

Images, gestures, voices, lives. What can we learn from Palaeolithic art?

A conference at the University of Tübingen, organized by the Research Center “The Role of Culture in Early Expansions of Humans” (ROCEEH) and the Senckenberg Centre for Human Evolution and Palaeoenvironment (HEP)

Eine Konferenz an der Universität Tübingen, organisiert von der Forschungsstelle “The Role of Culture in Early Expansions of Humans” (ROCEEH) und dem Senckenberg Centre for Human Evolution and Palaeoenvironment (HEP)

Charlotte-Laura Maaß¹, Anna-Lena Jerg¹, Sophia Lippe¹,
Fiona Pfrommer¹, Larisa-Angela Lazar¹ and Miriam N. Haidle^{1,2,3}

¹Eberhard Karls Universität Tübingen
Institut für Ur- und Frühgeschichte und Archäologie des Mittelalters
Abteilung Ältere Urgeschichte und Quartärökologie
Schloss Hohentübingen
72070 Tübingen, Germany

²Heidelberg Academy of Sciences and Humanities
Research Center “The Role of Culture in Early Expansions of Humans”
Research Institute Senckenberg
Senckenberganlage 25
60325 Frankfurt/M., Germany

³corresponding author
mhaidle@senckenberg.de

There can be little doubt that one of the most profound discoveries of European archaeology has been the discovery of the first painted Paleolithic cave at Altamira, Spain. In 1879 and inspired by Paleolithic decorated artifacts that he had seen at the Universal Exhibition in Paris, Marcelino Sanz de Sautuola started excavations in a cave on his property in Cantabria. While he was busy excavating, his daughter Maria examined the roof of the cave and discovered those paintings that have similarly intrigued academic and general audiences. This discovery has fundamentally changed the understanding of the Paleolithic period and the perception of humanity’s deep past. Not surprisingly, the discovery also created a significant amount of controversy. This first encounter with Paleolithic cave art also has a tragic dimension, because its substantial antiquity was only accepted by the contemporary scientific community around 1900 and long after

Marcelino Sanz de Sautuola's death. Since then, the existence of European Paleolithic cave paintings and figurative objects has been confirmed by thousands of well-dated and well-contextualized pieces of evidence. Some of the most recent discoveries in this respect have been made in cave sites of the Swabian Jura. These are not only among the earliest examples of figurative objects anywhere in the world; they have also been recognized as UNESCO World Cultural Heritage in 2017, which is both an acknowledgement of the importance of the finds themselves as well as the long and intense research that has been conducted in the region.

The discovery and interpretation of European Paleolithic art continues to influence our perception of the human past and present in manifold ways. Since the acceptance of its antiquity, the phenomenon of Paleolithic art has impacted on a wide range of disciplines and fields with very different theoretical perspectives, orientations and views. It has been argued to reflect a uniquely human aesthetic sense of beauty and exclusively human capacities for cultural behaviors and cognition, often discussed in the context of human origins. Within the wider field of the humanities and social sciences as well as the public sphere, it has also shaped the notion of art itself and has affected in complex ways the understanding of humanity's past and present, notions of time and progress, and the definition of humanity itself. Paleolithic art has also intrigued many artists in their engagement with the breadth and depth of creative aspects of the human experience. To discuss most recent perspectives within this research field, the research center "The Role of Culture in Early Expansions of Humans" (ROCEEH) of the Heidelberg Academy of Sciences and Humanities organized an international, interdisciplinary conference in cooperation with the Senckenberg Center of Human Evolution and Paleoenvironment (HEP) (scientific organization by Miriam Haidle, Martin Porr, Sibylle Wolf and Nicholas Conard). Supported by the *Deutsche Forschungsgemeinschaft* (DFG) and the *Senckenberg Gesellschaft für Naturforschung*, the conference took place from 30 May to 2 June 2018 at the *Alte Aula* of the University of Tübingen. The invited researchers presented their results over three days in five sessions with a total of 30 talks. A post-conference excursion to some of the World Heritage cave sites of the Swabian Jura and the *Urgeschichtliches Museum* in Blaubeuren highlighted the last day of the gathering.

During the first session, "The origins of the eternal quest for beauty," a variety of speakers presented their opinions and approaches to questions concerning the significance of Paleolithic art in the context of art history and the development of aesthetics. The antiquity and diversity of Paleolithic art has both baffled and fascinated art historians for a long time. At the beginning of the 20th century, art historians increasingly reduced their focus on Paleolithic art works, denoting them as short episodes within the general history of art in Europe. Meanwhile, debates about whether Paleolithic art contradicts or supports the development of a global history of art and the question of how discoveries of prehistoric images and sculptures influenced the appreciation of art and its history emerged. Furthermore, we still need to ask the basic question: Can we even consider Paleolithic art as art?

