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The Role of Culture in Early Expansions of Humans (ROCEEH)

Cover: Open Space for Neanderthals - The project 'The Female Neanderthal' combines a magazine with regional campfire symposiums to promote discussion about outdated gender roles and assumptions about Neanderthal vs. modern humanity. (Graphic: Flavia Haberlandt, Josefine Mau)

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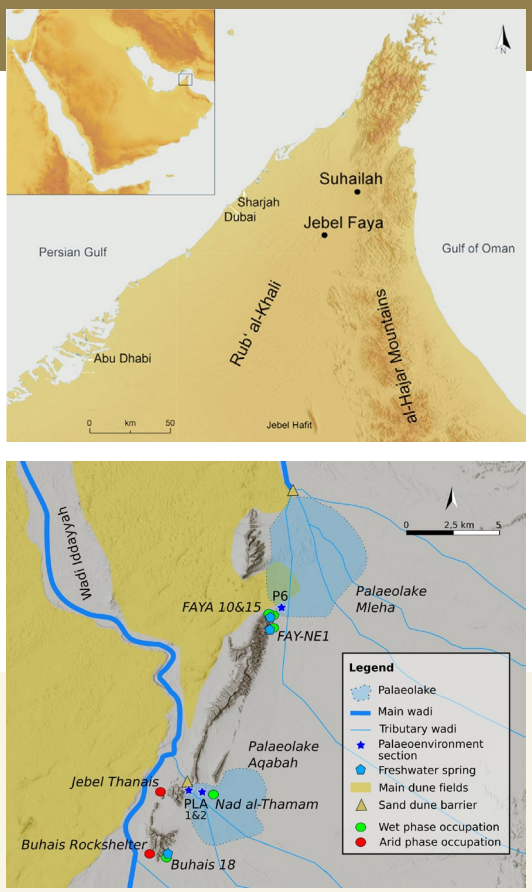
THE ROLE OF CULTURE IN EARLY EXPANSIONS OF HUMANS

Editorial

In this 26th newsletter we celebrate the inscription of the Faya Palaeolandscape onto UNESCO's World Heritage List. Research into this fascinating cultural landscape has been supported by ROCEEH over many years. We also take a peek at the results of an invigorating collaboration with design students who were challenged to envision new ways to interact with Neanderthal culture through a study program called Open Space. Next, we introduce our readers to a new R Package aptly named "roadDB", developed by the ROCEEH team, which allows users familiar with the statistics software "R" to easily extract data from ROAD. Finally, we summarize an international ROCEEH symposium held in Frankfurt that delved into a fascinating topic, "Diversifying networks. How culture infuses the environment". We hope you enjoy!

Faya Palaeolandscape in UAE inscribed in World Heritage List

At its 47th session on 11 July 2025, the UNESCO World Heritage Committee inscribed the United Arabic Emirate of Sharjah's Faya Palaeolandscape onto the World Heritage List under the Cultural Landscape category. This new cultural heritage property, located between the Persian Gulf and Arabian Sea in the Emirate's central region, represents an intact fossil desert landscape (Figs. 1 and 2). As a desert Paleolithic site, it was recognized for holding one of the world's oldest and most continuous records of early human presence in arid environments spanning over 200,000 years. In more than 30 years of field work and analyses, the Sharjah Archaeology Authority (SAA) in collaboration with international institutions has uncovered a sequence of occupations spanning from Middle Paleolithic hunter-gatherer communities to Holocene pastoral



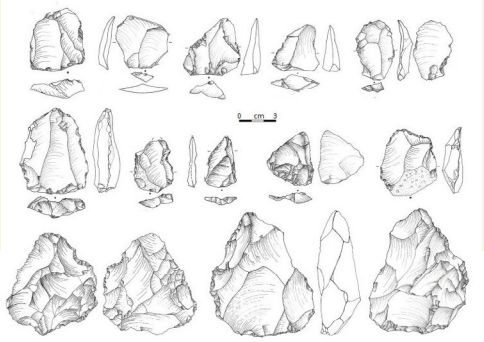
▶ Figure 1. Regional setting and detailed map of the archaeological and paleoenvironmental sites within the newly proclaimed UNESCO World Heritage site, the Faya Palaeolandscape (Map: Knut Bretzke)

◀ Figure 2. Overview of the northern end of the 10 km long Jebel Faya mountain looking to the west. The mountain forms a barrier to the Rub' al Khali desert, whose red sand dunes can be seen in the background to the right. A favorable geohydrology of the plain in front of the range attracted multiple prehistoric settlements in the past 200,000 years. Many stratified archaeological and paleoenvironmental sites were found along this mountain range (Photo: Sharjah Archaeology Authority)

