


# Ice age EUROPE

NETWORK OF HERITAGE SITES *Magazine* ISSUE 6 - 2022

A woman dressed as a Neanderthal, wearing a white and brown fur tunic, holding a spear to her ear. She is standing in a museum setting with display cases in the background.

## Rewriting our understanding of Neanderthals

In conversation with Rebecca Wragg Sykes  
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## Treasure trove Côa Valley

Faia – a unique Palaeolithic art site  
– page 18

## Perceiving others in space and time

The role of trust in our relationship with the past  
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**Dedicated to the protection,  
research and communication  
of Ice Age heritage**

Anniversaries from Altamira to Krapina – pages 12–17



# Ice age EUROPE

## NETWORK OF HERITAGE SITES

### DEAR READERS,

Our annual magazine is now published in its sixth edition. We are grateful for the worldwide response to our free publication and hope that we can once again provide you with insights into many exciting developments in the context of European Ice Age heritage.

In this issue you will find the new feature "In conversation with...". We spoke to renowned author Rebecca Wragg Sykes about her book, *Kindred: Neanderthal Life, Love, Death and Art*, which has since been translated into many languages and points the way to a better understanding of our close relatives.

A job well done needs to be celebrated. A section of this magazine is therefore devoted to several recent anniversaries: The 20th of the new site of the National Museum and Research Centre of Altamira in Spain, the 25th of the new Neanderthal Museum, Germany, and the 50th anniversary of cultural heritage mediation on Hušnjakovo hill in Croatia, where the Krapina Neanderthal site and its museum is located (see pages 12–17).

On the first pages of the magazine, you will not only find our new network map. We also share with you some insights into the activities of the Ice Age Europe network. Like almost everywhere, digitization is a topic that keeps us busy. Not only has our collaboration become more digital in the course of the last years, but our joint projects as well. Read about our new Ice Age Europe Online Tours and the Virtual Ice Age Experience, a significantly elaborated successor to our virtual dice game, which we offered from 2014 for a number of years.

In 2022, we are again official partner of the European Archaeology Days, June 17 to 19, 2022. On Sunday, 18 September 2022, the network members and partners will also celebrate the 5th edition of the international Ice Age Europe Day. Celebrate with us, online or on site, on these days or any others, and explore the Ice Age heritage around you.

And now, enjoy reading!

**Dr. Bärbel Auffermann**  
Chair of the Ice Age Europe Network  
Director of the Neanderthal Museum, Germany

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**Dr. Katrin Hieke**  
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© Creswell Crags Museum & Heritage Centre

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# Ice age europe

## NETWORK OF HERITAGE SITES

-  Europe's coastline today
-  Ice Age coastline
-  Maximum ice coverage



### 5 CRESWELL CRAGS MUSEUM & HERITAGE CENTRE, UK **HAVE A LOOK**

Make profound connections and get lasting inspiration by stepping through 50,000 years of human history.

◆ New gorge audio trail spanning 125,000 years available from Summer 2022.

[www.creswell-crags.org.uk](http://www.creswell-crags.org.uk)



Outside Pin Hole

### 6 SCLADINA CAVE ARCHAEOLOGICAL CENTRE – Espace muséal d’Andenne, Belgium **HAVE A LOOK**

“Le Phare” presents Scladina, a major prehistoric cave, and the ceramic history of Andenne.

◆ From May 2022, the Ceramic Art Andenne is dedicated to contemporary ceramics.

[www.lephare-andenne.be/ema](http://www.lephare-andenne.be/ema)



Le Phare, Andenne

### 7 PRÉHISTOMUSEUM, Belgium **HAVE A LOOK**

Convert your family into a tribe and live the amazing journey of Sapiens! A unique cultural adventure between heritage and nature.

◆ “La terre en héritage, du Néolithique à nous”, opening December 2022.

[www.prehisto.museum](http://www.prehisto.museum)



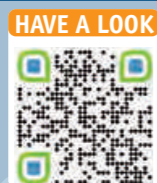
© Préhistomuseum

### 2 NATIONAL MUSEUM AND RESEARCH CENTER OF ALTAMIRA, Spain **HAVE A LOOK**

Discover the first art of humanity, the Palaeolithic rock art in the cave of Altamira, recognised as a World Heritage Site since 1985.

◆ Exhibition in 2022: World Heritage rock art in India.

[www.museodealtamira.es](http://www.museodealtamira.es)



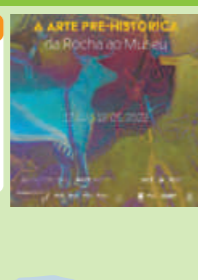
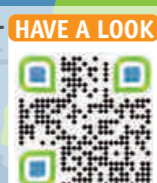
© Museum of Altamira - Pedro Saura

### 1 CÔA MUSEUM AND ARCHAEOLOGICAL PARK OF THE CÔA VALLEY, Portugal **HAVE A LOOK**

As an immense open-air gallery, the Côa Valley features more than a thousand outcrops with rock art at almost 100 sites.

◆ Exhibitions: From The Rock to the Museu / Artist Graça Morais

[www.arte-coa.pt](http://www.arte-coa.pt)



### 3 CAVE OF SANTIMAMIÑE AND BIZKAIA MUSEUM OF ARCHAEOLOGY, Spain **HAVE A LOOK**

The visit to the replica of the cave and the museum in Bilbao will draw you into the Palaeolithic of the Biscay region.

◆ New access to the entrance hall of the cave, opening Summer 2022.

[www.bizkaioa.bizkaia.eus](http://www.bizkaioa.bizkaia.eus)



Magdalenian engraving, Lumentza (Lekeitio)

### 4 EKAINBERRI – THE REPLICA OF THE EKAIN CAVE, Spain **HAVE A LOOK**

Discover the Basque coastline's most stunning cave paintings, a UNESCO World Heritage Site, through a journey for all senses to the origins of culture on our planet.

◆ Celebrating Basque Caves' Day on June, 6th 2022.

[www.ekainberri.eus](http://www.ekainberri.eus)



Ekain Cave's Great Panel

### 8 NEANDERTHAL MUSEUM, Germany **HAVE A LOOK**

The Neanderthal Museum in Mettmann welcomes you in the valley where in 1856 the famous, name giving Neanderthal bones have been found.

◆ New „Höhlenblick“ experience tower at the discovery site, opening summer 2022.

[www.neanderthal.de](http://www.neanderthal.de)



© Neanderthal Museum

### 9 MUSEUM OF PREHISTORY BLAUBEUREN, Germany **HAVE A LOOK**

The URMU displays archaeological finds from the UNESCO World Heritage Site "Caves and Ice Age Art of the Swabian Jura", including the oldest artworks, instruments and jewellery of humankind.

◆ New immersive exhibition on sound.

[www.urmu.de](http://www.urmu.de)



Transformation © urmu - Hannes Wiedmann

### 10 ARCHAOPARK VOGELHERD, Germany **HAVE A LOOK**

The Archaeopark Vogelherd in Niederstotzingen welcomes you in the Lone valley where famous ice age art was found in 1931.

◆ Two live size mammoths are welcoming visitors since 2021.

[www.archaeopark-vogelherd.de](http://www.archaeopark-vogelherd.de)



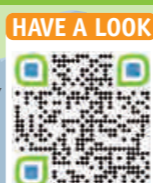
© Archaeopark Vogelherd

### 11 FUMANE CAVE, Italy **HAVE A LOOK**

Grotta di Fumane hosted both Neanderthals and sapiens, restoring traces of the symbolism and daily life of the two human species.

◆ Come and visit us during the summer excavations to see behind the scenes of the archaeological activity!

[www.grottadifumane.eu](http://www.grottadifumane.eu)



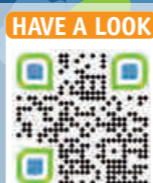
© Grotta di Fumane

### 12 MUSE – SCIENCE MUSEUM OF TRENTO, Italy **HAVE A LOOK**

Its task is to interpret nature and its relationship to humankind through time stimulating scientific curiosity and the pleasure of knowledge.

◆ Temporary exhibition “Lascaux 3D experience” opening summer 2022.

[www.muse.it](http://www.muse.it)



### 13 KRAPINA NEANDERTHAL MUSEUM, Croatia **HAVE A LOOK**

The museum at the richest Neanderthal site in the world makes a unique cultural and tourist destination – the best in Europe!

◆ New exhibitions, educational workshops and various cultural events throughout the year.

[www.mkn.mhz.hr](http://www.mkn.mhz.hr)



Reconstruction of a Neanderthal boy © KRANEVUS

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## INSIDE ICE AGE EUROPE

# WAIT A MINUTE, DOC. ARE YOU TELLING ME YOU BUILT A TIME MACHINE...?

**Author: Rick Springer / Neanderthal Museum, Germany, research officer**

The Virtual **Ice Age Experience** is a new, joint project of the Ice Age Europe Network, made possible by the financial support of the German national funding scheme KULTUR.GEMEINSCHAFTEN. The project is carried out by the German network members Archaeopark Vogelherd, Museum of Prehistory Blaubeuren and Neanderthal Museum in cooperation with the Institute for Museum Studies at the University of Würzburg. By further including the international partners of the Ice Age Europe Network and with the prospect of gaining valuable experiences, the product will serve as a prototype for a bigger, trans-European project.

The prototype project aims to send visitors out on an intuitive and interactive time travel. Following a fascinating story, digital artefacts and many playful elements will bring the extinct animals and hunters of the mammoth steppe back to life. The low-threshold discovery tour takes advantage of the possibilities

of virtuality, making finds and sites accessible in a way that is hardly possible in a museum or at the sites itself. Furthermore, archaeological sites in different regions can be discovered in a sustainable way, without putting artefacts or sites at risk of corrosion. Instead, users will become actors in a virtual Ice Age world.

