

eTopoi **Journal for Ancient Studies**

Special Volume 4 (2015): Bridging the Gap. Integrated Approaches in Landscape Archaeology. Editorial., ed. by Daniel Knitter – Wiebke Bebermeier – Oliver Nakoinz, pp. i–viii.

Daniel Knitter – Wiebke Bebermeier – Oliver Nakoinz

Bridging the Gap – Integrated Approaches in Landscape Archaeology. Editorial

Published February 2, 2017

Edited by Gerd Graßhoff and Michael Meyer,
Excellence Cluster Topoi, Berlin

eTopoi ISSN 2192-2608
<http://journal.topoi.org>



Except where otherwise noted,
content is licensed under a Creative Commons
Attribution 3.0 License:
<http://creativecommons.org/licenses/by/3.0>

Bridging the Gap – Integrated Approaches in Landscape Archaeology. Editorial

1 Session

This special volume of *eTopoi* is dedicated to the proceedings of our session, *Bridging the Gap – Integrated Approaches in Landscape Archaeology*, held at the 3rd International Landscape Archaeology Conference (LAC) 2014 in Rome, Italy. The initial idea for our session was that the discipline of landscape archaeology is a mixture of at least two strands, resulting from the ambiguous definition of the term landscape in the participating disciplines: one strand thinks of landscape as a physical entity open to human intervention, while the other thinks of landscape in terms of its social and cultural constructiveness. The contributions at the 1st and 2nd Landscape Archaeology Conferences in Amsterdam and Berlin focused especially on the first strand. Studies investigating the second strand and discussions about an integration of both strands are rare.¹ Nevertheless, at the 2nd LAC 2012 in Berlin, there was a session on *Theoretical Concepts in Landscape Archaeology* that raised the issues of this skewed focus on the subject and functioned as a platform to discuss the different disciplinary concepts and access points in landscape archaeology. For the 3rd LAC 2014 in Rome, our intention was threefold: (1) to cross-check the progress of the theoretical debate, (2) to continue the discussion, though this time with a focus on the actual practices of the researchers, and (3) to start a debate about the pros and cons of approaches that aim to integrate both strands of landscape archaeology.

2 Integration

It is common knowledge that landscape archaeology requires active collaboration among a broad range of disciplines. The task of understanding landscapes as holistic entities necessitates expertise from both the humanities and the sciences. One success story has been the multidisciplinary collaboration between geoscientists, who reveal information about environmental characteristics, and archaeologists, who investigate the traces of human occupation. The results from both are interpreted together in order to gain insights into natural as well as social dynamics. The investigation of pollen and phytoliths, for instance, enables researchers to gain information about the cultivated plants and vegetation history of an area. By collaborating with archaeologists and combining the results of both disciplines, they are able to answer complex interrelated questions of how these specific characteristics were shaped by the people who lived there.

But there is more. Once an understanding of the interrelation has been achieved, landscape archaeology must take a step further and question what the results mean: *What does interrelation mean to the investigated humans and societies?* and *What does interrelation mean to the participating disciplines?* For example, what are the societal consequences of adaptation

1 Kluiving, Lehmkuhl, and Schütt 2012, 2, 4; Bebermeier et al. 2013, 1.

practices? What are the societal prerequisites to facilitate adaptation? Which societies did adapt, and which did not? Is the means of adaptation related to the characteristics of landscapes in terms of their natural characteristics? Or is the pattern of adaptation related to the societal strategy of creating landscapes, a strategy that is not related to the natural characteristics of the investigated areas? There are many more questions of this type, and what they share is a shift in perspective from etic to emic.