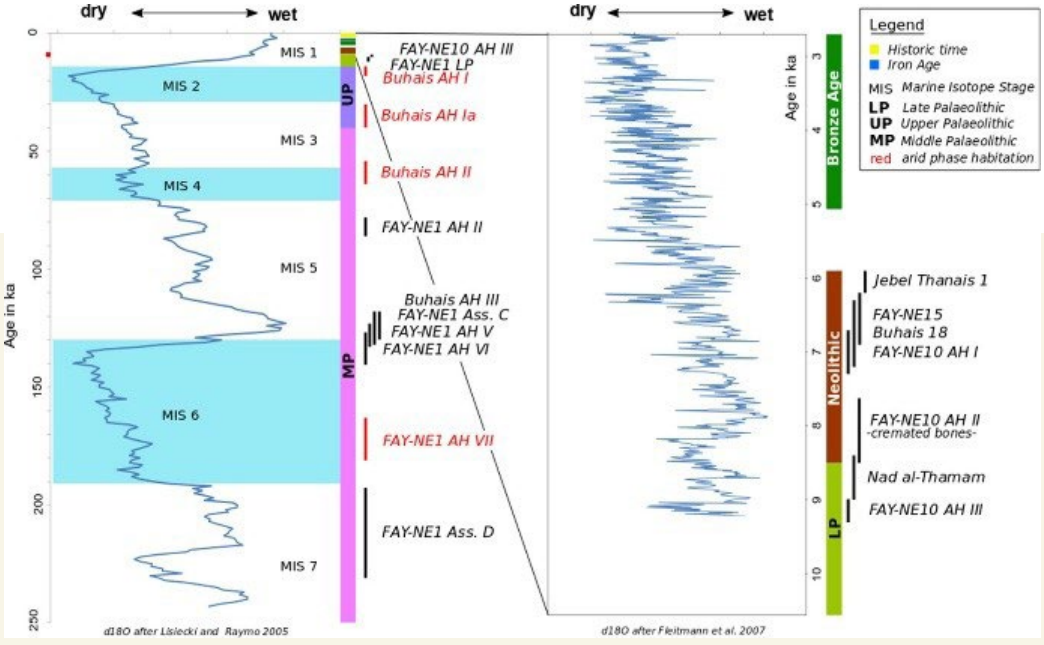
nomadic herders with funerary practices. Archaeologists from the Universities of Tübingen and Jena and paleoenvironment specialists from Oxford Brookes University were supported by ROCEEH team members.

The Faya Palaeolandscape is especially significant because it provides evidence for the early onset of human presence in Southern Arabia as well as its continuity, implications for early human adaptations to harsh environments, and the resilience of its early inhabitants (Fig. 3). In 2011, the FAY-NE1 site at Jebel Faya yielded evidence for the long-supposed southern route of modern human expansion "out of Africa" from the Horn of Africa into Arabia via the Bab al-Mandab strait. In addition, proof of human presence at Faya extends back more than 200,000 years. Moreover, the discovery of Acheulean handaxes at Suhailah 1, about 50 km northeast of FAY-NE-1, adds to our growing knowledge about the settlement of the Arabia Peninsula during the Lower Paleolithic period. The archaeological sequence of the Faya landscape is outstanding, with four phases of occupation during the late Middle Pleistocene, and further 14 in the period from the Late Pleistocene to Holocene. This indicates that the Arabian Peninsula was not just a corridor, but an independent region of human cultural evolution.

▶ Figure 3. Stone tools made of chert found in the 170,000-year-old archaeological horizon AH VII of Jebel Faya. (Figure: Knut Bretzke)



The data from the Jebel Faya excavations shed light on the role that changing climatic conditions played on the human presence in Arabia during the Paleolithic (Fig. 4). In the Pleistocene, periods of increased monsoon rainfall attracted human settlement and led to a higher population density. The finds from Jebel Faya suggest that human settlement in southeast Arabia was more regular, and not exclusively related to the major wet periods, but also enabled by short periods of increased rainfall. Mosaic-like environments in southeast Arabia probably formed a population refugium at the end of the Middle Pleistocene and beginning of the Late Pleistocene. The archaeological record at Faya shows



▶ Figure 4. Graphs showing the climatic trends for all of the archaeological sequences documented within the Faya Paleolandscape. The left side shows the trends over the last 250,000 years, while the right side shows the last 10,000 years. (Graphic: Knut Bretzke)

how people evolved socially, technologically, and spiritually in response to extreme and changing climatic conditions. Beyond its regional significance, the Faya Palaeolandscape contributes to a broader global understanding of how early humans managed to survive, accessed resources, and developed behaviorally under some of the harshest conditions known on Earth. The sedimentary layers and preserved paleoenvironmental features at Faya have made it a key site for understanding water availability, vegetation distribution, and climatic change during the Late Pleistocene and Holocene.

