source zones. These results alone highlight the range of people involved in the creation and distribution of these objects, immediately demonstrating the interconnected systems that underpin the complex management of such resources.

Our results also indicate that more work needs to be done, however. We have identified that egg sources may have fluctuated between relatively local and more distant locations in both the Bronze and Iron Ages. This implies that trade networks in these materials were more flexible, opportunistic and extensive than has been considered previously. Additional experimental work, more comparative data and further study of decorating techniques are also necessary to investigate discernible patterns regarding egg decoration, and potential nest sites. Nevertheless, our research has demonstrated already that the mechanisms of luxury creation, production and trade in exotic organic materials across both the Bronze and Iron Ages in the Mediterranean and Middle East are of unexpected complexity.

Style, Materiality, and the 'Resource Turn': The Cross-Media Application of the 'Flame and Frond' Style on a Lion Statuette from Zincirli, Turkey

Dr. Virginia R. Herrmann, SFB 1070

Most archaeologists consider the analysis and classification of visual style to be an essential tool for the interpretation of the origins and date of artifacts and the contacts and relations between regions. But serious challenges to the paradigms of stylistic analysis have been underway for decades. Among these assumptions are, on the one hand, the idea that style “expresses” or “reflects” local or ethnic identity, and, on the other hand, the analytical separability of style (form), iconography (content), and medium (material). Near Eastern archaeology and art history, which are rather conservative disciplines, have only more recently begun to grapple with these challenges to the transparency of stylistic analysis. Recent critiques of essentializing assumptions in the interpretation of stylistic difference and similarity have proposed that shared visual style is produced by historically contingent “communities of practice” and does not reflect, but rather enacts sociocultural boundaries. The study of “technological style” and of the intertwined roles of form, imagery, and materiality in the production of meaning has also come to the fore.

This paper will attempt to bring together these two strands in recent work on ancient Near Eastern art(ifacts) by considering the relationship among style, iconography, materiality, artisan, and identity in the decorative arts of the Iron Age Syro-Hittite kingdoms. It will explore whether the resource concept, in eliding the division between the material and the cultural, is useful in this regard. A new look at this question is prompted by the recent discovery of an unusual artifact in the Chicago-Tübingen excavations at Zincirli, Turkey, an Iron Age (ca. 900–600 BC) Syro-Hittite royal capital. This stone statuette in the form of a couchant lion, carved in the round with inlaid eyes, has two sockets in its back that suggest that its original purpose was as a base for a striding anthropomorphic figure, probably a deity cast in metal. The form of the object is only otherwise known in metal, while the material and working of the lion correspond to a “school” of soft stone decorative objects produced in the

Iron Age northern Levant, and the incised markings on the lion's body reproduce the so-called "Flame and Frond" style of ivory carving. The "Flame and Frond" style seems to be a survival or revival from Bronze Age ivory carving and has been at the center of recent debates about the meaning and origin of style in ancient Near Eastern art. The lion from Zincirli, representing a unique application of this style to a small stone object, thus injects the additional elements of medium and function into the discussion of style, identity, aesthetic values, and artistic production in this sociocultural context. Putting this object into the framework of overlapping "resource complexes," consisting of interdependent networks of materials, actors, and knowledge, may illuminate its unique appearance, as well as aspects of the Iron Age Syro-Hittite "art world."

Session VI: Knowledge as a Resource

Value in the Knowledge Economy

Prof. Dr. John Frow, University of Sydney

Knowledge, a resource in its own right as well as a representation of other resources, is a formative component of the emergent resource complex that we know as the knowledge economy or knowledge capitalism. I understand a resource to be an available means or material that can be elaborately transformed into something useful or valuable, which may be a material or immaterial product or a social or personal relation. Knowledge as a resource creates value in the following ways:

- as intellectual property, it is built into machines, into software, and into industrial formulae and processes
- as a raw material, it is processed in the digital knowledge industries to generate commodified social relations
- as opinion and affect it is deployed in the publicity and branding industries to add value to commodities
- as either a non-rivalrous public good or a privately owned commodity it generates new knowledges and new social relations in the knowledge, education, and cultural industries.
- as a reflexive action upon systems it works to control and produce the future.

My paper explores the valorisation of knowledge across these areas.