This shift in perspective forces us to rethink the meaning and explanatory value of our data. In the multidisciplinary version of landscape archaeology, i.e., in its etic perspectives, data are used and analyzed based on our discipline-specific paradigms. When we try to shift our focus to the emic perspective, it is these discipline-specific paradigms that need to be questioned. The creative process is to think about research strategies and methodologies from a different perspective; this is the moment when our interdisciplinary collaboration in landscape archaeology comes in. Discussions about the subject should start at the level of method selection and data evaluation. If geoscientists can help archaeologists to see what they see, and vice versa, the collaborative landscape-archaeological mode of conducting research becomes more fruitful, and the proposed *interdisciplinary hermeneutics* of Meier and Tillesen take place.²

These claims are not new, nor have they been resolved. Challenges occur on the ontological and epistemological as well as the practical and personal levels. The contributions you will find in this special issue grapple with these questions in one way or another; reading them, it becomes obvious that there is no *one appropriate way* to conduct research in landscape archaeology. Rather, we see a potpourri of different approaches, ranging from the technical and computationally intensive to the more traditional approaches. What unites them is their aim: to investigate aspects relevant to humans, from an etic and emic perspective, during a time that is not directly accessible to us now.

3 Contributions

3.1 Benefits of interdisciplinary work

Nykamp et al. analyze LIDAR-based digital elevation data, applying geographical and geomorphometric methods to relate particular morphological and hydrological characteristics to human activities in the vicinity of a Late Bronze Age fortification in Romania.³ Following the hypothesis that human activities result in a significant alteration of the relief and the development of particular morpho-hydrological characteristics, this contribution shows how interdisciplinary work benefits from using landscape-archaeological questions as the driving guidelines for joint research.

Wagalawatta et al. present an inventory of ancient quarries and reconstruct the landscape development triggered by the quarrying activities, combining an archaeological survey of the ancient quarry sites in the hinterland of Anuradhapura, Sri Lanka with geoscientific knowledge.⁴ Their interdisciplinary approach provides new insights into the influence of humans exploiting stones as a natural resource for construction material and their landscape.

Thelemann et al. use a classical landscape-archaeological approach, settled at the intersection of archaeology and geography, as the methodological foundation to analyze the introduction of iron smelting to Lower Silesia, Poland, from an interdisciplinary perspec-

2 Meier and Tillesen 2011, 31–33.

3 Nykamp et al. 2015.

4 Wagalawatta et al. 2015.

tive.⁵ The authors end their paper with the conclusion that the challenge of integrated approaches is “rather being in the same boat, having everyone rowing in the same direction, than that of building a bridge.”⁶

3.2 New methodological approaches

The natural character of a region influences the preservation conditions of archaeological artifacts and findings. Especially in dry regions like the European aeolian sand belt (North European Plain), the poor preservation conditions of archaeological remains impede the reconstruction of these long-settled traditional cultural landscapes. Groenewoudt introduces a new systematic methodological approach in his paper to integrate landscape-archaeological data from different landscape entities (in particular from drylands and neighboring wetlands).⁷ His approach allows landscape archaeologists to systematically analyze landscapes with different characteristics and to integrate data from different scales.

Groenhuijzen and Verhagen introduce a new set of GIS-based tools as a means for the spatial analysis of local-scale transport during the Roman period in the Netherlands.⁸ Their computational approach permits the integration of results from palaeogeography, physiology, and archaeology and sheds light on aspects of local to interregional transport during this period.

Michel et al. investigate the potential orientations toward topographic and/or astronomical points of two roundels located in Germany, specific archaeological sites that date to the Neolithic period.⁹ Besides the application of well-established view-shed algorithms, the authors present a methodological approach to investigating the archaeo-astronomy setting of these roundels. Presenting a routine developed by the researchers to match possible astronomical features to palisade gaps, this contribution enhances the variety of methodological approaches in archaeo-astronomy. Furthermore, the authors highlight the meaning of a precise database that includes data from geophysical surveys and excavations.

Addressing the problem of tracing the introduction of wool as a raw material for textile production, Schumacher et al. present an approach that also integrates data and methods from different scientific disciplines.¹⁰ In this paper, it is the thematic research focus, namely the analysis of spatial and temporal trajectories in the spread of the wool-bearing sheep, that constitutes the bridge between the different disciplines involved.