Since its inception, ROCEEH has actively supported research at Jebel Faya and nearby sites, offering funding, personnel, and important input in interpretation as well as fostering the exchange of expertise. We congratulate the Faya Palaeolandscape on its inscription onto the UNESCO World Heritage List!

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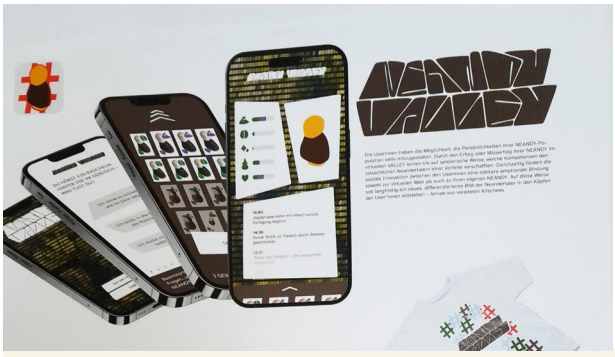
Miriam N. Haidle

Open Space for Neanderthals

A cooperation with students of Visual Communication Design

Every year during the fourth semester of the study program "Visual Communication" at the School of Design of Pforzheim University, an innovative, award-winning training concept called Open Space occurs. A client assigns a task for which small groups of students develop solutions. The concept gives the future designers an understanding of customers' economic and other needs. Cross-media engagement—including typography and print, advertising and text, digital media, communicative spaces, and interactive structures—exploits the potential of synergies; the single topic ensures in-depth research results. This year, four coaches—Alice Chi, Sebastian Hackelsperger, Wolfgang Henseler, and Dagmar Korintenberg—provided their input and opinions. Unlike other years, in 2025 a scientific client set the design task instead of a commercial customer, namely ROCEEH. The design students' mission was "…in the context of the research project 'The Role of Culture in Early Expansions of Humans', [to] develop intermedia solutions in teamwork that bring about a transformation in the perception of Neanderthals as modern humans."



▲ Figure 5. Adults, the elderly, and children are characters with individually set capacities regarding physical power, cognition, environmental knowledge, empathy, and even luck are the agents of the NEANDY VALLEY App. (Graphic: Luka Damjanovic, Charlotte Herzog)

On 19 March 2025, the kick-off event in Blaubeuren began with a hike from the Ach Valley up to the Jura Plateau and a visit to the Middle Paleolithic site of Brillenhöhle. A guided tour of the Urgeschichtliches Museum Blaubeuren (Prehistory Museum) introduced the design students to the basics of Paleolithic archaeology. An afternoon workshop provided an overview of the changing perspectives on Neanderthals in research and the public sphere. In a warm-up phase, six student groups approached the topic with an initial brainstorming session. In the following weeks, the groups developed their approaches with the support of their lecturers and, at a mid-term meeting in May, with input from ROCEEH. On 3 July, the following results were presented to the client and, a week later, to the public at the School of Design's semester exhibition. In the following sections, we present some of their results.

In their project 'NEANDY VALLEY—Survival of the Customized' (Fig. 5), Group 1 (Luka Damjanovic, Charlotte Herzog) used Agent Based Modeling as an approach for an online game. After the player configured the NEANDY personalities, the population begins to experience their world through daily activities, demanding challenges, and extraordinary encounters in the simulated world: the VALLEY. The game's features are closely linked to current research findings and provide insight into the various facets of Neanderthal life. When meeting other players, individuals from the Neanderthal group can be exchanged, bringing new knowledge and experiences into the populations. Through success or failure of the NEANDY population, the users learn in a playful way, which skills once gave the real Neanderthals an advantage. At the same time, social interaction between users promotes a stronger emotional connection to both the virtual world and their own NEANDY population. In this way, a new, more nuanced image of Neanderthals is intended to emerge in the minds of the players in the long term—far from outdated clichés.

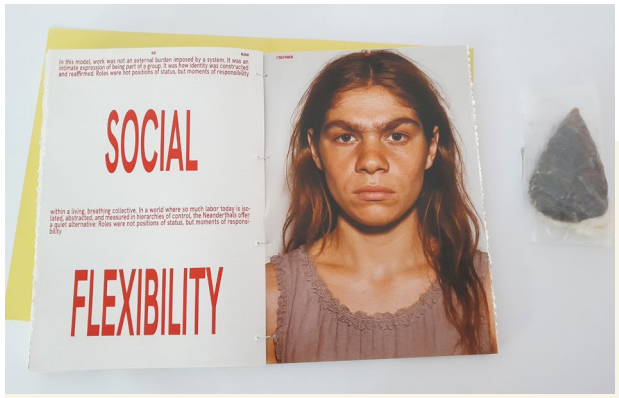
Every month, the app provides a summary of the development of each player's NEANDY population in a hyper-personalized 'Fire & Flames' newsletter, which links the game contents to the prehistoric facts and informs about the latest news and new studies. The annual NEANDY VALLEY Congress offers opportunities for exchange within the community, supplemented by lectures

▲ Figure 6. Universal expressions of emotions are part of human communication as shown in the exhibition project 'Neandertalk'. (Graphic: Corinna Baab, Salma Sarah Benamar)

and interviews with scientists. The program and catering at the meeting, which was held inside the Balver Cave, were intended to reflect aspects of daily Neanderthal life.