Ingeborg Reichle from the Department of Media Theory at the University of Applied Arts in Vienna, Austria started with her presentation, "The Origin of Species and the beginning of art: Art history's encounter with Darwinian aesthetics around 1900." She introduced the audience to the German philosopher and ethnologist Ernst Grosse

(1862-1927), who published the first comprehensive study of non-western art, which also included prehistoric art, in his book, “The Beginnings of Art,” in the 1890s. His encounter with the until then neglected, so-called primitive art of current hunter-gatherer peoples was strongly influenced by beliefs of Charles Darwin. In his view, the study of the lowest forms of culture and the earliest forms of artistic production could be the key for providing a solution to the fundamental questions about aesthetics. The comparison of “primitive” art and prehistoric artifacts was further rooted in the nineteenth century disputes between the natural sciences and the emerging arts of humanities. Art history was slowly but surely brought to another academic level equal to that of the natural sciences. Around 1900 the great interest in the origins of art made objects and artifacts from different fields (such as prehistoric artifacts, applied arts, ornaments and art works of indigenous communities) worthy of art historical scholarship. This caused a great number of artifacts that were shipped to Europe from non-European sites and recently excavated European materials to be systematically compared, which led to parallels between prehistoric artistic expression and the artwork of contemporary peoples who were still classed as primitive. It was the general view that such peoples could hence serve as relics of the past, who could provide insights into the early stages of the artistic development of European peoples.

Harald Floss from the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany talked about “References to prehistory in modern and contemporary art – Willi Baumeister and Germany.” He showed how prehistoric content can play a role for the human self-concept and to which extent it can impact the contemporary world. For this Willi Baumeister, a sensitive, assertive and successful painter, was chosen as an example of a modern artist who started finding inspiration in prehistoric cave, rock and mobile art in his search for a basic archaic human language. His orientation to prehistory was based on his contacts with geologists and archaeologists. They gave him the impulse to visit prehistoric sites, collect artifacts and replica, and finally built up his own prehistoric library. While he was experimenting with pigments and painting with sand and clay, he was especially inspired by cave paintings from the Valtorta valley in Southeast Spain. The reduction to the essential, while getting rid of anything else, is a striking characteristic in most of Baumeister’s art works.

Thomas Heyd from the Department of Philosophy and School of Environmental Studies at the University of Victoria, Canada presented his approach to “Rock Art in the view of aesthetics”. In his opinion, aesthetic pleasure is to discover what makes certain things right for their place, time and circumstances. He did not mean right in terms of ethics or practical concerns, but rather in terms of proportion and harmony. Heyd noted that prehistoric people who created Paleolithic art did not have our concepts of aesthetics and art, but neither did pre-fifteenth century Europeans. Therefore, he argued that prehistoric people had no limitations in their ability to produce aesthetically valued objects while e.g. producing practical utilitarian effects. He claimed that Paleolithic art demonstrates the antiquity of meaningful engagement with our world and shows human yearning to fill the world with beauty. Finally, he stated that it is important to allow things to speak to us in their own voice and not to be prejudiced against Paleolithic people so that their products instead can show us their meaning.

Ulrich Pfisterer from the Department of Art History at the University of Munich, Germany presented his paper, “The primitive’s gaze. Art historical and other fantasies about human origins.” Around 1900, the question about the historical development of the human gaze arose and became a center of debate in art history. There are different ways of seeing which reflect different ways of perceiving and conceiving the world. For past cultures these views can be embodied and preserved in images, artifacts and art works. Regarding the gaze in prehistory, Pfisterer summarized three major positions: First, the objective view in which makers put exactly what they saw into the object as realistically as possible; second, a childlike perception in which the images that children produce are compared to primitive art; and third, the question if we can judge or appreciate images from the past at all, because of the radical otherness of the past.

The last speaker of this session was *Rémi Labrusse* from the Department of Art History and Archaeology at the University of Nanterre, France with his presentation, “The collapse of the origins: Prehistory beyond art history.” Like some speakers before, he explained that as soon as the concept of prehistory was invented, it was incorporated into Western theories about the evolution and origins of art. However, instead of rounding the theories out, prehistoric complexity and variety became a pitfall for the theorists. Labrusse pointed out that over the past 150 years of looking at Paleolithic art there has been a reversal of values in society, especially if we look at the relation between technology and art. If we say that people who were technologically poor (from today’s perspective) created such high quality art, we cannot ignore the fact that stone artifacts were made by using complex methods and also have an aesthetic value. The high quality of prehistoric artwork was used as an argument against the Darwinian explanation of a rudimentary development, and hence an evolution of art.