Based on a case study on settlement strategies in Tuscany during the Bronze Age, the contribution from Morabito sensitizes readers to (1) the integration of the senses of landscapes (religious, physical, etc.) to their inhabitants and (2) the meaning of combining different scales and data sources in a GIS-based analysis of a settlement pattern.¹¹ In their conclusion, the author addresses the different advantages of GIS-based approaches as a framework to overcome the limitations of archaeological data.

3.3 New scientists

Lindholm et al. present a pedagogical approach to integrating the humanities and natural sciences in the academic training of young scientists.¹² The foundation of the concept

5 Thelemann et al. 2016.

6 Thelemann et al. 2016, 127.

7 Groenewoudt 2015.

8 Groenhuijzen and Verhagen 2015.

9 Michel, Hoffmann, and Schier 2016.

10 Schumacher, Schütt, and Schier 2016.

11 Morabito 2015.

12 Lindholm et al. 2015.

introduced lies in the idea that training in landscape analysis, archaeology, and GIS, based on a deeply rooted theoretical background, sustains students and young researchers to develop skills and methodological competences in analyzing and understanding landscapes in an interdisciplinary context.

4 From Bridges to Pillars?

The compilation of contributions in this special issue addresses the question of how to bridge the gap between the humanities and the sciences in landscape archaeology. The authors in this special issue address the following aspects of implementing integrated approaches:

1. Negotiation and discussion of joint research questions for the development of a methodological research design¹³
2. Relevance and applicability of GIS-based approaches to manage and organize ‘big’ spatial data, as well as the spatial and geostatistical tools for its analysis¹⁴
3. Integration of data of different scales and precision¹⁵
4. Education of the young researcher¹⁶

These categories address rather heterogeneous but nevertheless important aspects of a potential bridge in landscape archaeology and indicate that successful landscape archaeological collaboration “cannot be achieved on the basis of traditional archaeological research alone.”¹⁷ Such a modern understanding of research helps to develop new methods that

enable [landscape] archaeologists to obtain both a holistic perspective on ancient landscapes and to focus on specific issues and activities connected to ancient landscapes.¹⁸

New questions can be stated and new insights achieved. Hence, “landscape [archaeological] research [...] is a collaborative learning process.”¹⁹ This nicely indicates that landscape archaeologists are people characterized by continuous open-mindedness. As one person in the audience during the discussion on our session at LAC 2014 said: “Building bridges is not so much about theory. It is rather an endeavour of mutual respect and communication that enables shared questions and collaboration.” We hope that these activities continue and intensify. Perhaps this will build the foundation for a community of scientists who are able to develop a shared theoretical paradigm that no longer needs to ask questions about bridges, but constitutes itself as a “pillar” between the sciences and the humanities – a challenging task for all integrative and holistic disciplines that has yet to be achieved.²⁰

13 Thelemann et al. 2016.

14 Groenhuijzen and Verhagen 2015, Michel, Hoffmann, and Schier 2016, Schumacher, Schütt, and Schier 2016, Morabito 2015.

15 Groenewoudt 2015, Groenhuijzen and Verhagen 2015, Morabito 2015.

16 Lindholm et al. 2015.

17 Groenhuijzen and Verhagen 2015, 41.

18 Morabito 2015, 74.

19 Lindholm et al. 2015, 103.

20 See, e.g., Weichhart 2005, Wardenga and Weichhart 2006.

References

Bebermeier et al. 2013

Wiebke Bebermeier, Philipp Hoelzmann, Elke Kaiser, and Jan Krause. “Landscape and Archaeology”. *Quaternary International* 312. LAC 2012: 2nd International Landscape and Archaeology Conference, Berlin (2013), 1–3. DOI: 10.1016/j.quaint.2013.09.003. <http://www.sciencedirect.com/science/article/pii/S1040618213006836>.

Groenewoudt 2015

Bert Groenewoudt. “The Whole Story. Bridging the Gap between Landscape-archaeological Data from Drylands and Wetlands”. *eTopoi. Journal for Ancient Studies Special Volume 4* (2015), 1–24. <http://journal.topoi.org/index.php/etopoi/article/view/202> (visited on 12/20/2016).