Using a Design Thinking approach, the project consistently puts the needs and expectations of its audience in front. Workshops with the active involvement of users and media designers serve to evaluate and optimise the prototype as part of an iterative development process. The virtual journey will be publicly accessible by the end of 2022. As a best practice example, it will help especially medium and small-sized institutions in the field to realise own digital projects.

More information will be available on our website [www.ice-age-europe.eu](http://www.ice-age-europe.eu) and our social media channels.



© Sound on/Pexels, Neanderthal Museum

“The prototype project aims to send visitors out on an intuitive and interactive time travel.”

# THREE MUSEUMS IN ONE: ICE AGE EUROPE ONLINE TOURS

**Authors:** Meritxell Fernández-Coll / Neanderthal Museum, Germany, research assistant, Angharad Jones / Creswell Crags Museum & Heritage Centre, UK, curator, Nicolò Scialpi / Fumane Cave / University of Ferrara, Italy, researcher

The continuing pandemic is putting numerous cultural sites to the test. Museums and cultural institutions have equipped themselves to face the new challenges that the pandemic is proposing; however, the remodelling of the cultural proposals has become indispensable to respond with resilience and dynamism to the needs of museum visitors. The new paradigm chosen to be adopted was to bring museums and researchers into the homes of everyone interested, making up for the impossibility of travel due to the lockdowns adopted by many countries.

worked together to write a detailed script. A couple of tests before the tour are the last important steps to offer our digital experience.

The guided tour uses an online conference platform to be visually and acoustically connected with the visitors. The audience is encouraged during the tour to ask questions, make comments or discuss a topic with the experts of the institutions using the microphone or the chat box. Up to now, the Neanderthal Museum



Online tour at the Neanderthal Museum, © Neanderthal Museum



Joining the online tours live from home, © Ice Age Europe



With flexible camera work, objects can be presented in detail in online formats, © Ice Age Europe

The Ice Age Europe Network and its members have chosen to answer the call and get involved in bringing culture and prehistory to homes. Some members of the network created – and are still creating – cooperative online tours that help us to improve our geographical reach and to get international attention.

Initially, such tours were planned without interactions between the institutions. However, this would have created a distance between our visitors and guides. Therefore, we decided to work more intensively on the project to increase the communication between the public and the institutions involved. As it is important to define all the topics that are going to be addressed, the places shown and timings of each section, we

um, Fumane Cave, Creswell Crags Museum, Museum of Prehistory Blaubeuren and MUSE – Science Museum of Trento cooperated to create tandem tours in German, Italian and English for both families and adults.

The Neanderthal Museum is presenting the live online tours in a team of two, one person is filming and hosting the conference, being able to read and see all the reactions of the viewers, while the other person is guiding without seeing the screen but talking directly with the audience. The difficult but fun part is to create a connection between the two guides to become a single guide. On the other hand, we must admit that the acoustic delay can frustrate anyone, when not seeing the reactions.

As Creswell Crags only joined the Ice Age Europe network in 2020, being invited to participate in an online tour was a fantastic way to get to know colleagues at the Neanderthal Museum and Fumane Cave. Although all three institutions have the same broad focus (the Ice Age), the tours highlighted the similarities and differences between us, giving the audience a unique experience.



The pandemic opened up new ways of communication and education, © Fumane Cave / Ice Age Europe

At Fumane Cave and the University of Ferrara, we were more than happy to share the project together with our European colleagues. It was incredibly stimulating to remodel our cultural proposal by producing new material (i.e., filmmaking inside the cave) and involving university researchers. Our specialists have conducted live streaming tourists inside their laboratories providing a glimpse of the world of archaeological research and offering to the public the results of their work.

Overall, the joint online tours have allowed us to reach different audiences than those that may have visited the museums in-person. We all have plans to continue digital engagement.

The Neanderthal Museum is working on other national and international cooperation with partners from in and outside the network.

Creswell Crags is continuing its online engagement through fortnightly online talks, its Patreon account, and live-streamed school sessions.

Fumane Cave is planning to offer new occasions and online meetings shared with our international partners, involving specialists, PhDs and students in the cultural activities. The great feedback received from the general audience is supporting this view.

The information about planned online tours can be found on the websites of our network members and on our website [www.ice-age-europe.eu](http://www.ice-age-europe.eu). ■



Digital tours opens the doors to an international audience for exclusive glimpses behind the scenes, © Creswell Crags / Ice Age Europe

*“The new paradigm chosen to be adopted was to bring museums and researchers into the homes of everyone interested, making up for the impossibility of travel due to the lockdowns adopted by many countries.”*

# REBECCA WRAGG SYKES, AUTHOR OF KINDRED – NEANDERTHAL LIFE, LOVE, DEATH AND ART



© Rebecca M. Wragg Sykes

## How did you come to write a book about Neanderthals?

I have been drawn to Neanderthals since I was quite young, and first understood that Earth's history included entire vanished worlds where the climate, the animals and plants were different in some ways, yet also recognisable. I like the contradictions: the Pleistocene period when Neanderthals lived is inaccessible to us, separated by tens of millennia, but unlike the dinosaurs, it's still here in some ways. For example even if the rivers might have shifted in the valleys, the same mountains they looked towards on the horizon are still there. And although mammoths are extinct, we have found buttercups in the stomachs of frozen carcasses, a flower we all know from childhood playing in the grass.

I followed this interest into an academic career in archaeology, through a PhD and finally a postdoctoral fellowship at the Université de Bordeaux, which finished by 2016. Then, like many people, I began finding it difficult to get more grants without moving to even more countries, and as I had a young family, we wanted to settle. Fortunately, my publisher had already approached me in 2012 to write a popular science book, and so I began writing while still in France, and finished after returning to the UK. This book has been an amazing opportunity to share knowledge on something I'm passionate about, but also very intimidating to try and write a definitive account of Neanderthals!

## Did you only research the literature or did you also talk to the specialists?

Of course I have read hundreds and hundreds of scientific articles about Neanderthals, but I have also studied their artefacts first hand from my own research. And thanks to working in academia, I am incredibly fortunate to be part of the wider community of Neanderthal researchers, hundreds of people, who gather at meetings and conferences. Even after I finished my postdoctoral position, thanks to Twitter, I was able to stay in touch with colleagues. So, I have spent years exchanging ideas and thoughts with many people in this way too.

But for the book, I spoke in a more formal way to only a few people, one of whom is my colleague and friend Brad Gravina, in regard to understanding the history of Le Moustier, France, a key site I talk about in the book as a 'touchstone' for the changing history of research on Neanderthals. He is part of a team leading new excavations there since 2014 (the centenary of the discovery of the Le Moustier 2 Neanderthal infant).

## Your fictional chapter openings are wonderful. Do you write novels, too?

I am always focused on the scientific aspects of Neanderthal archaeology, and the book is rooted in this. But I also love language, story and poetry. It's normal for me when I read scientific literature to begin visualising what it looked, felt or smelled like in the past. The chapter openings therefore emerged organically, I just found myself writing this way as I was wanting to communicate the sense of what being in the Neanderthal world might have been like.

I have written poetry for years, although not published anything, and so writing this way felt like a very personal thing to do, a little scary even, because it was connecting these two parts of myself. But actually, once I started, it felt right, and I realised that this was something that had been missing from how I wanted to work as an archaeologist: it's possible to be cautious and critical as a researcher, but also to want to use words to let my readers' minds soar back in time.

## What fascinates you most about Neanderthals?

I find them intriguing because they are 'difficult'! It's true that, compared to the Romans, for example, we know much less about Neanderthals. Because of the nature of the archaeological evidence, there are some questions we cannot ask; answers that will never be possible to find. But at the same time, after over 160 years of research, we actually have a much larger amount of data than most people imagine. I enjoy the intellectual challenge of pulling together the many kinds of evidence, and making links between them, to understand the Neanderthals and the world they lived in. That's what I wanted to communicate by writing the book with themed chapters, rather than a chapter moving through time chronologically. It's important to show how the different aspects of Neanderthal life were interconnected, and that the same is true of the evidence we study as archaeologists.

Also, I find Neanderthals fascinating because they are always surprising us – individual new discoveries really do have the potential to overturn assumptions and make us question past theories. And fundamentally, they make us even rethink what it means to be a kind of human.

## What other new perspectives on Neanderthals would you like to explore?

I'm always really excited whenever new research comes out, but there are some aspects that are going to be especially interesting to see develop. These include better understanding of the organic components of Neanderthal technology, like wood, hafting glues, and the potential for more evidence around plants and thread/cord. I'm very keen to see what comes out from new excavations at places where there are apparent deposited Neanderthal remains, such as Shanidar. And finally, I think everyone wants to see more from ancient genetics! In particular I'm interested in the fact that so far, no late Neanderthals have evidence for interbreeding, whereas all the contemporary early Homo sapiens fossils dating between 45-40,000 years ago do show this; is that simply related to sampling, or is it reflecting some behavioural aspect?



© Rebecca M. Wragg Sykes

## What would you like your book to change in people's perception of Neanderthals?

Neanderthals are like hominin "A-list" celebrities, they are always in the headlines. But this is usually for 'big' discoveries, and without a broader context, that doesn't always make sense for people. So, I wanted the book to showcase the really impressive amount that we actually do know about their lives, but which doesn't get into the news, and to communicate how we do this research today. For example, just with hearths, we can examine micro-layers to see different burning phases; how the fires were central to living space inside their sites; look at the creation of ash middens as fires were cleaned out; and even trace the different wood fuels they chose.