The project 'The Female Neanderthal' (Cover) of Group 2 (Flavia Haberlandt, Josefine Mau) deals with gender-specific representations of Neanderthals and their connection to today's gender roles. How we view the past and how we research it is strongly influenced by our current worldview; at the same time, patriarchal structures today are often derived from 'natural conditions' in the past. Neanderthal women deserve a different image. The project sets itself the task of breaking down existing stereotypes. The group's approach focuses on a periodical magazine, with each issue addressing a different role in the life of female Neanderthals such as the fire maker, the tool creator, the hunter and gatherer. Various sections (e.g. Then and Now, Inspiration and Ritual, Hope and Torment, Love and Sex) are intended to create connections between the past and the present, linking scientific findings and current discussions. An associated app is adapted according to the role taken; it provides information to research news and events and offers an opportunity for exchange. Small-scale regional events for the public that tour larger and smaller towns accompany the print and online offering. These 'Campfire Symposia' are intended to be a place of community, including guests from humanities, arts, and natural sciences according to the subject of the event. They provide space for conversation and exchange about Neanderthal life and modern-day developments.

Group 3 (Corinna Baab, Salma Sarah Benamar) put an exhibition in the center of their exploration of the Neanderthal topic.



▲ Figure 7. RAW // REFINED enables a special kind of encounter with Neanderthals through AI-generated images and stone tools to explore the inner parts of a book. (Graphic: Carolina Markhoff, Rose Lobe)

'Neandertalk—Explore Communication, Understand Culture' (Fig. 6) uses Neanderthals as a starting point to show what communication really means—physically, sensually, collectively. The concept of the exhibition and the accompanying book consists of a sequence of informative and immersive experiences; walking through rooms with multisensory elements changes the perception of Neanderthals. 'Neandertalk' begins in a cold tunnel with a prologue and a long timeline. A large, warm room then immerses visitors in the history of Neanderthals, complemented by an interactive multimedia table to gain deeper insights. The next, small room provides information about forms of communication. In the 'Emotion' room, visitors confront large images of faces expressing basic human emotions: anger, happiness, sadness, surprise, disgust, and fear. Triggers of these emotions are displayed on a small screen and evoke the same facial expression from visitors as can be seen on the wall. A small room provides background for these universally understandable forms of expression identified by the psychologist Paul Ekman, who pioneered the study of emotions and their relation to facial expressions. A large space is reserved for information about group

▼ Figure 8. In the board game 'Neandertal', players work together to overcome the challenges set by an app, collect resources at the camp-site, and receive information in brochures with different tactile features. (Graphic: Lisbeth Frank, Janina Lehner, Fynn Noah Kastel)

and clan stories, and the exhibition ends with a room dedicated to ornaments. An app combined with a digital chip bracelet allows the creation of a personalized collection of photos and texts as a souvenir of the exhibition.

Group 4 (Carolina Markhoff, Rose Lobe) presented 'RAW // REFINED—Not Who We Are, but How We Became' (Fig. 7), a museological concept that opens spaces for reflection on social, political, and cultural discourses—not only through answers, but also through atmosphere, irritations, and narrative friction. It touches before it explains. The Neanderthal is not presented as a silent figure from prehistory, but as a mirror of our longings, fears, and ideas about what it means to be human. It is not about correcting a false image but about sensing how much our view of the past is shaped by language, images, and cultural patterns. Between the RAW and the REFINED, a field of tension denoted by // arises which not only shifts perspectives but also raises deeper questions: Who tells history? How is identity formed? And what happens when we are prepared to question the familiar framework? The accompanying volume is characterized by its Japanese binding, which formally separates the exterior from the interior, which must be actively opened using a stone tool provided. The exterior reveals the refined part with fragmented, stereotyped perspectives, marked by cultural stigmas and media images. Pixelated images indicate that even science works with only fragmentary pieces of the puzzle. Inside is the RAW section—an invitation to a new encounter with Neanderthals. In three chapters that address questions of identity, physicality, and humanity, a different, listening perspective unfolds. RAW // REFINED works with clear, minimalist messages that attract attention by reducing and breaking familiar perspectives. We read labels; they knew their food. We simplified the world; they understood it. Yet we are variations of the same beginning. The fragmentary nature of the exhibition is continued on the accompanying website. It can be interactively de-pixelated, with content only appearing through movement, touch, or scrolling. The whole is never visible; it remains a play with fragments, spaces in between, and perception.