Groenhuijzen and Verhagen 2015

Mark R. Groenhuijzen and Philip Verhagen. “Exploring the Dynamics of Transport in the Dutch limes”. *eTopoi. Journal for Ancient Studies Special Volume 4* (2015), 25–47. <http://journal.topoi.org/index.php/etopoi/article/view/203> (visited on 12/20/2016).

Kluiwing, Lehmkuhl, and Schütt 2012

Sjoerd J. Kluiwing, Frank Lehmkuhl, and Brigitta Schütt. “Landscape Archaeology at the LAC2010 Conference”. *Quaternary International* 251. LAC 2010: 1st international conference on Landscape Archaeology (2012), 1–6. DOI: 10.1016/j.quaint.2011.10.011. <http://www.sciencedirect.com/science/article/pii/S1040618211005842>.

Lindholm et al. 2015

Karl-Johan Lindholm, Kim von Hackwitz, Anneli Ekblom, Daniel Löwenborg, and John Ljungkvist. “Rethinking Human Nature: Bridging the ‘Gap’ through Landscape Analysis and Geographical Information Systems (GIS)”. *eTopoi. Journal for Ancient Studies Special Volume.4* (2015), 94–108. <http://journal.topoi.org/index.php/etopoi/article/view/223> (visited on 12/20/2016).

Meier and Tillessen 2011

Thomas Meier and Petra Tillessen. “Von Schlachten, Hoffnungen und Ängsten: Einführende Gedanken zur Interdisziplinarität in der Historischen Umweltforschung”. In *Über die Grenzen und Disziplinen: fächerübergreifende Zusammenarbeit im Forschungsfeld historischer Mensch-Umwelt-Beziehungen*. Ed. by Thomas Meier and Petra Tillessen. Budapest: Archaeolingua, 2011, 19–38.

Michel, Hoffmann, and Schier 2016

Christina Michel, Susanne M. Hoffmann, and Wolfram Schier. “Built Knowledge – Spatial Patterns and Viewsheds of Middle Neolithic Circular Enclosures in the Northern Foreland of the Harz Mountains, Saxony-Anhalt, Germany”. *eTopoi. Journal for Ancient Studies Special Volume 4* (2016), 139–161. <http://journal.topoi.org/index.php/etopoi/article/view/239> (visited on 12/20/2016).

Morabito 2015

Laura Morabito. “An Integrated Workflow for Dealing with Prehistoric Landscapes: Reconstructing Structures, Relationships, and Places”. *eTopoi. Journal for Ancient Studies Special Volume 4* (2015), 66–77. <http://journal.topoi.org/index.php/etopoi/article/view/221> (visited on 12/20/2016).

Nykamp et al. 2015

Moritz Nykamp, Bernhard S. Heeb, Daniel Knitter, Jan Krause, Rüdiger Krause, Alexandru Szentmiklosi, and Brigitta Schütt. “Linking Hydrological Anomalies to Archaeological Evidences – Identification of Late Bronze Age Pathways at the Fortification Enclosure Iarcuri in Western Romania”. *eTopoi. Journal for Ancient Studies* Special Volume 4 (2015), 77–92. <http://journal.topoi.org/index.php/etopoi/article/view/224> (visited on 12/20/2016).

Schumacher, Schütt, and Schier 2016

Martin Schumacher, Brigitta Schütt, and Wolfram Schier. “Near Landscapes of the Textile Revolution”. *eTopoi. Journal for Ancient Studies* Special Volume 4 (2016), 162–187. <http://journal.topoi.org/index.php/etopoi/article/view/237> (visited on 12/20/2016).

Thelemann et al. 2016

Michael Thelemann, Enrico Lehnhardt, Wiebke Bebermeier, and Michael Meyer. “Iron, Humans and Landscape – Insights from a Micro-Region in the Widawa Catchment Area, Silesia”. *eTopoi. Journal for Ancient Studies* Special Volume 4 (2016), 109–138. <http://journal.topoi.org/index.php/etopoi/article/view/232> (visited on 12/20/2016).