Developments in Animal Husbandry as a Resource from the Early Bronze Age to the Late Iron Age in Lebanon

**Shyama Vermeersch, M. Sc., Prof. Dr. Jens Kamlah,
PD Dr. Britt M. Starkovich, SFB 1070**

Lebanon is an area that has not been researched as intensively as its neighbouring countries, partly due to past political issues. We will be using zooarchaeology and archaeology as resources to explore developments in the ResourceComplex of animal husbandry from the Early Bronze to Late Iron Age (3600–586/332 BCE) in the region. The geography of Lebanon is diverse, consisting of a narrow coastal strip, and further inland the Lebanese and Anti-Lebanese mountains. Throughout the Bronze (3600–1200 BCE) and Iron Age (1200–586/332 BCE), different social groups inhabited these regions, the most famous being the Canaanites and the Phoenicians. These social groups were not part of one cohesive kingdom, instead they were divided in smaller units, referred to as city-states, which consisted of an urban centre and its hinterland. Urban centres were located near harbours or rivers, since they relied heavily on overseas trade networks. By investigating the faunal assemblages of archaeological sites distributed in several geographical locations during the Bronze and Iron Age that were inhabited by different social groups, we will be able to compare animal husbandry practices. This can be done by looking at species composition, herding strategies, butchery marks, body part distribution and the presence of pathologies. Once we have established the ResourceComplex of animal husbandry in various locations throughout time, we can determine differences and similarities between them, and evaluate whether these are due to humans, the environment, or both. In doing this, it is possible to describe the RESOURCECULTURES of Bronze and Iron Age societies in Ancient Lebanon, constituting themselves by their management of agriculturally relevant resources. In addition to a regional framework, we will also present a case-study of faunal analyses at Tell el-Burak, a site inhabited from the Middle Bronze until the Late Iron Age. Tell el-Burak is a coastal site located nine kilometres south of Sidon and four kilometres north of ancient Sarepta. It was an agricultural domain with ties to one or both of these city-states, allowing us to delve

deeper into the possible exchange of agricultural goods. Besides this, the site also allows us to see how agricultural practices changed throughout time and where this fits in our general overview of the region.

Indigenous Knowledge as Enlightened Knowledge? Medicinal Cannabis use in Colonial Mexico

Dr. Laura Dierksmeier, SFB 1070

In a newspaper article from 1772, Mexican natural historian and priest José Antonio Alzate y Ramírez identified the indigenous herb pipilitzintlis as cannabis. Drawing on empirical evidence, Alzate argued in favor of medicinal cannabis use, its prohibition by the Inquisition notwithstanding. Ranging from his own admitted first-hand experience to local testimonies to European medical encyclopedias, Alzate employed a wide array of sources to argue pipilitzintlis was a narcotic with beneficial and natural, rather than harmful and demonic effects. Treatments for cough, burns, tumors, depression, and melancholy, among many others, he avers as legitimate medicinal uses of the herb.

This case study exemplifies concepts analyzed by SFB 1070, where knowledge is defined as a triad of experience, perception, and interpretation. In this example, knowledge perceived as dangerous is reevaluated through personal experience in an attempt to alter its common interpretation and establish the author as a credible expert.

Session VII: Preservation and Destruction of Resources

Construction, Destruction and Preservation in Alpine Landscapes. Ambivalences of Winter Tourism in the Austrian Alps.

Dr. Robert Groß, Universität Innsbruck

In 1958, German author Hans Magnus Enzensberger published one of the most-cited treatises on tourism. By realizing his/her heart's desire, tourists actively destroy that which they seek to find, Enzensberger argued in his classic cultural conservative criticism of tourism. Many tourists long for scenic pristine landscapes. In communicating their touristic experiences to those at home, however, they not only create imitation effects that are reinforced by the tourism industry through advertising. Landscape tourism is also a major economic factor and trigger of regional development, resulting in the creation of tourist infrastructures, which provide accommodation, catering and entertainment. By doing so, tourism both generates economic growth in peripheral regions otherwise affected by depopulation and – with its multiple impacts on the landscape – threatens its very foundation. From early on, this core ambivalence of “romantic”, landscape-based tourism also provoked vigorous nature conservation resistance and sparked a variety of nature protection measures and “alternative” visions of sustainable tourism.

In my presentation, I will focus on the environmental history of the winter tourism industry in Austria's westernmost federal state Vorarlberg. At the beginning there was back country skiing. After hours of ascent one downhill glide could be completed. A pleasure for only few. Providing mechanical ski lifts changed the sport completely after the 1930s. Even untrained people were from then on attracted by the winter Alps. The introduction of ski lifts triggered a real boom. As densification drastically reduced snow quality, skier's bodies had to be shielded from risks arising from low snow quality. In response, ski area managers began to apply ski slope management in the 1960s. While these measures enabled to stabilize skiing practices over the entire winter season, conflicts arose and private property rights had to be driven back in favor of the winter tourism

industry. A spiral of modernization, expansion and intensification began to turn, which completely transformed peripheries.