In his keynote, “Females, fish, fowl, flutes and the variety of artistic expressions in the Swabian Aurignacian,” *Nicholas J. Conard* from the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany elaborated on the oldest figurines from the Swabian Jura. He stressed the long and continuous research tradition in Southwest Germany that allowed the generation of a multi-layered approach towards the art objects and many levels of contextualization. As such, the research so far allows unique insights into the lifeworld of the creators of the earliest figurative objects. Finally, it has confirmed the presence of the earliest known musical instruments worldwide in the form of complete ivory and bone flutes, and many further fragments. Regarding the discussion whether the figurines represent the beginning of art or can even be categorized as art, Conard stated: “Every time you work with ivory, nothing just happens by chance; it’s all planned and done deliberately.” This shows how much effort and thought were put into these art works and that we must give them the respect and appreciation they deserve.

Session 2 was dedicated to “The challenge of materiality: how should we understand Paleolithic art as material culture?” In the past, social and cultural anthropology was not extensively engaged in the study of material culture, items or objects. Recently, however, the viewpoint changed and the basis for a broad field of varying approaches opened. Some of these different ideas and interpretations could be summarized under the terms of new materialism and new animism, which are both based on the reassessment of previous anthropological concepts and notions. But how should we deal with these new

approaches? Do they further support established archaeological theses about material artifacts and their expressions? Or should the results be treated critically? Can they contribute to an understanding of Paleolithic art? And how do complexities of the Paleolithic record enhance concepts of interactions and exchange between communities, things, places and environment?

In this session a wide variety of issues and topics were discussed, beginning with the talk of *Hans-Peter Hahn* from the Institute of Ethnology at the University of Frankfurt/Main on “Paleolithic art as meaningful practice and skilled routine: some rather mundane remarks on the production of art objects.” While most approaches focus on the meaning paintings may have had at the time of production, he considered the way these paintings were made. For this, he engaged himself in the complicated matter of the relations between process and product, pigment and intention, and item and variability. Referring to Philippe Grosos¹, Hahn also concentrated on the emergence of signs. The caves are places where the painters gradually developed the distinction between figures and signs. A figure is defined as a formal representation of a phenomenon, while a sign is a representation by convention. Unfortunately, both elements exist in the paintings, but it is not possible to determine whether a particular element is a sign or a formal representation, while in other cases this is obvious. Therefore, it is necessary to delve into that distinction and re-examine the paintings under this paradigm. To explain this strategy, Hahn presented wooden figurines known as *cicilig* from Northern Togo as modern examples, which are made for the healing protection of diseased family members. Their shape is weakly defined and different materials can be used. Since the mood of the artist determines the skill invested, no paradigm sets a norm for the shape. In fact, a precise form is of little interest for the evaluation of the figurine. Ignorance or disinterest in shape may apply, but this does not mean that they have a lower impact. The process of making those figurines is of central importance and is indispensable for the understanding of the art. However, this raises the issue of whether we can understand the perspective of the original creator today. Are art objects things as such or rather a fragmented character that follows no strict rules but the meaning?

Chris Low, a member of the African Studies Centre at the University of Oxford, UK then talked about “What can contemporary Bushmen tell us about the art of their ancient ancestors?” Low briefly reviewed claims made regarding southern African rock art and its relationship to recent San or Bushmen. As he studied for eighteen years the healing among San, he seemed to be in a good position to comment on the relationship the San might have between their art and their recent beliefs and practices. Many leading scholars of San rock art believe that the art can be attributed to shamans who represent their experiences in their paintings and engravings. Low claimed, however, that not all of the art has its origin in shamanic work, and the art does not share the same background. As origins of art are ethnically motivated, one needs to see and feel the world of those people to understand what they are depicting. Like a healing dance that is addicted to feelings and emotions, the ideas of art are also flexible and inchoate. The artist is listening to the world and his body and when he is confident in doing whatever he wants to do, he does it. It is about going through the effort to do it. For this reason, multiple meanings exist as everyone is acting of their own accord. Once more, the question arises, if we can understand our Paleolithic ancestors today?