Wagalawatta et al. 2015

Thusitha Wagalawatta, Wiebke Bebermeier, Daniel Knitter, Kay Kohlmeyer, and Brigitta Schütt. “Ancient Rock Quarries in Anuradhapura, Sri Lanka”. *eTopoi. Journal for Ancient Studies* Special Volume 4 (2015), 48–65. <http://journal.topoi.org/index.php/etopoi/article/view/238> (visited on 12/20/2016).

Wardenga and Weichhart 2006

Ute Wardenga and Peter Weichhart. “Sozialökologische Interaktionsmodelle und Systemtheorien - Ansätze einer theoretischen Begründung integrativer Projekte in der Geographie.” *Mitteilungen der Österreichischen Geographischen Gesellschaft* 148 (2006), 9–31.

Weichhart 2005

Peter Weichhart. “Auf der Suche nach der „dritten Säule“. Gibt es Wege von der Rhetorik zur Pragmatik?” In *Möglichkeiten und Grenzen integrativer Forschungsansätze in Physischer und Humangeographie*. Ed. by D. Müller-Mahn and U. Wardenga. ifl-forum 2. Leipzig: Leibniz-Institut für Länderkunde e.V., 2005, 109–136.

Daniel Knitter

Dr. rer.nat. (Berlin 2013), received his doctorate in Berlin with a thesis *on Central Places and the Environment – Investigations of an Interdependent Relationship*; M.Sc. and B.Sc. in Geography. since 2013 he has served as a research assistant and coordinated the Topoi Lab in Research Area A. From 2009 to 2010 he was a research assistant in Topoi, working on the project *Monti Navegna e Cervia (A-I-9)*. Currently his research is focussed on “Integrative Modeling of Socio-Environmental Dynamics” within the CRC1266 at the Christian-Albrechts-Universität zu Kiel. Research interests: human-environmental interactions, especially in connection with geomorphological and geomorphometrical processes, (pre)historic landscape development under human influence and theoretical geography.

Dr. Daniel Knitter
CRC1266 – Scales of Transformation
Christian-Albrechts-Universität zu Kiel
Department of Geography
Physical Geography – Landscape Ecology
and Geoinformation
Ludewig-Meyn-Str. 14
24118 Kiel, Germany
E-Mail: knitter@geographie.uni-kiel.de

Wiebke Bebermeier

(Göttingen 2008), joined the Institute of Geographical Sciences in 2008 as a postdoctoral fellow; she has been a junior professor for physical geography with a focal point in landscape archaeology since 2011. Research interests: (pre)historic human environmental interactions, present and ancient watershed management and landscape archaeology.

Jun.-Prof. Dr. Wiebke Bebermeier
Freie Universität Berlin
Institute of Geographical Sciences
Malteserstraße 74–100, Building H
12249 Berlin, Germany
E-Mail: wiebke.bebermeier@fu-berlin.de

Oliver Nakoinz

2004 Promotion Kiel (*Studien zur räumlichen Abgrenzung und Strukturierung der älteren Hunsrück-Eifel-Kultur*); 2004 to 2008 Employee at Landesamt für Denkmalpflege Baden-Württemberg. Project *Siedlungshierarchien und kulturelle Räume* in DFG SPP 1171; 2008 to 2010 Employee at Institut für Ur- und Frühgeschichte der Christian-Albrechts Universität zu Kiel. Project *Siedlungshierarchien und kulturelle Räume* in DFG SPP 1171; 2010 Employee at Archäologisches Landesamt Schleswig-Holstein; 2011 Senior research fellow at Excellence Cluster Topoi, Berlin; since 2012 Post-doctoral fellow at the Graduate School *Human development in landscape* in Kiel. Research interests: Quantitative archaeology, models in archaeology, archaeological theory, Iron Age, central place theory, theory of culture, spatial analysis, landscape archaeology, models of interaction, diffusion, communication and transportation, network analysis, ship archaeology, underwater archaeology, maritime landscape.

PD Dr. Oliver Nakoinz
Christian-Albrechts-Universität zu Kiel
Graduate School Human Development in Landscapes
24098 Kiel, Germany
E-Mail: oliver.nakoinz@ufg.uni-kiel.de