Despite the fact that winter tourism improved the economic basis in the villages, the transformation began to cause a certain discomfort among the inhabitants of the valleys in the early 1970s. Would the traditional agricultural livelihood survive the massive transformation caused by winter tourism? Would the transport infrastructures be able to accommodate a steadily growing number of tourists without the quality of life of the valley inhabitants suffering too much from the traffic avalanche? Were the building areas sufficient to build the necessary number of hotels and inns? Or would the winter tourism boom lead to the landscape being completely obstructed? In order to be able to answer these questions sustainably, the inhabitants asked for support at the Department of Spatial Planning of the provincial government. At that time, the department used novel forecasting methods in order to develop various future scenarios, which in turn were used to initiate a participatory spatial planning process. The result of this process was a spatial planning concept, the so-called Montafonkonzept, which has inscribed itself in the landscapes of the Montafon Valley in the longer term. Its analysis shows that in winter tourism in particular, regional players are dependent on landscape resources, not least because hiking tourism in the Alps is becoming increasingly important in view of rising summer temperatures and demographic change.

Museums and the Spoils of Imperial War

Prof. Dr. Dan Hicks, University of Oxford

No question of “preservation and destruction” is more significant for European museums today than how to understand and address the place of colonial violence in the formation of their collections, and its ongoing legacies today. This talk introduces the preliminary results of Dan’s current Art Fund Headley Fellowship, which starts to address the (in)visibility of colonial violence in the permanent displays of the Pitt Rivers Museum. In the context of the fast-moving global dialogue about cultural restitution, this talk calls for a move beyond the familiar euphemisms of ‘contested histories’, ‘difficult collections’ or ‘entangled objects’. The provenance and ethics of some objects currently in the care of Europe’s museums are not matters for debate, but ongoing forms of slow violence around which today curators have an obligation to understand provenance, to take action, and to make visible the entire knowledge ecology of their institutions. The talk will conclude by considering how the example of looting can inform a broader comparative understanding of preservation and destruction in contemporary archaeological practice.

Gods and Warriors. The Protection of Water Resources in Roman and Byzantine North Africa

Dr. Frerich Schön, SFB 1070

During the first half of the 1st millennium AD, the Roman cities in North Africa faced major changes in their water supply patterns. While locally generated water resources like groundwater and rainwater were initially the backbone of the urban water supply, spatially distant water sources led by aqueducts into the cities became over time more and more important. The headwaters of these water supply lines at first were equipped with monumental spring sanctuaries. During the Late Roman and Early Byzantine period, these sanctuaries were transformed into strongly fortified military installations. Based on the ongoing fieldwork of the present author in the hinterland of Carthage, this contribution will trace changing protection patterns of water resources in Roman and Byzantine North Africa.

Session VIII: Reflections and New Perspectives on RESOURCECULTURES

Fictions Cultures Live by: Metaphors, Narratives and Values as Cultural Resources

Prof. Dr. Dr. h.c. Ansgar Nünning, Universität Gießen

In his best-selling book *Homo Deus*, the historian Yuval Noah Harari observes that in “the twenty-first century fiction might therefore become the most potent force on earth, surpassing even wayward asteroids and natural selection. Hence, if we want to understand our future, cracking genomes and crunching numbers is hardly enough. We must also decipher the fictions that give meaning to the world” (Harari 2016, 151). Taking my cue from Harari and heeding his clarion-call, I should like to suggest that it is high time we begin to put examining the fictions that cultures live by onto our research agenda. The paper argues that fictions not only serve as important ways of meaning-, sense- and world-making (sensu Nelson Goodman) but that they are also among the most powerful cultural resources of resilience. I will attempt to show that the same holds true for metaphors, narratives and values, whose forms and functions as immaterial cultural resources have not received the amount of scholarly attention that they deserve.

Literature:

Harari 2016: Y. N. Harari, *Homo Deus. A Brief History of Tomorrow* (London 2016).