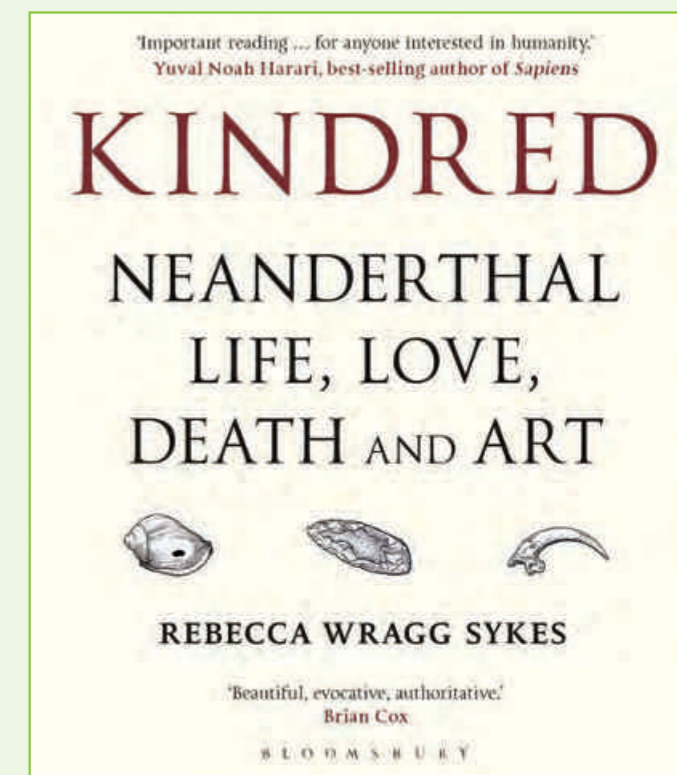
And with the more literary writing, I very much wanted to help people connect with the deep past, to imagine what it really might have been like. Neanderthals have been framed in many negative ways since they were first discovered, and I hoped to write something that presents them not as 'proto-humans', or reflections of our desires and fears, but on their own terms. I think my book tells their story in a very fresh way, and it's been incredible to see how readers have responded, I've received hundreds of emails and letters so far. ■

**Kindred: Neanderthal Life, Love, Death and Art by Rebecca Wragg Sykes** (Bloomsbury Sigma) is available in hardback and paperback.

The book is also available in Swedish, Bulgarian, Polish, Estonian, Italian, Spanish and coming out soon in German, French, Portuguese, Danish, Czech, Slovakian and Hungarian.

## Contact

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Kindred – Neanderthal Life, Love, Death and Art, © Rebecca M. Wragg Sykes

The British archaeologist Rebecca Wragg Sykes was fascinated by the Neanderthals from a young age. In addition to her research work, her focus is on science communication. She publishes in print media such as The Guardian and The New York Times and speaks about her work on science programmes. She is co-founder of the TrowelBlazers project, which campaigns for more visibility of women in archaeology and earth sciences. The questions were asked by the team of the Neanderthal Museum.



## 20 YEARS WORKING ON BEHALF OF AND FOR ALTAMIRA

National Museum and Research Centre of Altamira, Spain /  
 Author: Pilar Fatás Monforte, director

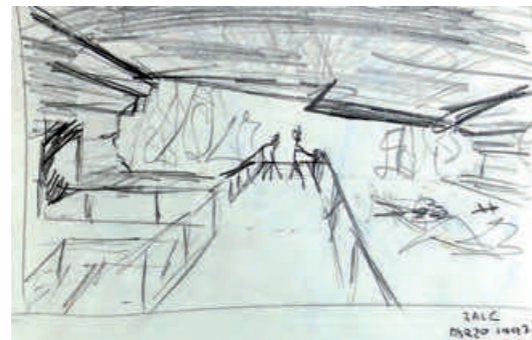
The new site of the National Museum and Research Centre of Altamira was opened on 17 July 2001. This institution is charged with managing Altamira cave, an asset contained on the World Heritage List, the first place where palaeolithic rock art was identified and a unique, exceptional site of its kind despite the thousands of similar sites known today. On that day, the most visible result of a multidisciplinary project was opened to the public, a project that encompassed all aspects of managing this heritage site: research, conservation and dissemination of its values.

This new site, housed in a building by the Cantabrian architect Juan Navarro Baldeweg, with the permanent exhibition as its main cultural focus, met the goal of fulfilling the interest in learning about Altamira while respecting limitations imposed on visiting the original cave, but that was only the most tangible outcome of the extensive Museological Plan that the then-director José Antonio Lasheras had envisioned. The Project for Altamira included important actions aimed at improving the cave's conservation, such as the purchase of lands to create an area that would fully protect the cave and its environment within the museum's own grounds, and making headway in the geological and archaeological documentation of the cave, essential information in defining the Neocave, a three-dimensional reproduction of the cave of Altamira. Thus, it embarked upon strategic lines that would define the institution's future with the goal of achieving its mission of turning the Museum of Altamira into a model of managing a World Heritage Site by merging the areas of research, conservation and dissemination of the prehistoric archaeological heritage and rock art within the same institution, all with a clear social orientation.

In terms of conservation, over these 20 years Altamira has become an international benchmark in research to conserve the underground karstic spaces and prehistoric rock art. The different interdisciplinary projects undertaken in conjunction with



The Neocave, the reproduction of the cave of Altamira at the Museum, © Museum of Altamira



One of the preliminary sketches made by the previous director of the Museum, José Antonio Lasheras Corruchaga, © Museum of Altamira

the leading scientific organisations in Spain over the course of several decades have culminated in a Preventive Conservation Plan, a tool that systematises the processes of identifying, detecting and monitoring the deterioration factors and actions to rectify them, which opens up the possibility of making conservation of its art compatible with public access, no matter how limited and controlled it has to be.

As a research centre, another of the strategic lines that the improvement in infrastructures and resources has made possible to implement is the multidisciplinary research into Altamira cave and networking with an emphasis on sharing the new

*“The Museum of Altamira represents a model of managing a World Heritage Site by merging the areas of research, conservation and dissemination of the prehistoric archaeological heritage and rock art within the same institution, all with a clear social orientation.”*

### ABOUT THE MUSEUM OF ALTAMIRA, SPAIN

The Museum of Altamira is a place devoted to learning about, enjoying and experiencing the life of those who painted and inhabited the cave of Altamira. The museum's most attractive offer is the possibility of learning about humanity's first art, Palaeolithic art. The museum is in charge of a legacy of maximum value, the cave of Altamira, a milestone in universal art history whose discovery meant the discovery of Palaeolithic cave art and one of its most spectacular manifestations. The expertise of the artistic expression of the cave's inhabitants was recognised by UNESCO in 1985 when the site was registered on the World Heritage List.

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 More information at [www.museodealtamira.es](http://www.museodealtamira.es)

knowledge generated with society. The research we are conducting on Altamira today is varied; we are studying the cave as a space of art and everyday life during the Palaeolithic; we are participating in national and international research projects with specific approaches; and we have opened up lines of study on other assets that define it and on distinct discourses like art history. And no less important is the research into the topics of museology, such as audience knowledge and education in museums.

And as a cultural institution open to the public, the quantitative and qualitative results confirm the success of our endeavours over these two decades. More than 5 million people have become familiar with Altamira through its museum and have witnessed and participated in the growth and diversification of our cultural programming, which is now considered a unique practice integrated into the new cultural and experiential leisure trends and into the philosophy of advanced participation in order to truly become a more social museum. ■



Visitors at the Museum's Neocave, © Museum of Altamira



Neanderthal Museum, Mettmann, © Foundation Neanderthal Museum

# NEW HIGHLIGHTS AT THE NEANDERTHAL MUSEUM FOR THE 25TH ANNIVERSARY

Neanderthal Museum, Germany / Author: Melanie Wunsch, head of exhibitions

In October 1996, the Neanderthal Museum opened at the world-famous site where the Neanderthal man was found. For the 25th anniversary of the Neanderthal Museum in October 2021, parts of the permanent exhibition were revised. The Neanderthal Museum always aims to present the results of current research in its exhibition. Therefore, updates are necessary and desirable at short intervals. Existing parts of the exhibition are redesigned under the aspect of sustainability, but their basic

structure is retained. By adding new elements, the exhibition always remains contemporary. The museum is also a place where current political and societal issues such as migration and racism are taken up to stimulate discussions.

The museum's protagonist and popular figure "Mr. N" now shines as a star on a podium in the spotlight. His dark skin colour is special. Never before has a Neanderthal figure been reconstruct-

ed with a dark skin tone. However, current research proves that Neanderthals also had a wide variance in skin pigmentation. The Dutch artists Adrie and Alfons Kennis have made a new reconstruction of the Feldhofer Neanderthal on this scientific basis.

The encounters of our Ice Age ancestors and relatives and their intermingling continue to be the focus of human evolution. The smart Neanderthal "Mr. 4%", leans against the parapet in his new outfit and talks about this. He invites visitors to consider the question of how we encounter each other today, how we perceive strangeness or familiarity in relation to other people. A new staging in the tunnel creates space for meetings between museum visitors.

In a new section of the exhibition, everything revolves around the highly topical subject of climate. The climate has always had a decisive influence on our human development. Appealing exhibits show how we can reconstruct the climate of the past, what effects climate fluctuations had on population groups and how climate change in the Ice Age differs from the current climate change.

The Hamburg artist Uta Röttgers has impressively illustrated the changes in flora and fauna during the alternation of cold and warm periods on a nine-metre-long, backlit mural. In front of this "Climate Wall", visitors can touch various exhibits either referring to the animal world or the landscape at that time.

The lifelike reconstruction of a baby mammoth is a new favourite with great appeal, especially for the youngest visitors. The fluffy woolly mammoth was made for the Neanderthal Museum by the Dutch company ManimalWorks with expert advice from the well-known mammoth expert Dick Mol. A special eye-catcher

## ABOUT THE NEANDERTHAL MUSEUM, GERMANY

In 1996 the Neanderthal Museum was opened near the ground where the Neanderthal man was discovered 165 years ago. Inviting visitors to a multisensorial experience, the permanent exhibition offers a time travel through 7 million years of human evolution. With a wide range of educational workshops, guided tours and leisure time activities, the museum became much more than just a space for permanent and special exhibitions.