Group 5 (Lisbeth Frank, Janina Lehner, Fynn Noah Kastel) chose children as their main target group and designed the board game 'Neandertal' (Fig. 8). In this game, players take on the role of Neanderthals with complex abilities and well-thought-out strategies. Together as a clan, they gather raw materials, go hunting and build their own tools. Over time, different strategies can be developed, and higher scores are achieved. To delve deeper into the life of Neanderthals, four brochures are assigned to the areas of the game board: Hunting Ground, Cave, Forest, and Riverbank. Each booklet provides exciting information about the usable resources, appropriate tactics, and specific challenges and dangers in each area. In addition to the game board, the 'Neanderthal App' accompanies the players. Starting with an introductory short story or film, it explains the rules, calculates the points achieved, introduces random challenges and positive or negative events, and encourages the users to try out different strategies. Encounters and experiences increase the level of knowledge of the play characters. Through cooperative collaboration, the players group strengthens the sense of community while absorbing knowledge about Neanderthals. At regional events like the 'Tag der offenen Höhle' (Open Cave Day), joint gaming activities support playful engagement with the topic.

▲ Figure 9. The magazine 'Die Höhle/The Cave' explains Habitects' concept for revitalizing vacant spaces and connects modern urban needs with mobile Neanderthals seeking shelter and habitat. (Graphic: Simon Freiwald, Tabitha Krah)

Old becomes new; caves become homes; and shelters that become usable spaces become living spaces. This is the motto of Group 6's (Simon Freiwald, Tabitha Krah) project 'Habitects—Rethinking Spaces' (Fig. 8). The group sees today's inhospitable city centers with their many vacant buildings as a problem in the search for shelter from the weather, for exchange, information, art, education, play, and entertainment. The Habitects concept

rethinks, reshapes, and revitalizes these spaces, taking inspiration from an earlier form of humanity: Neanderthals. Inspired by adaptability and resource awareness, members of the future Habitects organization see themselves as transformation architects, turning abandoned or vacant buildings into places for community, education and change—modern caves. The first step towards viewing vacant space not as a problem but as an invitation for temporary repurposing is to know what locations are available. A kick-off event at one of the 'lost places' presents the idea with a small interactive exhibition in three sections, based on the former division of different work areas in caves. An art wall inspires, an information wall explains the project, and an interactive wall invites visitors to contribute their own thoughts in the form of sketches, short texts, or notes on the available urban space. Simple wooden panels in the corners of the doors and a projected campfire create a basic cave-like atmosphere. At the heart of the developing project is an app where potential locations can be marked on a map and upcoming pop-up activities and events can be announced. An accompanying magazine 'Die Höhle/The Cave' documents the initiative and inspiring examples of the revitalization of vacant spaces.

The results generated by Open Space for Neanderthals show a variety of approaches that not only reshaped the perception of Neanderthals as a variant of modern humanity. The projects also showed how archaeological findings can be an inspiration for current issues.

Miriam N. Haidle

ROAD queries made easy: the R Package "roadDB"

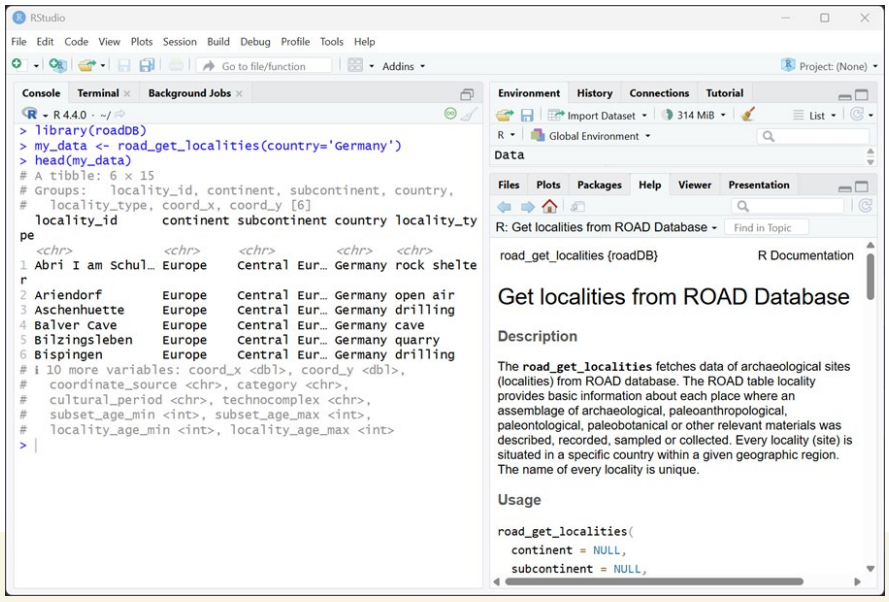
ROAD is well established as an important research data infrastructure, thanks to its extensive information content, open accessibility, and new user interfaces that ROCEEH developed over the past years. As 2025 began, tools such as "ROAD Simple Search", "Ask ROAD", and "Summary Data Sheets" were already available on the ROAD homepage (https://www.roceeh.uni-tuebingen.de/roadweb/) without user registration. External researchers increasingly use an array of quantitative methods to process ROAD data, from classical statistics to machine learning. The statistics