Analysing the Emergence of a Complex Swidden Management System in the Toledo District, Belize

Prof. Dr. Sean Downey, Ohio State University

Swidden is a prototypical coupled human-natural system that involves annual cycles of forest clearing, planting, and harvesting, which are nested within decadal cycles of forest regrowth. Superficially, swidden productivity appears highly dependent on soil fertility and subject to over-exploitation as key nutrients sometimes become depleted. However, the overtly simple agricultural technologies that characterize swidden (the axe or machete, and fire) belie complex socio-cultural dynamics that interact with biophysical processes to limit overexploitation and increase sustainability. In 1963, anthropologist Clifford Geertz asked a simple question: what makes swidden work? Since then, anthropologists have studied swidden extensively and scholarly consensus within the field now suggests swidden can promote biodiversity and resilience, based on local institutions and social norms, intimate knowledge of local environments, well-adapted cultigens, and integrated belief systems. Yet, swidden is still widely regarded by many outside the academe as inefficient and unsustainable, leading to calls for alternative livelihoods such as wage labor, craft production, or tourism. One reason appreciation for swidden's potential for sustainability has not grown beyond a subset of scholarly fields is because we still know very little about how the specific social and environmental mechanisms of swidden interact, how sustainable subsistence could emerge, and its limits especially with regard to social and environmental factors. This presentation will describe ongoing NSF-funded research that explores Q'eqchi' Maya culture, subsistence patterns, and tropical ecosystem dynamics in southern Belize, Central America. I will present results and preliminary analyses from ongoing interdisciplinary fieldwork using methods from ecology including high-resolution multi-spectral imagery collected with drones and a biodiversity and soil survey; and from the social sciences, I will discuss a social network survey, and a "Milpa game" field experiment that sheds light on the dynamics of this prototypical coupled human-and-natural system. The talk draws on insights from complex adaptive systems theory, disturbance ecology, ethnohistory, and ethnography to explain how a sustainable and resilient swidden subsistence system could emerge.

RESOURCECULTURES: Prospects and Potentials

Prof. Dr. Thomas Thiemeyer, SFB 1070

The lecture deals with prospects and potentials for the SFB 1070 RESOURCECULTURES for a third phase. It inquires into different fields and theoretical concepts that might be helpful to evolve our idea of resources and cultures. In this context, concepts of valuation and knowledge orders seem to be promising.

Notes:

Further Information

Traveling to Tübingen:

If you arrive by plane at Stuttgart airport, you can take the bus 828 from Stuttgart Airport to Tübingen. One way fare is 7,15 €. If you are residing in the Hotel am Schloss you should get off the bus at Tübingen Stadtgraben and take the Schmiedtorstraße towards the city center, turn left into Kornhausstraße, right into Marktgasse, cross straight across the place in front of city hall, continue on Wienergässle and then turn right into Burgsteige. The hotel is almost at the top of the hill below the castle. If you reside in the Ibis Styles, get off the bus at its final destination the Tübingen Hauptbahnhof. Walk along the Europaplatz towards the colorful Epplehaus. Continue straight onto Poststraße. Turn right into Friedrichstraße, where the hotel is to your right.

If you arrive by train, you need to exit the train station through the city exit. Due to a construction site, you need to follow the signs leading you to the main bus station/city. If you reside in the Ibis Styles, walk along the Europaplatz towards the colorful Epplehaus. Continue straight onto Poststraße. Turn right into Friedrichstraße, where the hotel is to your right. If you reside in the Hotel am Schloss, walk along the Europaplatz towards the colorful Epplehaus, where you turn left into Karlstraße, which is a shared space for pedestrians and bicyclists, so please be aware of the bicyclists there. Continue straight across the Eberhardsbrücke, which crosses the river Neckar. Turn left into the Neckargasse, and take another left onto Holzmarkt at the top of the hill. Continue on Kirchgasse and turn left onto Kronenstraße and take a slight left turn onto Burgsteige. The hotel is almost at the top of the hill below the castle.

Internetaccess at the Conference Venue:

If your university is part of eduroam, you can connect to the university's wifi using your eduroam account. If you do not have an eduroam account or have difficulties connecting, please contact the front desk who will provide you with a guest account.

Lunch breaks:

There are many possibilities close to the conference venue where you can get some local food. Restaurants include the Neckarmüller or the Wurstküche for Swabian food or the Ranitzky where they serve Burger and tarte flambée. If you prefer a somewhat lighter snack, there are several snack bars close to the Alte Aula. However, these do only have limited or no seating. Different options can be found along the Mühlstraße ranging from Italian to Libanese and Turkish food options. In the old city center, the Kichererbse offers falafel and the Tartes Cézannes tarte flambée. If you need suggestions, feel free to ask at the front desk or any of the SFB members who will be happy to help you find something nice.

Leaving Tübingen:

Traveling back to Stuttgart airport, you should take bus 828 from the main station in Tübingen. For a time table, ask at the front desk.