1 Grosos, P. 2017: *Signe et forme. Philosophie de l'art et art paléolithique*. Paris: Les Éditions du Cerf.

Peter Vang Petersen from the National Museum of Denmark in Copenhagen, Denmark switched the focus to “Amber elks and bears of the Late Paleolithic of Southern Scandinavia”. He reported on the Federmesser and Bromme cultures and their fascination for Baltic amber. They made naturalistic figurative visual art out of the ‘gold of the north’. Among those, a group of elk and bear figures appear that are much older than previously assumed. These local peculiarities are seen as objects with a magical and protective nature. They are often covered with nonfigurative ornamental patterns, raising the question of whether a specific practice is linked to the objects. Petersen’s point of view is that these objects were regarded as hallowed and magical, but at the moment they broke, their magic was broken too.

Shumon Hussain from the Faculty of Archaeology at the Leiden University, Netherlands continued with “Humans, animals and caves: Tapping into the ‘more-than-human’ context of Paleolithic visual culture.” He placed human behavior, animal agency and nonhuman forces, and the materiality of the landscape in an interdependent relationship. This perspective results in a new way to interpret Paleolithic human life and its material traces. The art objects are then an attempt to deal with the intersections of the human and non-human worlds. To understand how material visuality works, it is important to cite examples. At first, he presented animals because of their social significance, their ability to act, as well as their behavior. The agency of animals was an important motivational force for art making, but caves also have the ability to act, entrap or enchant. They are dynamic and intrinsically active frameworks for the paintings. The art is a product of human behavior, but non-human agency equally contributed to its genesis. Caves are not passive configurations, as they are vibrant and actively involved in production and design. His studies can be summarized as follows: Paleolithic visual culture cannot be understood without taking animal ethology, lived ecologies, interspecies dynamics, biophysical landscapes, human geographies and socio-cultural practice into consideration. Finally, Hussain claimed that one should overcome the hegemony of anthropological factors in the interpretation of Paleolithic visual culture.

Olivia Rivero from the Universities of Salamanca, Spain and Toulouse, France focused on “The apprenticeship of techniques in Paleolithic art works.” Based on Cantabrian and Pyrenean portable and rock art, she performed microscopic and statistical analyses. Focusing on particular traces created by the act of engraving, a multivariate analysis, and a subsequently Correspondence Factor Analysis, she split art into three categories. These categories reflect the current technical knowledge of the artist. The results provide insight into the experience, apprenticeship and age of an individual, as well as the relations between groups, or specializations. As some traces are considered accidents or errors, approaches to the experience of the engraver can be made. Depending on drawing corrections, tool control, disrupted lines and engraving techniques, the functionality of sites can be suggested.

Randall White from the Center for the Study of Human Origins of New York University, USA presented the last talk in this session on “Aurignacian material representation: an abundance of new evidence from SW France.” Because of the dispersal of many Paleolithic artifacts during World War I and the prevailing conditions of early archaeological work, the scientific knowledge of the early discovered record was limited. But with new findings from recent excavations of some classical Aurignacian sites enough data could

be gathered to re-interpret the chronology, geographic variation, subjects and techniques. The Aurignacian record cannot be considered as one homogenous block since several phenomena are only ephemeral.

Session 3 focused on “Beyond evolution and history – How should we connect Paleolithic art objects to origins of modern cognition and *Homo sapiens*?” A core theme in Paleolithic archaeology has always been the question of human origins. Entangled in this field are notions of the definition of humanity, human nature and the distinction between history and evolution, as well as nature and culture. These aspects have a long history within Western intellectual tradition, and form (often unacknowledged) core elements of modern science. However, a range of recent approaches have attempted to move away from this overall framework to integrate or move beyond aspects of social and biological anthropology to understand the deep human past. Can the study of Paleolithic art profit from these reorientations? Is the link between ‘human origins’ and ‘art’ obsolete? Is the study of Paleolithic art uniquely placed to enhance our understanding of the origins of language and symbolic behavior?

In his introduction to the session, *Gerd-Christian Weniger* from the Neanderthal Museum in Mettmann, Germany raised very relevant questions. Since new dating results show that Neanderthals originated red markings in Spanish caves, shouldn't we associate Paleolithic art with species other than just *Homo sapiens*? Additionally, it should be taken into account that artifacts might have had different values. Can rock art, such as in the Spanish caves, and other cave paintings be easily compared to figurines and musical instruments? Were internal or external cultural stimuli more important for the development of “artistic expressions” than evolutionary aspects?