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next to it is a glass herbarium showing the diversity of the post-glacial plant world.

Just in time for the anniversary, the Neanderthal girl reconstruction "Kina" returned from her trip to the Moesgaard Museum in Aarhus. It was there as part of the Neanderthal exhibition "Neanderthal. In the Land of the Mammoth Hunters", which was conceived in cooperation with the Neanderthal Museum (see the article by Trine Kellberg Nielsen in the Ice Age Europe magazine issue 4, 2020). Now Kina again welcomes the guests at the Neanderthal Museum with a mischievous smile, telling stories about her life as a Stone Age child.

Visitors are cordially invited to discover our new diverse exhibition. ■



New reconstruction of the Feldhofer Neanderthal „Mr. N“ by Adrie and Alfons Kennis, © Neanderthal Museum



Tunnel installation inviting visitors to new encounters with other visitors, © Neanderthal Museum



The „Climate Wall“, showing the change of flora and fauna during cold and warm periods in the Ice Age, by Uta Röttgers. In front: Baby mammoth reconstruction by ManimalWorks, © Neanderthal Museum

*“The Neanderthal Museum always aims to present the results of current research in its exhibition, making updates necessary and desirable at short intervals.”*





## HALF A CENTURY OF THE MUSEUM ON HUŠNJKAKOVO HILL

Krapina Neanderthal Museum, Croatia / Author: Jurica Sabol, director

It has been just a little over 50 years since the Museum of Evolution was opened on September 11th, 1971, in the old Kneipp building, just a few meters away of the Krapina prehistoric Neanderthal site. From the very beginning, the museum was a great attraction and thousands of people came to Krapina because of it, especially organized schools from all over former Yugoslavia. The museum was located on the first floor of the Kneipp building in only 350 square metres, and the

permanent museum exhibition presented to visitors the geological past of the Earth and human evolution. Special emphasis was placed on the Krapina Neanderthals. In only three museum collections, the archaeological, paleontological and the geological, were stored 1,048 items. In the nearby park, as well as at the Hušnjakovo site, the first sculptures of Pleistocene animals, deer, elk, rhinoceros, wolf, cave bear and leopard, and Neanderthals were placed in the late 1960s.

Since the Museum of Evolution was the first of its kind in Yugoslavia, it was visited by up to 40,000 visitors a year. The fact that the museum has been a great attraction since its beginnings has always been supported by numbers, but also by the fact that the richest and most numerous collections of Neanderthal man in the world was collected at the Hušnjakovo site.

Along with the museum and the site, the surrounding area was revitalized very quickly, so the Hušnjakovo Gallery was opened on the ground floor of the building, intended for occasional exhibitions, poetry evenings, etc., and the International Symposium of Sculptors "Forma prima" is held nearby. These are unique wooden sculptures that are still in the park and have the property of a cultural asset.

Since the Kneipp building was in very bad condition, the idea of a new museum building soon began. Thus, on the occasion of the hundredth anniversary of the discovery of Krapina's prehistoric man, a new project was presented to the public: the Museum of Krapina Neanderthals, by Željko Kovačić and Jakov Radovčić, who brought the project to an end on February 27, 2010.

It was a great project of the Croatian cultural landscape, and for the first time a prehistoric story was now told in a different, more interesting and modern way with the help of multimedia installations and hyper realistic sculptures. In ten years of operation, the museum has been visited by more than a million visitors, and a visit of the Krapina site is part of the educational programme of primary schools, thus many children from all over Croatia still hold their field classes in Krapina. However, during all these years, the story from Hušnjakovo was not complete; there was always something missing, and

### ABOUT THE KRAPINA NEANDERTHAL MUSEUM, CROATIA

The Krapina Neanderthal Museum is located right next to the Hušnjakovo site, the world's richest excavation site, where the largest number of Neanderthal fossil bones has been found. Besides visiting the permanent exhibition visitors can participate in educational programs, special exhibitions, lectures, concerts, performances and numerous other events.

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According to the new project, an additional 450 square metres of space will spring up on the roof of the museum. There will be space for an exhibition, for occasional guest and thematic exhibitions, a multifunctional educational room for pedagogical programmes as well as a restaurant and a museum café.

Outdoor facilities will include an interactive children's playground and an amphitheatre with about 200 seats for music events, theatre performances and other cultural programs. Thus, after half a century, the museum story from Hušnjakovo would finally be completed, and the museum next to the world-famous site will then house all important thematic priorities and tasks in one place. Visitors will then certainly stay for a longer time in Krapina, the local population would be encouraged to cooperate, and the Krapina Neanderthal Museum would definitely be a generator of cultural events, but also economic progress, especially for the local community. ■



Birds eye view of the additional spaces to be created on top of the current museum (visualisation), © Krapina Neanderthal Museum



Inviting design and light-flooded rooms (visualisation), © Krapina Neanderthal Museum



The new event space on the roof the current museum (visualisation), © Krapina Neanderthal Museum

that is additional content for visitors. Unfortunately, as is often the case, proprietary relationships are not always regulated, and sometimes the wishes of individuals exceed the real possibilities, but also the place and time in which we live or work. Thanks to a few of us museum enthusiasts, in the midst of the crisis caused by the pandemic, we decided to change something. In agreement with the architect Željko Kovačić, we started talks on upgrading the Krapina Neanderthal Museum, we soon presented these wishes on paper and in 2021 completed the preliminary design. Thus, all the documentation for the upgrade will be completed this year, and we are convinced that the construction work at the museum will start very soon.

**“An additional 450 square metres of space will be created on the roof of the museum, with spaces for exhibitions, events and educational programmes as well as a restaurant and a museum café.”**



The granite environment surrounding the new Palaeolithic figure at Faia, © Côa Parque

## UPPER PALAEOOLITHIC ART IN A MONUMENTAL GRANITE LANDSCAPE. NEW FINDINGS FROM THE SITE OF FAIA (CÔA VALLEY, PORTUGAL)

Côa Museum and Archaeological Park of the Côa Valley, Portugal /  
 Authors: Mário Reis, Lara Bacelar Alves, Bárbara Carvalho, Vera Caetano,  
 João Muralha Cardoso, Andrea Martins, research team



A view across the canyon of Faia, in a north-south perspective. Palaeolithic Art is concentrated on the central area, © Côa Parque



A summer view of the central area of Faia, seen from the south. The arrows signal the rock outcrops where Palaeolithic Art occurs: above, rock 6 (white) and below the newly discovered rock 19 (red), © Côa Parque

In the Côa Valley region, the place name “Faia” means “cliff” or “escarpment” and is often applied to the steep slopes of the valley’s granite environment, upstream from the schist landscape typical of the areas closer to the confluence with river Douro. The latter contain most of the remains conforming the immense Côa Valley rock art complex, covering 30.000 years from the Upper Palaeolithic up to the present. As known, it gathers the largest collection of open-air Palaeolithic rock art worldwide, with more than 4000 figures distributed in over 60 different sites. Faia is one of these sites, where Palaeolithic art was identified in 1995 during the fierce controversy that opposed the construction of a hydro-electric dam to the rock art heritage then found in archaeological survey, which happily culminated in its preservation and the World Heritage status conferred by UNESCO in 1998. Soon, Faia deservedly became one of the most iconic rock art sites of the assemblage, now further highlighted by a new discovery.

The site of Faia shines through its majestic landscape, telluric roughness, rockiness and wildness, not to mention that it is so far the only site known worldwide in which Upper Palaeolithic Art is found on a granite environment. It is a narrow gorge, approximately 1450 m long and 200 m deep, with exceptionally steep rocky slopes. The Palaeolithic Art concentrates in the central parts of the canyon, which are also the hardest to reach. This is one of the most striking features regarding the setting of these engraved surfaces: its dangerous and difficult access. As a matter of fact, walking 700 m along the rugged terrain can easily take over an hour. The monumentality of the place increases the further inside the canyon we move and reaches its pinnacle precisely in the central area of the gorge where the Ice Age figures assemble.

Sharing their landscape setting with post-glacial paintings, Palaeolithic Art, engraved both by pecking and abrasion, occur

on two different settings. Rock 7 is in the entrance of a dark cavity made by the juxtaposition of large fallen blocks, displaying a large doe in an almost upright position, which outline takes advantage of the water-eroded smooth and convex shape of the backdrop. Rock 6 sits on the bottom of a colossal escarpment and shows, to the left, the heads of a horse and an aurochs facing and overlapping each other, accompanied by a third, undetermined, animal figure; to the right, a superb sequence of four aurochs’ heads, some of which show the engraved lines simultaneously painted with red ochre, an original and rather intriguing feature within the Côa Valley rock art. Stylistically, they all seem to cover a relatively short period, possibly between Late Gravettian and early Magdalenian.

In October 2021, field surveys aiming the study of the post-glacial rock art as part of the LandCRAFT project<sup>1</sup> led to the discovery of a new Palaeolithic figure on a surface that lies just in front of rock 6. It is now recorded as rock 19. Even though it exhibits a large engraved figure, the extreme weathering of the carvings and their discrete position on the panel’s surface partly explain its persistent invisibility until now. It features a single horse, whose dimension and technique closely match those of the other Ice Age engravings in the site. The similarities extend to style: parallels to its large, rounded mane within the region suggest a Solutrean chronology, within the time span proposed for contemporary figures on site.

