

Studying remnants of Star Carr's early civilisation before it's too late

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Known as the richest and most important Mesolithic site in Great Britain, Star Carr is still holding many secrets that archaeologists are eager to reveal before it's too late. Indeed, peat desiccation, fluctuating water tables and unprecedented levels of acidity are deteriorating the site at a worrying pace.

Over 10 000 years ago, hunter-gatherers in Yorkshire were hit by rapid global warming that marked the end of the last Ice Age and probably dramatically changed their lifestyles. Since the early 1940s, archaeologists from across the world have been gathering evidence and artefacts from this early civilisation, and now the POSTGLACIAL (After the Ice: Postglacial hunter-gatherer lifeways) project is using cutting-edge methods of scientific analysis at the biomolecular level to uncover otherwise invisible acts of craft, cross-craft interaction, subsistence and symbolic activities.

Nicky Milner, coordinator of the project, details her race against time and its importance for the scientific community.

Why is it important to find out more about the consequences of the end of the last Ice Age on hunter-gatherers?

We are studying a period of time (10 000-8 000 BC) when climate fluctuated significantly. Our aim has been to understand how people lived at this time and how they responded to climate and environmental change. At the start of the Holocene, there was a very rapid and dramatic

rise in temperature which had a substantial impact on Northern Europe, creating new environments that people could move into. These are our ancestors, who settled into these lands at the end of the last Ice Age.

You describe your research as a race against time. How successful would you say POSTGLACIAL has been in this race?

Unfortunately we know very little about this period and the most interesting information comes from sites with organic preservation—these are usually peat bogs where the lack of oxygen in the deposits allows plants, bone and antler to survive. Not only do we find archaeological sites with rare artefacts made from organic material which show us how people were living many thousands of years ago, but we can also access local climate and environmental records at high resolution.

However, due to changing water tables the peat bogs are disappearing or deteriorating. In terms of our site, Star Carr, we have excavated as much as we could with the resources we have and taken a series of cores through the ancient peat deposits to reconstruct climatic and environmental conditions, so we have managed to save some of this important record which has changed our interpretations significantly. But what remains will be lost over the next decades, and more worryingly, there are many other sites across Europe where the same thing will be happening: Europe's Stone Age heritage is disappearing below ground all the time. So, through our ERC funding, we have been successful in our race against time with Star Carr, but we should remember that this is a potentially ongoing, serious problem for many bog sites in Europe.

Do you feel like there is an actual chance of uncovering all of the site's mysteries?

Unfortunately, no. We have only scratched the surface with our excavations, and overall there is probably about 90 % of the site left to excavate. However, what we have aimed to do is to examine one area which is rich in archaeology by using a range of state-of-the-art techniques and forensic approaches, in order to recreate what life would have been like 11 000 years ago.

What can you tell us about your findings so far?

Through our ERC funding we have been able to excavate a large area of the lake-edge settlement and made some extraordinary discoveries: 11 000 years ago people were building houses on the dry land (the oldest known houses in Britain), creating large platforms on the edge of the lake (the earliest known carpentry in Europe) and we have uncovered some very rare and intriguing artefacts, such as an engraved pendant which is the oldest Mesolithic artwork in Britain. We also found headdresses made from red deer skulls, thought to be used in ritual practices.

In addition, a team of scientists are currently working on the climate and environmental data which we will link into the radiocarbon dating of the site, in order to understand how changing climate and environment might have affected people between 10 000 and 8 000 BC.

What are the most relevant learnings for the current context of climate change?

We are still in the process of linking together our data but what will be interesting is to see how people reacted to climate change and [environmental change](#) in the past, how resilient were they? How did they adapt their technologies? To what extent did they need to move because of change? Although these people would have been physically like us,

they would have behaved very differently and had a very different set of skills and equipment, for instance they were living by hunting and gathering their food and did not have pottery. Nevertheless they were resourceful and could adapt. It is therefore hard to compare with today, though it makes an interesting case study to think through what is happening today.

What are your plans after the end of the project? Will you be taking this research further?

Unfortunately, this is probably the last research which can take place at Star Carr because many of the deposits are deteriorating so rapidly. However, there are other sites which can be studied and which can help elucidate this period further. These people are our ancestors, they settled down in the northern lands of Europe and there are many connections with our lives today: they built houses, kept domesticated dogs, wore jewellery etc. Uncovering this exciting archaeology gives all Europeans a chance to look into their past, and understand where they came from. However, this work is still a race against time, as long as the deterioration of [peat bogs](#) continues to occur.

More information: Project page: cordis.europa.eu/project/rcn/102040

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