Margaret W. Conkey from the Anthropology Department of the University of California at Berkeley, USA gave the first presentation on “Materiality, memory and the microscale: alternative considerations in the study and interpretation of Paleolithic art.” While most approaches focus on historical and evolutionary aspects, Conkey brought microscale approaches to discussion that are often missed out. She defined materiality as social actions and came up with a new interpretative concept which she termed memory work. Memories are not experiences and they are not about traces and materials. Memories are made by the individual and are always already subjectively interpreted. Indicators for memory work can be gatherings, depositions, intentional deconstructions and much more. Memory works can be seen as push factors for Paleolithic art, as individuals were trying to keep certain things in mind with the help of materialism. Considering these thoughts, social practices and memory work might be additional approaches to ongoing research. As a reaction to the presentation, some participants disagreed about the equal value of traditional and microscale approaches, while others showed support from ethnographic backgrounds. One of the last comments focused on the comparison of memory work and identity making, for some creations must have been made for the present, not the past. In general, the concept of memory work was widely accepted as an idea through which thoughts about Paleolithic art could be extended.

In the following presentation on “Beyond art and images: Reflections on contemporary and prehistoric art,” *Oscar Moro Abadía* from the Department of Archaeology at Memorial University of Newfoundland, Canada provided an overview on the research history of Paleolithic art and how it still positively influences ongoing discussions. While

the concept of Paleolithic art has been theoretically questioned, during the last thirty years it has increasingly been used for practical purposes. In recent years, several different manifestations such as finger flutings, coloring minerals and engraved objects were added to the concept of art and the symbolic importance of personal ornaments like shells and beads was recognized. It seems to be especially important to have a look at the social content. The pure definition of art today should probably not be deployed on the differential range of Paleolithic art. It would be necessary to include more paleoethological data to achieve less flexible, yet more specific results.

In contrast to the presentations before, *Nils Weidtmann* from the *Forum Scientiarum* of the University of Tübingen, Germany shared his results from a completely different approach. His talk on “Beyond the distinctions of culture and nature: What art may teach us about the evolution of cognition,” provided an intercultural philosophic view on cognition and Paleolithic art. Starting with a comparison of cave paintings and the work of modern street artists like Banksy, he developed the idea of art as a new (reflective) exposure to the world. Different from Renaissance art, Banksy and the Paleolithic creators did not frame their art; it was and is much more part of daily life, but can still hold a deeper meaning. The artist developed the realization out of the environment and did not just impose an idea on it. The debut of art should not be seen as a new capacity entering the stage, but as a new dimension of discovering meaning in the environment. In a co-evolutionary process ‘art’ is a sort of reaction to the environment, but the new statement also changes the environment. Changed perceptions bring up new challenges and affordances and require new answers. In the discussion it was added that art is not driven by ecological pressure and still people don’t act randomly and without certain reason. Therefore, art must be seen as a statement to the environment, even if we should rather call the environment society.

In addition to the comments on ecological pressures in the previous contribution, *Thomas Junker* from the Institute of Evolution and Ecology at the University of Tübingen, Germany built up his presentation, “Why art? The Darwinian perspective,” about an evolutionary view on why art is present in societies in general. The concept of Darwinism is about the use of traits, so art must be useful to some degree, or it would have been negatively selected by now. Studies show that art seems to have a positive effect on mental and physical development and could be a quality signal for sexual selection. It can also count as an additional form of communication with a great value for a certain group of people. Also, as added in the discussion, not only does communication occur between groups of people, but also with the other world and higher beings of any kind. This Darwinian concept of fitness optimization is mostly limited to Paleolithic art and still carried on through changing environments with fewer selective pressures.

In their talk about “The Swabian Aurignacian and beyond: Understanding symbolic communication,” *Ewa Dutkiewicz* and *Nicholas Conard* from the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany focused on how animal figures from the World Heritage cave sites could give examples for the symbolic revolution. They also provided insight to the different values of symbolic traits, stressing that an archaeological reality from real data would be presented. Symbolism expresses human behavior and distinguishes the later *Homo* species from animals. While icons and indexes can be easily understood, symbols have an arbitrary, culturally coded

meaning and must be learned. An animal figure in itself can be seen as an icon, but the development of markings on the object is considered as a symbolic communication system, most likely for smaller groups. While the stories behind the symbolization are obviously unknown, there is still evidence for information being transported, because the figures were used, not just carved and laid down.