To sum up, the new discovery of a Palaeolithic engraved horse at Faia emphasises the value of this highly original site: for its diverse and outstanding iconography, deeply connected with its powerful monumentality and for being the only known Palaeolithic art site in the world on granite. ■

### ABOUT CÔA MUSEUM AND ARCHAEOLOGICAL PARK OF THE CÔA VALLEY

As an immense open-air gallery, the Côa Valley features more than a thousand outcrops with rock art, identified in almost 100 different sites, predominantly from the Upper Palaeolithic, some 25,000 years ago. In 1998, UNESCO included the Pre-historic Rock Art of the Côa Valley in the World Heritage List. The Côa Museum serves as a gateway to the “real” museum: the open-air rock art sites. At the present time, four sites are open for regular public visitation.

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<sup>1</sup> LandCRAFT. The socio-cultural contexts of Late Prehistoric Art in the Côa valley.” is an interdisciplinary research project that includes, as its primary aims, the production of a catalogue of the post-glacial rock art, pigment analysis, site excavation and conservation studies. This work is funded by Portuguese national funds through FCT – Foundation for Science and Technology, I.P. with the reference COA/OVD/0055/2019.



On the left, the moment of the discovery of the new Palaeolithic rock in Faia by Bárbara Carvalho, on October 25, 2021. On the right, two images of the Upper Palaeolithic horse figure on rock 19 of Faia obtained by photogrammetry, © Côa Parque

“Faia deservedly became one of the most iconic rock art sites of the assemblage, now further highlighted by a new discovery.”

### Further reading

An extended text on this topic, featuring additional images, may be found at: [https://issuu.com/almadan/docs/ao25\\_1](https://issuu.com/almadan/docs/ao25_1)

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## EKAIN CAVE: OPENING NEW LINES OF RESEARCH IN EUROPEAN HISTORY

Ekainberri – The Replica of the Ekain Cave, Spain / Authors: Ekainberri Team

The cave, known as Ekain I, became famous worldwide once it was discovered in 1969. Speleologists with archaeological background found within its walls one of the best sets of Palaeolithic rock art. 53 years after its discovery, the scientific community continues to work in Ekain to make new discoveries or reinterpret those remains from these early studies, while also opening new lines of research in European history.

The first investigations were **multidisciplinary**. Six excavation campaigns were carried out between 1969 and 1975, during which researchers penetrated a layer of sediment more than 2 metres thick:

- First, they authenticated the paintings and inventory, as well as adding possible interpretations to the paintings.
- Then the excavation of the archaeological site took place. When it was discovered, it had a height of 1.20 meters and a width of 2.30 meters.
- The archaeological materials found in these campaigns range from 30,600 BP to 8,000 BP years ago, and allow us to understand the way of life, fauna, flora and the climate of that time in Ekain cave.

But much of the archaeological work related to the Ekain cave has been carried out at the **laboratory**, where microscopic studies of the vegetable traces, pollen, and bones of micro-mammals found in the sediments have been carried out. Likewise, there have been studies of the marks of tools in the bones of animals that had been hunted and consumed:

- The study of pollen in archaeological sites allows the knowledge of the type of vegetation in an area at a given time, which at the same gives us insights into the type of climate and its changes, for not all plants adapt to all kinds of climate, and their development is a great tool for recognizing and monitoring climate changes.
- The same is true of fauna remains. Traces of animals which are now extinct or which can only be found in the coldest latitudes on Earth have been found in the Ekain cave.

Data collection and scanning carried out in the 2000's decade for the construction of Ekainberri, the replica of the Ekain cave, proved to be an important milestone in research work. Researchers and experts were able to enter the cave with **state-of-the-art** illumination, photography, and computer equipment, which enabled archaeologists who had been working on the topic for many decades to see for the first time the rock art paintings that had passed unnoticed.

Between 2008 and 2013, five more excavation campaigns were carried out at the Ekain cave entrance site, part of which had not been excavated before. It was in these works that the **cut-out bird contour**, a magnificent piece of portable art, was found.

In 2013, more data was collected inside the Ekain cave, with the purpose of enabling a virtual visit to the cave and its paintings through **second canvas** technology. Four horses, engraved with fingers in calcified soft clay, some signs and a rather deteriorated bison were found during this time.

### ABOUT EKAINBERRI, BASQUE COUNTRY, SPAIN

Ekain is an exceptional work of cave art from the Palaeolithic period. Artistic creations by Palaeolithic hunter-gatherers have been discovered around the world, and yet the specimens found here on the Cantabrian coast of Europe, known as Franco-Cantabrian cave art, are the most prolific. Ekain is considered the finest example of cave art in the Basque Country. The museum of Ekainberri, located 600 meters from the original cave, presents reproductions of 85% of the art found in Ekain. Ekainberri offers an extraordinary adventure for visitors as they lose consciousness of spatial boundaries and walk through the cave discovering the magnificent paintings and creations.

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### More information

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Cut out bird contour: outer and inner sides, © Ekain Foundation



Recent studies have examined prehistoric bone and antler tools found in the Ekain cave. Thanks to this research, it has been discovered that humans who made tools used a very unusual technique in the northern part of the Iberian Peninsula: **debitage by fracture**.

This last research is a significant achievement since the use of this technique in tools found in the Ekain cave opens the way for the study of relationships between prehistoric communities in the northern and southern part of the Pyrenees during the Magdalenian. ■

“53 years after its discovery, the scientific community continues to work in Ekain to make new discoveries or reinterpret the remains from the early studies.”



Bone and antler tools (debitage by fracture), © Erostarbe-Tome et al., 2022



## PLEISTOCENE FAUNA IN BISCAY

Bizkaia Museum of Archaeology, Spain / Author: Joseba Rios Garaizar, archaeologist

In 2019, the Bizkaia Museum of Archaeology renewed the exhibition dedicated to the Ice Age. The new showcase exhibits the rich Pleistocene fauna that co-habited with humans in this territory during the Palaeolithic. In the last decade, research conducted on new sites and in old collections has changed completely our perspective on Ice Age fauna, and there was a necessity to communicate this to the visitors.

For the first time we have records around 500 kyr. At the Punta Lucero site (c. 600-400 kyr BP), sabretooth tiger (*Homotherium*

*latidens*), European jaguar (*Panthera gombaszoegensis*) and the Mosbach wolf (*Canis mosbachensis*; ancestral to the extant wolf) fossils were identified. The site was a natural trap and these formidable carnivores were found alongside herbivore fossils such as giant deer (*Megacerini indet.*), red deer, rhinoceros, and large bovids (probably both aurochs and bisons).

In another cave, Santa Isabel de Ranero, fossils of the ancestor of cave bear (*Ursus deningeri*) were found with an age of ca. 300 kyr. Their descendants, *Ursus spelaeus*, occupied the caves until ca. 25 kyr

BP. Frequently, these magnificent animals die during hibernation, and as a result many cave bear fossils have been found in Biscay.

Ice Age people co-existed on Biscay with many carnivores. Fossils of cave lion (*Panthera spelaea*), wolf (*Canis lupus*), dhole (*Cuon alpinus*), cave hyaena (*Crocuta spelaea*) or leopard (*Panthera pardus*) have been found in different Pleistocene sites. Without doubt, these were formidable competitors of hunter-gatherer populations. Horse, bison, large bovids, wild goats or red deer were among the most consumed prey, by both humans and carnivores.

Despite being located in the south of Europe, during the Ice Age, cold adapted fauna also roamed along Biscay. Although not very abundant, fossils of woolly rhinoceros (*Coelodonta antiquitatis*) and reindeer (*Rangifer tarandus*) have been found in several sites, including some late Pleistocene ones.

But hunting was not limited to big mammals. The Ice Age people's diet included other food sources, such as fruits, seeds, tubers, plants, fish, shellfish, birds or sea mammals. For example, in Axlor rockshelter there are bird bones, such as the golden eagle (*Aquila chrysaetos*) femur with cut-marks produced by Neandertals. On the other hand, in the site of Santa Catalina cave, with a chronology in the end of the Pleistocene, many bird, fish and shellfish remains were found, including giant auk (*Pinguinus impennis*) and northern gannet (*Morus bassanus*) bones with cut-marks. In this cave, also consumed seal remains have been found.

This new showcase offers the opportunity to observe some of the well-preserved and spectacular fossils of animals, some of them extinct a long time ago, that inhabited the current territory of Biscay during the Ice Age. ■

### ABOUT CAVES OF SANTIMAMIÑE AND BIZKAIA MUSEUM OF ARCHAEOLOGY, BASQUE COUNTRY, SPAIN

The Arkeologi Museoa is in the Old Quarter of Bilbao with about 3,000 m<sup>2</sup> of exhibition area, research rooms and storages on five floors. It is a centre for heritage research and conservation that offers its visitors an interactive journey through the history of Biscay. The museum oversees the Cave of Santimamiñe which has galleries, rock paintings and carvings. The cave has a new interpretation centre giving visitors the opportunity to discover the cave's art in a sustainable and responsible way.

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Bison skull, © Bizkaia Museum of Archaeology, Bilbao



The new display on prehistoric fauna, © Bizkaia Museum of Archaeology, Bilbao



Skull of a dhole, © Bizkaia Museum of Archaeology, Bilbao

“In the last decade, research conducted on new sites and in old collections has changed completely our perspective on Ice Age fauna.”



# CRESWELL CRAGS' FIRST BONE COLLECTORS

Creswell Crags Museum & Heritage Centre, UK / Author: Angharad Jones, curator

Thousands of years before the museum existed, before archaeologists and palaeontologists dug in the caves, Creswell Crags had other collectors of bones. Here, we'll focus on the material accumulated by four main collectors: hyaenas, birds of prey, Neanderthals, and anatomically modern humans.