▶ Figure 10. The roadDB logo (Graphic: Christian Sommer).

software R (https://www.r-project.org/) plays a prominent role in this development, as it has become the scientific standard thanks to a broad user base, special plugins for paleosciences, and reproducible algorithms. To make it easier for this user group to access ROAD, ROCEEH developed an R package called "roadDB" (Fig. 10).

roadDB allows users to download ROAD content directly from the R user interface (Fig. 11) by executing commands consisting of functions and their arguments, as is customary for this scripting language. This eliminates the tedious detour of formulating complex SQL commands, as the roadDB software takes care of that. As a result, users receive data in a highly compatible table format that has been optimized for further use in analytical pipelines. The package currently includes 13 functions for downloading information at varying degrees of detail, from sites to individual dates or publications. Search filters can be refined using 24 arguments, allowing results to be tailored to geography (countries or continents), specific archaeological periods, time spans, and archaeological or paleoenvironmental features.

The roadDB tutorial found at https://www.sommergeo.com/roadDB/tutorial.html helps users to install the necessary software and demonstrates the advantages of this compatible and interoperable format. Digital maps, time series analyses, and radiocarbon calibration can all be generated with just



▲ Figure 11. The R Studio user interface allows users to integrate roadDB into reproducible scripts and display the package's rich documentation. (Graphic: Christian Sommer)

a few lines of program code, thanks to the trove of external R packages. We released the software package in the Fall of 2025 at https://github.com/sommergeo/roadDB and tested its application in a workshop conducted with students of the Master's program "Prehistory and Archaeological Sciences" at the University of Tübingen. We then tested it on an expert audience at the "Big Data and Human Evolution" conference in Ravenna, co-organized by ROCEEH. Due to high demand and positive feedback, the package has now been submitted to the Comprehensive R Archive Network (CRAN), where it will undergo a peer review process before being added to the central software repository for R packages to facilitate its widespread use.

Christian Sommer

ROCEEH Symposium "Diversifying networks. How culture infuses the environment"

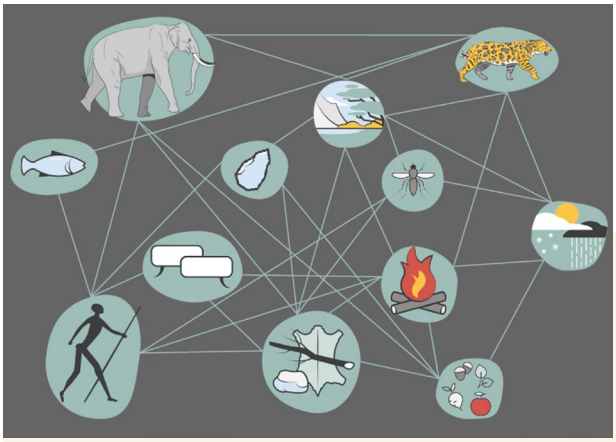
8-10 October 2025 at Senckenberg Research Institute and Nature Museum, Frankfurt/Main, Germany

A focus of ROCEEH's work lies on linking three spheres of expansion fundamental to the project—expansions of cultural performances, resource space, and range—as well as their synthesis in a systemic model of human development. Evolutionary approaches to the origin of humans have often been based on the premise that culture and environment are separate and opposed. However, more recent approaches, especially those that emphasize niche construction and double or triple inheritance, recognize that the entire sphere of animal and human culture—as well as the cognitive processes underlying it—are not simply a discrete, specialized "trait" or set of traits determined by genotype and natural selection; nor are they passively reflected in the archaeological record. Rather, material and social cultural components are themselves fundamental elements of the environment and have created conditions to which humans, animals, and plants have adapted. Interestingly, modern scientific perspectives on evolution increasingly show similarities with social and cultural anthropological theories based on "new materialist" perspectives. These take seriously ontologies beyond those of the global North that have not been considered by traditional evolutionary science.

The symposium "Diversifying networks. How culture infuses the environment" (funded by the DFG, 569636780) brought together approaches from the natural and cultural sciences to discuss both hereditary and developmental perspectives in the study of the evolution of humans and their respective environments. In five sessions, 18 talks addressed the material, social, and ecological aspects of human performances, their macro- and microenvironments, and their interdependencies.