In the last presentation of the third session, *Duilio Garofoli* from the ROCEEH Research Center of the Heidelberg Academy of Sciences and Humanities at the University of Tübingen developed his thoughts about “Evolutionary cognitive archaeology and the new radical critique: The case of Upper Paleolithic cave painting,” criticizing the Cartesian theory of an independent mind. He argued that a creator does not have to have a picture in mind before starting a creative process. The picture only occurs in the process of making something and can change over time. Material engagement is the basis of words and language. The concept of language itself emerges from created pictures and the following development of cognition. Thus, it cannot be fundamental to the creation of so-called Paleolithic art. Pictures of animals may have been pure depictions of real beings; only via interaction with these representations was significance created and were new semiotic categories and communicative tools developed. Within this alternative conception, Upper Paleolithic cave paintings stand as epistemic devices for the long-term development of art, symbolism, and meta-representational language, rather than being the passive by-product of such a complete package of modern abilities.

Session 4 was dedicated to “Perception, practice and performance: How can we access the experimental and perceptual dimensions reflected in Paleolithic art objects?” Paleolithic art was made by people in the past, who bodily and directly engaged with their environments in multiple ways. The dimension of sensorial experience and perception has so far received relatively little systematic attention in the context of understanding Paleolithic art and music. However, the wider archaeological community has been influenced by phenomenological philosophies for some time resulting in a range of valuable discussions, approaches and results. How can the bodies of those individuals, their views, perspectives and perceptions be integrated in the understanding of Paleolithic art and music? Can the latter enhance the appreciation of the depth and breadth of human experiences through time? Finally, can these approaches be theoretically and methodologically formalized to allow their application to far-removed temporal contexts? Or are they bound to the limits of present subjective experience?

Inés Domingo Sanz from the ICREA at the Faculty of Geography and History of the University of Barcelona, Spain presented a paper about “Challenging archaeological approaches to Paleolithic rock art from ethnoarchaeology.” Ethnoarchaeological studies have often been used to draw simple analogies and to suggest one specific function such as totemism, magic, or shamanism. Ethnoarchaeology, however, demonstrates the contrary: the multiple functions of rock art and the constraints of its interpretation. Based on her studies in Arnhem Land, Australia, Sanz explained that ethnoarchaeology provides a unique context to reflect on the limits of archaeological approaches to the meaning of rock art. It yields new clues to processes of production and use and their possible meaning, and to the significance of elements such as color and infill. Additionally, archaeological hypotheses can be tested, for example, landscape approaches to rock art that attribute certain immaterial qualities to sites based on tangible characters such as visibility and accessibility.

In her contribution, “The Lady and the Lionmen – using basic theatre techniques to investigate the gestures of UP anthropomorphic figures of the Swabian Jura. An experimental study in body language,” *Adeline Schebesch* from the Institute of Pre- and Protohistory at the University of Erlangen-Nürnberg, Germany gave another perspective toward art – especially figurative art. The posture of living bodies provides important clues about intended actions and/or emotional status. Being a performing artist herself, she studied and analyzed body language in Paleolithic figurines in an experimental setting. After an introduction was given about the different body regions and what they display, the audience was invited to copy postures shown in figurines. In her study, Schebesch worked with professional actors from different cultural areas who also reproduced the postures and reflected on the emotional responses. She concluded that all of the Aurignacian figurines studied demonstrated being extroverted, dynamic and alert, in some way being powerful and inviting communication. Schebesch pointed out that some emotions are wired deeply within us and can thus be understood even 40,000 years later.

With “Open-air Upper Paleolithic rock-art in the Côa Valley, Portugal: Regional particularities, individual self-awareness and social differentiation,” *António Batarda Fernandes* from the Côa Park Foundation, Portugal and the Department of Archaeology, Anthropology and Forensic Science of Bournemouth University, UK presented another category of rock art. In the Côa Valley the art consists of many layers of engraved lines in an open-air situation. Many of the engraved figures incorporated natural shapes of the underlying rock in the motifs. The characteristics of the Côa rock-art corpus suggest an importance of the narratives that might have been conveyed and of the immersion of the artists with the material medium.

Elizabeth Velliky and colleagues from the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany and the Centre for Rock-Art Research and Management at the University of Western Australia at Crawley presented a paper about “The law of the land. The selection and utilization of pigments in the Upper Paleolithic of Central Europe.” A central question in the study of ochre use is its role in the development of symbolic behavior in human evolution. This versatile material could have been used for various purposes. A contextual analysis with ochre materials and artifacts sampled from sites in the Ach and Lone valleys of the Swabian Jura showed the variety of different ochre types used, of modifications and media carrying the pigments. The analyses of chemical elements allowed her to identify their original provenience. This leads to questions about the interplay between social, environmental and behavioral factors of Paleolithic people in the Swabian Jura.