## Hyaenas

Hyaenas lived in Creswell Crags during the last interglacial (around 125,000 years ago) and during the middle of the last

glacial (with dates around 55,000 to 40,000 years ago<sup>1</sup>). Hyaenas used caves across Europe as dens, so not only have the caves at Creswell Crags yielded remains of hyaenas themselves, but their prey have also been found, including horse, woolly rhinoceros and reindeer species. Given hyaenas' propensity to gnaw and crack bones, many bones found at Creswell Crags exhibit damage by hyaenas. And because of all this bone munching, hyaena coprolites (or fossilised poo) have been preserved in the caves for thousands of years!



Creswell Crags gorge, © Creswell Heritage Trust

## Birds of prey

Birds of prey, through the deposition of their regurgitated pellets, were responsible for high concentrations of small mammal remains building up in sediments. These small animals included voles, lemmings and pika. Much like gnaw marks found on remains of hyaena's prey, small animal remains bear evidence of digestion by the birds of prey. Small mammals can help us to understand past environmental conditions.

## Neanderthals

Potential evidence for bone associated with Neanderthals comes in the form of burnt bones from Robin Hood Cave<sup>1</sup>. Despite a large number of Middle Palaeolithic stone tools, there is little other evidence of Neanderthal damage to bones from Creswell Crags, aside from one or two cut-marked reindeer bones<sup>2</sup>. The absence of cut-marked bone within the Lower Cave Earth of Pin Hole (associated with Middle Palaeolithic artefacts), might be due to subsequent damage to the bones by hyaenas<sup>3</sup>, thus destroying the evidence.

## Anatomically modern humans

Remains of wild horses and mountain hares from the late glacial bear evidence of cut-marks and breakage, caused by anatomically modern humans. These specimens have dates from 15,000 to 13,600 years ago<sup>4</sup>. It is therefore likely that horse and hare were making up part of the diet of humans at Creswell Crags at that time. Humans also utilised other elements of the animals; bone tools include an awl and a needle.

If it wasn't for these hyaenas, birds and two hominin species, a lot less material would have been found at Creswell Crags, and indeed in other caves in Europe. This material has helped us to



CWCHT:PH15924 hyaena mandible, © Creswell Heritage Trust

understand various aspects of the Late Pleistocene, including the animals that were present, human activities, and environmental conditions.

It is thanks to these early collectors that there was material available in the caves for archaeologists and palaeontologists to excavate. If hyaenas, birds and early humans hadn't collected all these bones, perhaps there wouldn't be a museum at Creswell Crags today! ■

## ABOUT CRESWELL CRAGS MUSEUM & HERITAGE CENTRE

Creswell Crags Museum & Heritage Centre is a site of archaeological and palaeoecological importance, and boasts both indoor and outdoor attractions. With over twenty caves and rock shelters, which have been excavated on and off for nearly 150 years, Creswell Crags has yielded a rich array of archaeological and palaeontological finds and information. The museum showcases many of these items, with thousands more within the collections. In addition to the Palaeontology and Archaeology Collection, there are Comparative, Handling and Library Collections.

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*“If it wasn't for these hyaenas, birds and two hominin species, a lot less material would have been found at Creswell Crags, and indeed in other caves in Europe.”*



Entrance of Vogelherd Cave, © Benjamin Schürch

# SHELLS CONNECTING ICE AGE EUROPE

Archaeopark Vogelherd, Germany / Author: Benjamin Schürch, custodian

Even though we have gained a deeper understanding of past social structures, our knowledge of the extent of migration and habitat use of Ice Age people is still limited. For the Middle Palaeolithic, the question of how hunter-gatherers used the landscape can be mainly answered by looking at the lithic raw material procurement. Social networks, however, can rarely be reconstructed for the time. Only with the spread of anatomically modern humans across Europe in the beginning of the Upper Palaeolithic more insights on social structures and landscape use can be gained.

Alongside the emergence of art and music, there is increasing evidence for body adornment as an expression of group identifi-

cation. An important raw material for the production of ornaments were shells from both terrestrial and sea molluscs as well as fossil shells. The reconstruction of the origins of these shells often reveals long-distance transports from their source to the archaeological site. Whether the shells were collected and carried by one group or exchanged by different groups cannot be proven beyond any doubt. The research of Andreas Maier (2015) and of Yvette Taborin (1993), however, are only two examples that proof the existence of regional groups within Europe and that these groups were in contact with each other.

In order to use the shells as ornaments, Ice Age people would either perforate them using different techniques, or a natural

perforation was utilized. The ornaments were then worn as pendants or sewn onto clothes. Molluscs could also be found at Vogelherd Cave. Most of the shells belong to the genus *Glycymeris*. They live in sea water and occur in the Atlantic and the Mediterranean but can also be found in fossil state in the Mainz Basin (Germany). The Vogelherd molluscs were discovered in layer V, which is attributed to the Aurignacian and can be dated to an age of 40,000 to 35,000 years. However, some of the shells were overlooked during the excavations in 1931. They were thrown down the slope in front of the cave together with the excavated sediments. These sediments were, eventually, excavated from 2005 to 2012 and, amongst many different finds, more *Glycymeris* shells were found.

The analysis of these shells showed that the *Glycymeris* shells from Vogelherd are fossil molluscs from the Mainz Basin. Only two of the ten *Glycymeris* show perforations. Therefore, it is not possible to clearly identify the finds as pendants. Other possible functions for the molluscs come into consideration. Due to their large diameter of up to five centimetres, they could have been used as container. An indication for this are the ochre remains that were found in one of the shells that has not been perforated. The use of the pieces as tools is also conceivable, although there is no evidence for this so far.

*Glycymeris* molluscs were also found at other archaeological sites in southwestern Germany. The shells are most frequently found at Petersfels, a Magdalenian site in the Hegau. More than 100 of these *Glycymeris* have been found there. Some of these pieces also come from fossil deposits in the Mainz Basin. Some of the *Glycymeris*, however, are not fossil and originate from either the Mediterranean or the Atlantic.

These long-distance connections, which extend over several 100 kilometres, are very rare. They are most common at the end of the Upper Palaeolithic in the Magdalenian. Social contacts

## ABOUT THE ARCHAEO-PARK VOGELHERD, GERMANY

40,000 years ago, in the Upper Palaeolithic, Vogelherd was a place to be. Today the cave is the centre of the Archaeopark, is considered as one of the most important archaeological sites and is part of the UNESCO World Heritage. Our visitors can experience "Stone Age live" and get a fascinating insight into the lives of our ancestors.

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between the different regions of Europe seem to have intensified again during this period, about 15,000 years ago. Assuming the shortest possible distance from Petersfels to the Mediterranean, *Glycymeris* shells were transported at least 400 kilometres. If we assume that the Alps must have been an almost impossible barrier to cross during the Ice Age, the distance increases to over 600 kilometres. These long-distance transports illustrate that there must have already been connections linking the parts of Europe during the last Ice Age. ■

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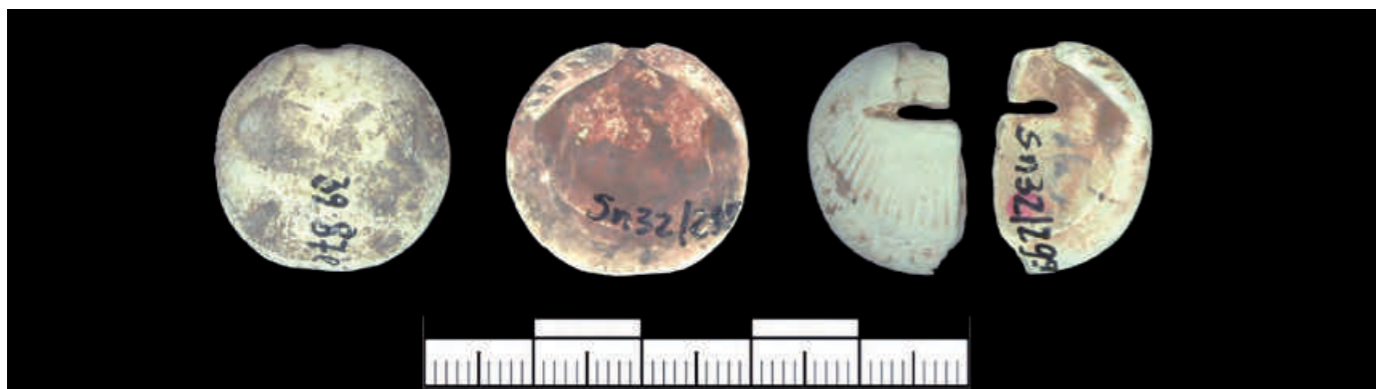
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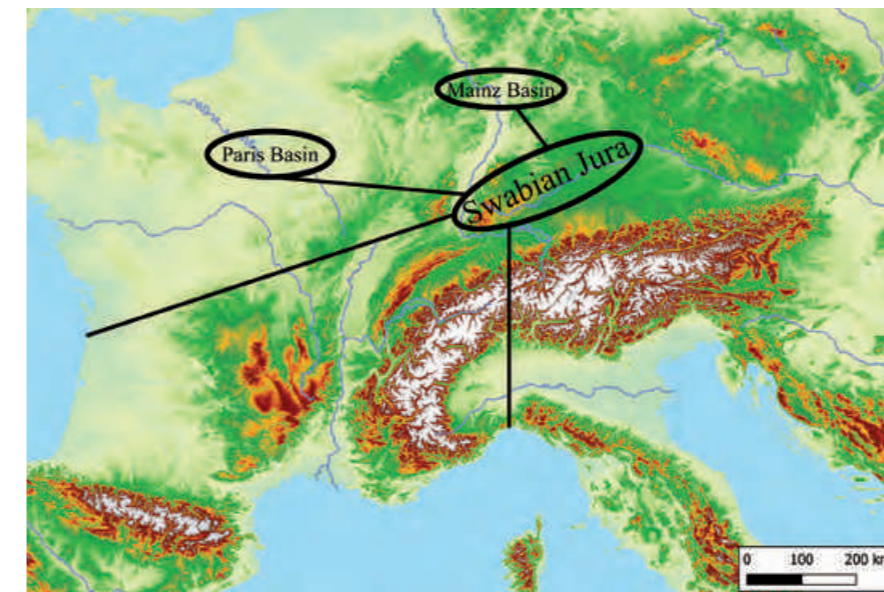
Left: Southwestern entrance of Vogelherd, right: entrance of Petersfels cave, © B. Schürch



Glycymeris from the re-excavations of Vogelherd cave with perforation, © B. Schürch



Glycymeris from Petersfels with perforation and traces of ochre remains, © B. Schürch



Long-distance connections in the Magdalenian that can be drawn on the basis of the mollusc finds of the Swabian Jura. Connections based on the results of Mayer 2015. Background map: © European Union, Copernicus Land Monitoring Service 2021, European Environment Agency (EEA)

“These long-distance transports illustrate that there must have already been connections linking the parts of Europe during the last Ice Age.”