The first session "How humans shape themselves and their environment" (speakers: Ramiro March/Rennes, France; Sabine Gaudzinski-Windheuser and Lutz Kindler/Neuwied, Germany; Jessica Thompson/New Haven, USA) addressed questions concerning the influence of human actions on their environment, their scope for action, and their further development. The technical, social, symbolic, and ecological consequences of the use of fire and thermal energy have been recognized as driving factors since the beginning of research into early human history, but the gradual development of fire use is now increasingly well understood. Evidence from the Neanderthal site at Neumark-Nord clearly demonstrated the influence of fire on the human resource space and thus also on the development space. An example from Malawi showed the effects of active human modification of vegetation using fire over the last 85,000 years and the interaction with social structures and biological consequences.

Session 2 focused on "Cultural environments as niches for other species" (speakers: Shumon Hussain/Cologne, Germany; Charles Stépanoff/Paris, France; Anaïs Vignoles/Liège, Belgium). While paleoenvironmental research has long viewed humans as actors outside of nature who have impaired the natural development of other species, the focus is now shifting to the coevolution of coupled human-animal-environment systems. The concept of biocultural diversity and its development in the course of human evolution can substantially enrich the debate. At the same time, humans developed special abilities as empathetic predators who, as physically weak hunters, used cognitive means in addition to material weapons to approach animals in complex relationships, integrating them as both prey and kin. An example from the Gravettian period in Western and Central Europe showed the strong influence of the regional climate on different cultural characteristics in neighboring regions.



▲ Figure 12. Symbolic image of the symposium "Diversifying networks. How culture infuses the environment": The interconnections between humans and their environment have become increasingly dense throughout human history, creating new spaces for development. (Graphic: C. Groth)

In Session 3 on "Adaptations in sociality changed the rules for interaction" (speakers: Nataša Djurdjevac Conrad/Berlin, Germany; Fiona Coward/Bournemouth, UK; Miriam Haidle/Frankfurt, Germany), an agent-based model was used to show

how human mobility and cultural exchange over the last 120,000 years influenced the development of African hunter-gatherer societies. Culture in its manifold forms was identified in this section as a fundamental environmental element that is not only the result of a particular adaptation, but also a factor to which humans adapted. Cognitive evolution is perceived as closely linked to demographic parameters such as group size and population density. It is influenced not only by interactions and connectivity between human individuals and groups, but also other species as well as landscape elements. As their members diversified across different levels of participation, communities of practice developed as spaces for action, learning, and development.

Session 4 examined "Opening new spaces: hominin mobility" (speakers: Matt Grove/Liverpool, UK; Miriam García Capín/Gijón, Spain; Iwona Sobkowiak-Tabaka/Poznán, Poland; Jesper Borre Pedersen/Tübingen, Germany). Agent-based modeling showed that the influence of migration on a subpopulation is comparable to mutation on a population. Niche construction can reduce mobility and thus the subdivision of a population, but social networks can exist independent of mobility. The opening up of new spaces through culture was clearly demonstrated by the example of Paleolithic exploration of deep caves. With the help of visual culture in the form of colored markings, the psychologically challenging darkness and the associated restriction of sensory impressions could be "tamed" while simultaneously highlighting others. An example from the Polish Late Paleolithic examined proxies for mobility in archaeological remains, highlighting the possibilities for gaining insights into different spatial scales, from supra-regional mobility to movements within a single site. Using the example of the different developments in the spread of the earliest European Upper Paleolithic compared to the Aurignacian, differences in familiarity with the landscape were discussed on the basis of archaeological indicators such as site distribution, origin of lithic raw materials, tool diversity, and symbolic expression.

Session 5 on "Modeling diversifying networks" (speakers: Christine Hertler/Frankfurt, Germany; Jesús Rodríguez/Burgos, Spain; Ana Mateos/Burgos, Spain) dealt with questions concerning the modeling of human-environment relationships, in particular the beginnings of human use of cutting tools. Only computer models, such as the Cut&Run model, allow us to test the possible advantages of stone tools in scavenging. In addition, the role that hominins may have played as facultative scavengers was examined; whether they can generally be regarded as effective scavengers, and what interactions with other living beings and ecological constraints were effective within this context. The discussion following this session neatly closed the circle to the contributions of the first session on hunting and scavenging behavior among Neanderthals.

Taken together, the contributions provided a better understanding of the connections between several current theoretical approaches such as Actor-Network Theory and Hodder's entanglement approach, ecological and cultural niche construction and its combination with dual inheritance theory to form triple inheritance theory. The shift in perspective from paths of inheritance to developmental options already appears in the Extended Evolutionary Synthesis. The developmental perspective is further complemented and reinforced by the enrichment of human niches through artifacts and expanded human-human and human-environment relationships as well as the resulting expansion of learning and developmental spaces. Increasing human interdependence has influenced not only the paths of human history, but also the development of animal and plant species, from the growth of paleosynanthropic niches up to the domestication of plants and animals.