In his talk, “Blundering about in the darkness. Controversial interpretations of Magdalenian findings in Enlène (Ariège, France)” *Andreas Pastoors* from the Institute of Pre- and Protohistory at the University of Erlangen-Nürnberg, Germany made a further step in illuminating questions about which we are ignorant. He emphasized the importance of carefully looking at the archaeological evidence before interpreting (or speculating on) religious concepts and rituals. Focusing on the caves of Les Trois-Frères and Enlène, Pastoors described the differences of the two caves with regard to the presence of rock art, assemblages of stone tools, bone and antler artifacts, the frequency of fireplaces, and the distribution of sandstone slabs. Nevertheless, the two caves connected by a long and narrow tube probably represent different parts of a common religious setting. To

improve interpretations, contextual data from the cave sites themselves as well as from the archaeological evidence has to be taken into account instead of subordinating the data to preconceived paradigms.

Tommaso Mattioli and *Margarita Díaz-Andreu* from the Faculty of Geography and History at the University of Barcelona, Spain chose a different perceptual approach; that of hearing. In their talk, “Cave soundscapes: the tuning of darkness,” they addressed the assessment of auditory distortions causing unique soundscapes inside every cave. Hearing is usually more accessible than seeing – in darkness the soundscape does not change, and it has a wider operating range in general. Caves are highly sonorous places in which hearing can compensate for visual shortcomings. The soundscapes of caves may have affected Paleolithic rituals, either intentionally using echoes or instruments, or naturally in the form of trickling liquids, resonance and reverberation. Music and sound stimulate powerful emotions, and places inside a cave where art is displayed often feature unique soundscapes.

Session 5 focused on “From digital documentation to meaningful analysis: How can different disciplines and stakeholders profit from digital recording and documentation techniques of Paleolithic art?” The recording and storage of artworks in digital form is indispensable today to support the ways researchers and the public engage with artifacts and artistic expressions. Scientists can easily share information and work on art pieces without touching the existing objects when they can access the appropriate digital data. The aim of this session was to discuss the different methods through which artworks could be digitized and made accessible. However, what are the actual needs of different scientific approaches and disciplines? How can different perspectives and interests be accommodated in different digitization programs? Which challenges arise from digital representation, replication and reproduction?

In their talk, “Digitized semantics: decoding complexity of rock art in the Brandberg-Daureb (Namibia)” *Tilman Lenssen-Erz* and *Oliver Vogels* from the Department of Pre-historic Archaeology at the University of Cologne, Germany introduced an approach to analyze the semantics of patterns within rock art. To make large datasets of rock art machine-accessible, the medium has to be changed from pictures to formalized language which is readable by machines and humans. In the Brandberg-Daureb Database of rock art from Namibia (see <http://datenportal.ianus-fdz.de/>), images, their distinctive features and activities displayed were translated into tables of actors, actions and objects/goals. The individualization of the figure (symbolic social sphere), the gestural communication (communicative social sphere) and the physical “communication” towards an object/goal (physical interactive sphere) help to identify social identities. The authors were able to recognize gender roles, which do not match expectations shaped by interpretations based on ethnography. Additionally, the concept of a neutral person could be distinguished.

Christoph and *Markus Steffen* from the State Office of Historic Monuments (*Landesamt für Denkmalpflege*) of Baden-Württemberg at Esslingen, Germany presented their work on the UNESCO World Heritage cave sites of the Lone and Ach Valley: “Digitized Ice Age art. Strip light scanning and photogrammetry for documentation and visualization of archaeological finds.” They documented the caves using terrestrial laser scanners and high-resolution and photo-realistic 3D photogrammetry (3D computer models can be seen at <https://www.iceageart.de/3d/>). Future improvements in data accumulation and

an enhancement of the software will help to see even greater resolution of the Ice Age caves. Strip-light scanning and structure from motion processing were applied to document the art objects found within the caves and to reproduce them as three-dimensional computer models. *Ewa Dutkiewicz* from the Department of Early Prehistory and Quaternary Ecology at the University of Tübingen, Germany showed “A case study for the use of 3D models: The Swabian figurines.” The high resolution and contrast revealed in the ivory figurines small cracks and imperfections, which had not been documented so far.

Jo McDonald from the Centre for Rock Art Research and Management of the University of Western Australia at Crawley, Australia introduced her latest research in the Australian Dampier Archipelago (Murujuga) in collaboration with indigenous people: “Murujuga: When inland hunter-gatherers became coastal foragers.” A vast number of rock art motifs and stone features were documented in the arid to maritime landscape using 3D photogrammetry on mobile recording platforms and drones. The resulting digital database will have both research and cultural heritage management capabilities. The records that ensure cultural safety of the district as well as scientific rigor can be used to build a Living Knowledge Centre of Murujuga.