Inside Scladina Cave, © Explore Meuse Denis Closon

## CHAUVET: MANKIND'S FIRST MASTERPIECE

Scladina Cave Archaeological Centre – Espace muséal d'Andenne, Belgium /  
 Authors: Arthur Heimann, archaeologist; Dominique Bonjean, archaeologist

A temporary exhibition is coming to our museum "Les secrets de la grotte Chauvet: l'art des origines"!

Discovered in 1994 and listed as a UNESCO World Heritage Site since June 2014, Chauvet is part of a set of ornate caves attributed to the Upper Palaeolithic that stretch along the gorges of Ardèche in France.

This site contains a thousand paintings and engravings, including 447 depictions of animals of 14 different species. Several

direct dating indicate that the cave has experienced two phases of occupation, one during the Aurignacian (37 to 33,500 years before our era) and the other during the Gravettian (31 to 28,000 years before our era).

The paintings and engravings from the first phase are among the oldest in the world. The diversity and mastery of techniques (engraving, preparation of the walls by scraping, digital drawing or charcoal often followed by a fading through the crushing of colour) created numerous shades and clipping of the contours.

This testimony profoundly challenged our knowledge of prehistoric art, previously assumed to have evolved in a linear and ascending manner.

Chauvet demonstrates that, at the beginning of the Upper Palaeolithic, artists were already capable of intellectual abstraction, preparing the limestone wall and the drawing beforehand. Historians and scientists now admit that we should no longer envision art in a linear historical movement during which men would have acquired knowledge and techniques, eventually allowing them to draw increasingly complex forms.

Chauvet is thus a major site in the history of humanity, proving that mankind already perfectly mastered complex techniques and was proficient in giving volume and dynamism to parietal representations as soon as 37,000 years ago.

To celebrate such a discovery, our museum will host a temporary exhibition from the 24th of June 2022 and until the 8th of January 2023. This exhibition will "invade" three of the five floors of our museum space. The route is an immersive and audio-guided walk along backlit panels featuring high-definition photos of the cave walls. This exhibition is the result of a precise 3D photogrammetric survey, allowing the spectator to admire Chauvet's art in its most impressive details.

Each floor is devoted to a specific purpose. Whilst the fifth floor serves as an introduction to the cave and will invite the visitor to let himself go and gaze upon Chauvet's magnificent art, chosen examples of its finest art will then be displayed throughout the third floor. This will demonstrate the diversity and complexity of parietal art. Finally, our conclusion aims at shedding light on the purpose of such art and ponder the question of its meaning and legacy. ■

### ABOUT SCLADINA CAVE ARCHAEOLOGICAL CENTRE, BELGIUM

Scladina Cave is located in the village of Sclayn (City of Andenne, Province of Namur), along the south bank of the Meuse River. Scladina Cave is known for several important archaeological finds, including an approx. eight-year-old Neanderthal child. The cave has been under scientific investigation since 1978, led by the University of Liège and the Scladina Cave Archaeological Centre (SCAC).

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 More information at [www.scladina.be](http://www.scladina.be)

*“This exhibition is the result of a precise 3D photogrammetric survey, allowing the spectator to admire Chauvet's art in its most impressive details.”*



Panel of the Rhinoceros and Lions, Chauvet Cave, the End Chamber, © Philippe Psaila – Perazio / Synops



When entering the Hillaire Chamber, six vault pendants follow one another. Among the numerous animals represented, you can admire horses, mammoths, lions, and an owl. To bring out these animals, the artists scraped the rock, which reveals the subjacent white colour. Engraved horse, Chauvet Cave, Hillaire Chamber, © Philippe Psaila – Perazio / Synops



In this example, the bison is depicted with eight legs. Far from a mistake, the painter has likely chosen to break down the natural movement of the animal. Bison draw in charcoal, Chauvet Cave, Hillaire Chamber, © Philippe Psaila – Perazio / Synops



## MUSE BOX – MUSEUM IN THE CLASSROOM

MUSE - Science Museum of Trento, Italy / Authors: Elisabetta Flor, Laura Casari, Iliara Postinghel, Alessandro Fedrigotti, Simone Floresta, Luca Scoz, Monica Spagolla, educators

The current situation has made it very difficult for schoolchildren of any grade to visit museums.

The MUSE educational division has therefore come up with new ways of staying in contact with students, also remotely, without giving up on the true value of the experience, hands-on and as an introduction to scientific method.

The "MUSE box" is an actual box containing all the material needed to learn about prehistoric-related questions in the classroom. The activities in the box are based on compilation of a timeline by collocating a series of images with emblematic scenes from each period in prehistory studied in class.

The prehistoric periods represented on this timeline have not been given the names of traditional prehistoric chronology



Group activity to create the timeline, © Valli Vettorazzo De Amicis Primary School, Dolo, province of Venice, Italy



One of the lab activities provided: Neolithic weaving, © Valli Vettorazzo De Amicis Primary School, Dolo, province of Venice, Italy

(Palaeolithic, Mesolithic, Neolithic, Copper Age, Bronze Age and Iron Age) but cover, in three main stages, the social, technological and economic evolution of the populations who lived in the Alps during prehistoric times.

The three chronological periods are highlighted in different colours. The oldest is the one that refers to the hunter-gatherers who were the first to populate the Alps at the end of the great Pleistocene glaciation. This kind of social and economic structure was to last for millennia, throughout the Palaeolithic and Mesolithic periods, through to an important breakthrough, perhaps the most revolutionary innovation that humankind has ever seen: the birth of agriculture.

With different times and methods from region to region, slowly but surely (almost all) the world's populations transformed their economy, previously based on the hunting of wild animals and gathering of wild produce, then focused on cultivation of crops and raising of domestic animals (the Neolithic in traditional periodisation).



Stills from a video introducing the box contents, © MUSE

Another important turning point from a technological and social point of view and one which determined a radical change in prehistoric society was the introduction of metallurgy in the production of commonly used utensils, such as axes and daggers. The gradual abandonment of tools in stone and bone in favour of first copper and then bronze and iron, led to an increase in the efficiency and effectiveness of human work, placing this period as the third fundamental stage in economic and social evolution in prehistoric times.

Each of these three periods (hunter-gatherer, animal and crop farming, metallurgy) will be completed as the students collocate, in the right order, a series of drawings illustrating the above periods.

The following are provided to be linked to each period along the timeline:

- a selection of materials (or raw materials representing each period) that are examples of the technology: splinters of flint for the world of hunter-gatherers, seeds and clay for the Neolithic period and artefacts in copper, bronze and iron for the metallurgy period;
- a short documentation video with cute characters explaining the highlights;

### ABOUT MUSE – SCIENCE MUSEUM OF TRENTO, ITALY

The MUSE (Science Museum) is an auxiliary body of the Autonomous Province of Trento. Its task is to interpret nature, starting from the mountains, using the eyes, tools, and applications of scientific research, taking advantage of the challenges of the contemporary world, stimulating scientific curiosity and the pleasure of knowledge, giving value to science, innovation, and sustainability. MUSE is an associate member of Ice Age Europe and a key partner of the Fumane Caves.

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More information at [www.muse.it](http://www.muse.it)

- a workbook (or worksheet) with a practical activity that allows the students to personally experience the main characteristics of the periods outlined, like stone painting using natural ochre for the world of the hunter-gatherers, weaving for the farming societies and a simple pendant to make using copper wire for the more recent period.
- general information sheets that outline the main characteristics of each period and the relative materials/raw materials in the box.

This provides teachers with a new way of teaching prehistory in the classroom, focused on the economic and social evolution of the various periods in prehistory, rather than on a (usually boring and unappealing) series of names and dates. ■

*“The “MUSE box” provides teachers with a new way of teaching prehistory in the classroom, focused on the economic and social evolution of the various periods in prehistory rather than on a series of scientific names and dates.”*





## SOUND SPACES AND COLOUR SPLENDOUR

**Museum of Prehistory Blaubeuren, Germany /**  
**Authors: Hannes Wiedmann, archaeologist; Jeany Weisheit, curator**

We used the time of the corona pandemic to bring new knowledge about the Ice Age musical instruments to our exhibition space and our visitors. We have expanded our „Sound“ space with the originals of the famous Ice Age flutes by two rooms where visitors are invited to experience the exhibition more interactively.

The first room is named "Transformation". In its centre, a whooper swan falls from the sky – giving the visitors, at first, the impression of Icarus falling into the sea. Here, the visitors learn where the raw materials for bone flutes came from. The manufacture of these bone flutes is shown on the right of the display. On the top level, original remains of bone flutes are displayed. Below, appropriate tools for and waste from its production are arranged. On the lowest level, the experimental production of the flutes is shown in film clips as well as semi-finished products through to the finished flute: releasing the bones from the wing of the bird, cutting off the joint ends, cleaning the bone, scraping in the finger holes, making the notches and grinding the mouthpiece. A production using Stone Age tools requires about 2 to 3 hours.