Miriam N. Haidle

▲ Figure 13. Participants of the symposium "Diversifying networks. How culture infuses the environment". (Photo: Sven Tränkner)

Recent ROCEEH Publications

Bader, G. D., Sommer, C., Linstädter, J., Masia, D. P., Blessing, M. A., Forrester, B., & MacDonald, B. L. (2025): Decoding hunter-gatherer-knowledge and selective choice of lithic raw materials during the Middle and Later Stone Age in Eswatini. Journal of Archaeological Science, 180, 106302.
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Dapschauskas, R., & Kandel, A. W. (2025): Derivatives of ritual: Investigating the origins of Paleolithic art from the perspective of an evolutionary-psychological archaeology. In: Haidle M.H., Conard, N.J., Wolf, S. & Porr, M. (Eds.) Images, gestures, voices, lives: What can we learn from Paleolithic art? An international Senckenberg conference. Heidelberg: Heidelberg University Publishing, ROCEEH Communications, Vol. 2, pp. 147-180.
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Forthcoming

- ROAD Workshop: Using ROAD in Human Evolutionary Studies

5 February 2026, University of Bordeaux, France

- ROAD Workshop: Using ROAD in Human Evolutionary Studies

18-19 March 2026, University of Montreal, Canada

- Computer Applications in Archaeology 2026 (CAA): It's all about people!

31 March- 3 April 2026, Vienna, Austria
In fact, it's all about ROAD. Christian Sommer, Christine Hertler, Andrew Kandel, and Jesper Borre Pedersen introduce the ROAD database in the form of a workshop and also organize the session, „How To Do ROAD," to illustrate the multitude of ways in which ROAD data can be applied in innovative ways to scientific research.
More details about the conference here:
https://2026.caaconference.org/

- ROAD Workshop: Using ROAD in Human Evolutionary Studies

18-20 May 2026, University of Algarve, Faro, Portugal

- 10th Biennial Conference of the Eastern African Association of Palaeoanthropology and Palaeontology (EAAPP)

26-30 July 2026, Lake Elementaita, Kenya
Christine Hertler introduces the ROAD toolbox, a set of digital tools which permits the retrieval of data from ROAD at various levels and for different purposes. The toolbox offers a simple and intuitive access to ROAD data for scientists.
Further details here:
https://eaappinfo.wordpress.com/2026-2/

If you are interested in hosting a ROAD Workshop, please contact us at info@roceeh.de

Who's who?

This issue: Jesper Borre Pedersen

Since 2024 **Jesper Borre Pedersen** has been a post doctoral researcher at ROCEEH, where he focuses on integrating and interpreting large scale archaeological data within the broader context of human evolutionary studies. Having completed his bachelor's, master's, and doctoral degrees at the Aarhus University in Denmark, he has long specialized in pioneer dispersals. Southern Scandinavia—situated at the extreme edge of human distribution at the end of the last glacial period—offers an ideal natural laboratory for studying these early colonization processes. His doctoral research examined the earliest peopling of northern Europe at the end of the Pleistocene, concentrating on the Hamburgian culture (≈ 14,500–14,000 cal BP) and its rapid expansion into the newly deglaciated landscapes of southern Scandinavia. The project combined demographic modeling, lithic technological analysis, and ecological reconstruction to reassess how small groups navigated unfamiliar environments during abrupt climatic transitions. By doing so, he sought to understand how large scale population movements emerged from—and were constrained by—the behavioral decisions of individuals and communities operating in uncertain, dynamic settings. This macro to micro scaling continues to guide his post doctoral work.

At ROCEEH, Jesper works with the ROAD database, which provides a uniquely rich framework for linking diverse lines of evidence across spatial, temporal, and disciplinary boundaries. Its interoperable, FAIR compliant design enables researchers to visualize and analyze dispersal histories, cultural trajectories, and environmental contexts within a unified analytical environment. He has already contributed to efforts that integrate ROAD with archaeogenetic data, recognizing the enormous potential of such infrastructures to complement and contextualize emerging archaeogenetic datasets. While genetic data illuminate biological kinship and ancestry, archaeological macro data supply the cultural and ecological scaffolding needed to interpret those relationships in social and behavioral terms. He sees enormous potential for ROAD and similar archaeological infrastructures to advance our understanding of past human dynamics.

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THE ROLE
OF CULTURE
IN EARLY
EXPANSIONS
OF HUMANS

The Heidelberg Academy of Sciences and Humanities is a member of the Union of German Academies of Sciences and Humanities, which coordinates the Academies' Program. The research project, "The Role of Culture in Early Expansions of Humans", was incorporated into the Academies' Program in 2008.

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