“Studying ochre use in the African Middle Stone Age” was the topic of the talk by *Andrew Kandel* and *Rimtautas Dapschauskas* from the ROCEEH Research Center of the Heidelberg Academy of Sciences and Humanities at the University of Tübingen, Germany and the *Institut für Ur- und Frühgeschichte und Vorderasiatische Archäologie* of the University of Heidelberg, Germany. As the use of ochre plays an increasingly important role in contemporary theoretical discussions about the emergence of modern human behavior, they analyzed its broad spatial-temporal patterning during the Middle Stone Age in Africa. From a long-term evolutionary perspective, they observe an increase from first occurrences in an initial phase from 500,000-310,000 years ago, a phase of occasional use between 310,000 and 210,000 years ago, an emergent phase from 210,000 to 140,000 years ago, to a phase of habitual use between 140,000 and 40,000 years ago.

Richard Buffat from the Caverne du Pont d’Arc, Vallon-Pont d’Arc, France gave the final talk of the conference, “From Grotte Chauvet Pont-d’Arc to Caverne du Pont-d’Arc,” on the fascinating reconstruction of the Chauvet Cave (see <https://www.cavernedupont-darc.fr/>). The project faced two main challenges: the protection of the original cave, and its size with a length of 450 m and an area of 8500 m² (which had to be reduced for the reconstruction to 3500 m²). Basis of the replica was a complete 3D scan of the original World Heritage site with its remarkable geological landscape and 425 images in total. In collaboration with scientists, engineers and artists, the development of Caverne du Pont-d’Arc needed five years for its design and 30 months for the construction itself. Since April 2015, more than half a million people have visited the replica each year.

In summary, the conference moved between different scales of analysis and interpretation from microscopic studies of single objects to diachronic developments across whole continents. Generally, it was asserted that art as such is a problematic notion that has a complicated history and cannot be applied cross-culturally without difficulties. Objects that are usually regarded as ‘art’ are participating in humans’ world-building and in processes of the creation and stabilization of meaning. In this context, it was generally acknowledged that so-called art objects need to be seen in contexts of dynamic performances of production, use and communication. Art cannot be reduced to material visual

culture, but also has acoustic, haptic (tactile) and other dynamic aspects as well. It can be linked to a wide range of performances and social purposes. The latter can include ritual-religious or more general aspects related to social cohesion, self-assurance, teaching and apprenticeship. These insights have demonstrated that 'art' cannot be viewed as a unified phenomenon, but rather needs to be understood as a variety of processes that can equally embrace the mundane or extraordinary. Consequently, it remains difficult to pin this phenomenon down and even to assert that it is always connected to symbolic meaning. As mentioned above, the processes of the creation, communication and stabilization of meaning remain an area of debate and no unequivocal relationship between objects and cultural meanings can be assumed. These considerations clearly demonstrate that the idea of Paleolithic art has shifted considerably in the last decades. It is no longer connected to an idea of 'fine art' that concentrates on objects of elaborate artistic qualities such as paintings and sculptures. The interest has now broadened considerably, and it equally embraces items such as personal ornaments and pigments in their own right.

The meeting closed on a very positive note and with the general feeling that many insights have been gained about a variety of practices and ideas surrounding Paleolithic art in the deep past. The participants agreed that to continue in this spirit, it will not only be necessary to get the archaeological and empirical basis right, but our theories as well.



Research Centre ROCEEH
Senckenberg Centre for Human
Evolution and Palaeoenvironment



International Senckenberg Conference
Images, gestures, voices, lives.
What can we learn from Palaeolithic art?
30 May - 02 June 2018



Venue
Alte Aula, Tübingen University
Münzgasse 30
72070 Tübingen

Further information and
program available
<http://www.roceeh.net/home/>
Visitor registration until 12 May

Gefördert durch
DFG Deutsche
Forschungsgemeinschaft



**HEIDELBERGER AKADEMIE
DER WISSENSCHAFTEN**
Akademie der Wissenschaften
des Landes Baden-Württemberg



SENCKENBERG
conference

EBERHARD KARLS
**UNIVERSITÄT
TÜBINGEN**



Poster for the conference / Plakat zu der Konferenz 'Images, gestures, voices, lives. What can we learn from Palaeolithic art?'