Since the original mouthpieces have not been preserved and we, therefore, do not know how to blow them, we have dedicated a showcase to the possible mouthpieces for playing such as the oblique flute, the notched flute, with a reed like a clarinet, and with double-reed in the style of an oboe. Films and sound examples can be accessed via our new media guide.

To the left of the swan, the much more complex production of mammoth ivory flutes is presented in just the same way – divided in instruments on the top, tools and waste material in the middle, and the reconstruction process at the bottom. To craft a flute, first a chip has to be released from a mammoth tusk and processed into a round rod. This is then split open and hollowed out inside, put together again very exactly. The seam lines of the halves are sealed with pitch bark and tied together. The finger holes are scraped in and the blown notch is sanded. This process takes approx. 100 hours doing it the Ice Age way.

Opposite this apse like exhibition wall the new triptych "Music" was placed, which imitates the shape of a three-winged altar. On the right wing the Ice Age musical instruments can be spotted, along with a griffon vulture, a shaman figure and the famous Lion Man. The centre shows a medieval study room with instruments, sheet music and birds. The left wing is dedicated to the theme



Triptych "Music", © urmu

"Ecstasy" depicting a painting by artist Elsbeth Rieber, a viol, glasses, flowers, fruits, and birds. This altar-like wall reflects the importance of music and emphasizes its role in human history.

In the next room, "Dance", there is an interactive sound installation. Visitors may use their own movements to call up tone sequences - played on a replica of the mammoth ivory flute – and use those sequences to compose their own pieces of music. An infrared camera detects movement in different areas of the room, whereupon the respective sound sequences are played. The installation is accentuated by pink and blue lights that create many shadows at once and add an ecstatic touch to the whole experience.

*“We used the time of the corona pandemic to bring new knowledge about the Ice Age musical instruments to our exhibition space and our visitors.”*

We provided our "Sound" space with new information and sound samples for the three original instruments on display. Even more sound samples can be accessed via the media guide.

One wall also shows the panel of engravings from Trois Frères cave with the hybrid creature in the middle, redesigned into a light installation. It is triggered by the sound examples available in this exhibition area and reacts to them with different colours and light intensities. At times, the hybrid figure appears in strong red and adds a mystical effect to the room. It seem to dance between dead animals on the left and living animals on the right, giving the impression that everything in the here and the hereafter is amenable to it.



Dance – Jessica Fyfe, © urmu

Finally, we upgraded the exhibition room dedicated to "Colour". In addition to the originals of the painted stones from the Geißenklösterle and the Hohle Fels caves, the colours, their preparation and application can now be seen there.

We have applied a wide strip of yellow ochre to one wall and in front of it there is the painting "Safer" by Willi Baumeister, an important representative of South German Modernism. To make it, he used the so called „Blaubeurer ochre“ as well as other colours and materials used in the Ice Age. ■

Willi Baumeister, Safer, © urmu

### ABOUT THE MUSEUM OF PREHISTORY BLAUBEUREN, GERMANY

The cultural roots of Europe's Upper Palaeolithic lay in the valleys of the rivers Ach, Blau and Lone. The caves at the southern border of the Swabian Alb belong to the most important Palaeolithic sites in the World. Neanderthals and Early Modern humans lived here during the last Ice Age. 40,000 years ago, Early Modern humans not only developed new tool technologies here, but also created animal and human figurines made of mammoth ivory, the earliest known works of art. Other Ice Age art found here includes musical instruments and a large number of Ice Age ornaments that show how sophisticated these people were.

The Prehistory Museum Blaubeuren (URMU) is part of the State Museum for Archaeology and is situated in the heart of the World Heritage "Caves and Ice Age Art of the Swabian Jura". It presents figurative art and music instruments in the original in the originate landscape.

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Light Installation "Trois Frères", © urmu





Flint flakes, © Préhistorium

## DOES OUR DEGREE OF TRUST INFLUENCE OUR RELATIONSHIP WITH THE PAST?

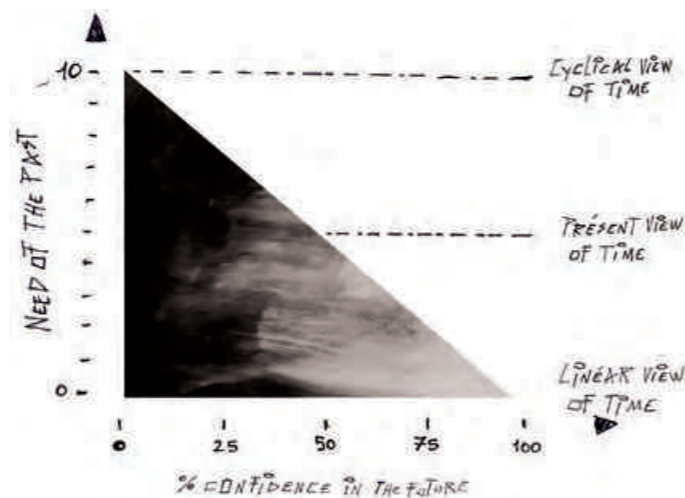
Préhistorium, Belgium / Author: Fernand Collin, director

Our brain indifferently uses three means of representing time which reside in a permanent state of disagreement within us: linear time, cyclical time, and the present. Whether we are archaeologists, mediators or the public, these ways of discerning time unwittingly influence us when we explore the past in a museum. Sociological studies have shown that the more we dread the future, the more we need the past to feel reassured. Museum visitors are thus never identical regarding their relationship with the past. Some look to History to find answers to their topical concerns and others wouldn't think of using this approach. Consequently, the explanations of "cause and effect" in narrations of our recorded history will vary depending on the individuals and their respective perceptions of time. A mediation of this universal human phenomenon could prove useful in an archaeological museum.

Since Newton, Physics has affirmed that time travel is impossible and yet, archaeological museums frequently invite guests to partake in such adventures! Thus far, it remains beyond the bounds of possibility to "demonstrate" time, nonetheless we are able to explore chronology as this is scientifically validated. Up until now, our intellectual capacity only permits us to see time as being undefinable and intangible. But mathematical logic has unfolded linear time, consequently refuting cyclical time and justifying the notions of evolution, progress and civilisation through the principle of causality. But not everyone thinks this way! The Age of Enlightenment thereby shaped the western mentality, creating tensions which still exist today in our "universal harmony". It's this ideological context that inspired Archaeology which exists by means of chronology and the principle of causality (cause and effect). Chronology is objective whereas the causality explanations are inherently "subjective" given the varied, existing means to understand time.

The sociologist Matthieu Guiekwa<sup>1</sup> noticed that people in the working world today are excessively focused on the present which he believes is due to an increased feeling of solitude as people feel isolated, with no sense of belonging. He sees the major cause being our altered perception of time, linked to a fragmented trust in the future of western culture. In his study, he establishes that cyclical time is predominantly turned towards the past and the present, that linear time is predominantly turned toward the future, whereas the present is disoriented and tends to give renewed importance to the past. He thus concludes that this perception of time significantly impacts the professional world.

<sup>1</sup> Matthieu Gui Ekwa, Aspects sociologiques, Vol 3, no1, Mars 1995, pp 4-9.



Our need for the past depends on our representation of time and our confidence in the future, © Préhistorium

In an archaeological museum, this awareness of time being composite, varied and multiple allows us to interpret archaeological explanations as being relative. Mediators, like the public, experience this conflicting perception of time as the latter greatly depends on our degree of trust in regards the future, which results in questioning the principle of "cause and effect" and hence "Historic interpretation". This leads to envisage a new mediation approach of Archaeology, aiming to teach philosophy and citizenship as well as scientific culture. This awareness would additionally be viewed by the mediator and the public as an opportunity to experiment complex thought, a concept sadly lacking in our present-day life.

The mediation of time perceptions is a new intervention approach for the Préhistorium as these perceptions mostly impact how we perceive "others" in space and time. Wouldn't it be more interesting to examine this question in more depth to boost the ethical and civic commitment of the museum? What tangible effects could we expect (for our visitors) if we addressed these questions with them? What would be the most effective way to present these mediation approaches? At this stage of reflection, it would be beneficial to test these mediation approaches in order to address any issues. Today, the Préhistorium is concretely engaging in a philosophy workshop in the museum discussing the human transition from the Palaeolithic to the Neolithic age.



We are all in conflict of temporality! © Préhistorium.

### ABOUT THE PREHISTOMUSEUM, BELGIUM

Located at the cave of Ramioul, an archaeological site in the heart of a forest, the Préhistorium extends over 30 hectares, in the valley of the Meuse, and is one of the largest museums of Prehistory in Europe. It forms the link between the numerous archaeological sites which surround this river: from Engis, where the first bones of Neanderthals in the world (1829) were discovered to the splendid caves of Goyet.

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Wouldn't a reflection on time perceptions be an inspiring subject for community-minded museums? Wouldn't discussing our beliefs regarding the future of humanity be a uniquely instructive means for our visitors to be better CRACS (Citizens, Responsible, Players, Curious and Supportive)? ■

*“The mediation of time perceptions is a new intervention approach for the Préhistorium as these perceptions mostly impact how we perceive “others” in space and time.”*

# Considering becoming a network member?

## Here are 10 great reasons to apply!

1. Enhance your recognition as a top European heritage site connected to the Ice Age.
2. Enhance your connections and professional networks across Europe.
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4. Get behind the scenes of other member sites and institutions and be the first to learn what's new at locations across Europe.
5. Profit from informal learning and sharing across the network for your professional development.
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8. Be part of a growing tourism network seeking to implement responsible tourism initiatives for sustainable growth.
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10. In short: Be part of a strong, growing brand.

For more information visit our website or contact the network office:

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