

# La Cotte de St Brélade

The hunters of the Palaeolithic period are the focus for the Jersey Museum's 2008/09 *Mammoth Hunters* exhibition. Here **Olga Finch** looks at some of the background to the world famous site in which so much of the material was excavated.

Prince Charles during the 1968 excavation.  
(Courtesy of the Jersey Evening Post)

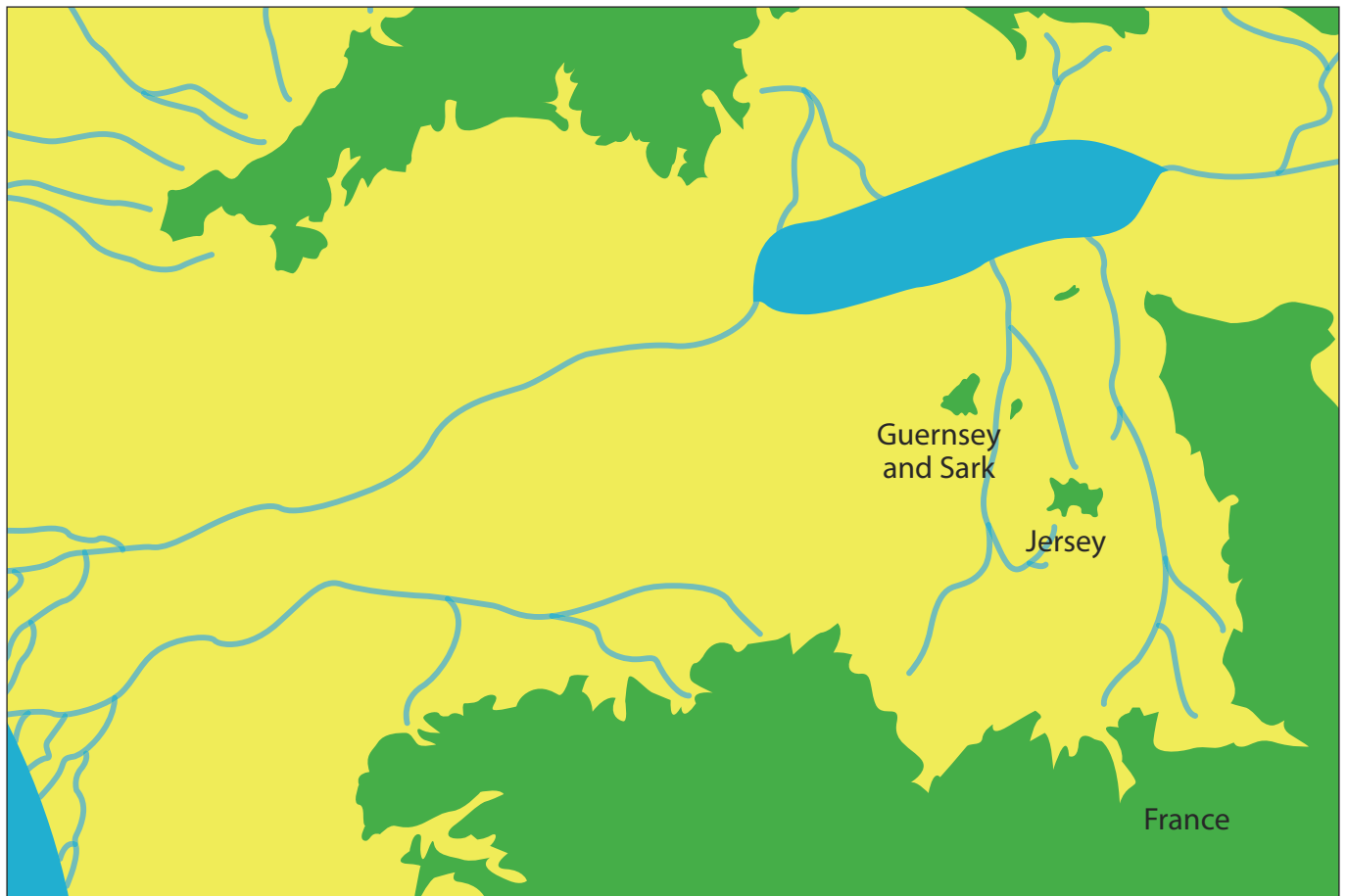
**La Cotte de St Brélade** on the south-west coast of Jersey is a very important site. Not only is it one of the archaeological treasures of the Channel Islands, but also one of the principle Palaeolithic sites in Europe.

Stone tools were first discovered there in 1881, followed by a century of excavation and study by both local and international archaeologists. The most recent excavations began in 1961, and were completed in 1978, under the direction of Professor McBurney of the University of Cambridge. La Cotte even attracted a Royal visitor, when in 1968 HRH Prince Charles joined the excavations while a student at Cambridge University.

Although the name La Cotte means 'the cave' the site is actually a ravine – a deep steep-sided valley which cuts right through the granite headland at Ouaisne, St Brélade. The ravine was filled with deposits 40 metres thick that had built up over a quarter of a million years. Excavation of these different layers produced over 200,000 stone tools, remains of Jersey's first people, animal bones, and pollen evidence. Together these provide us with valuable information about the changing Ice Age environment and Jersey's earliest people - how they lived, the tools they made, and how they used the natural landscape to help them hunt animals for food.

The great significance of La Cotte lies in a combination of a number of special circumstances which derive ultimately from its unusual location.

- Both its coastal situation and the fact that the Island is located on the continental shelf make it particularly sensitive to changes in sea level.
- The depth of the fissures, sometimes up to 50m, allowed the deposition of a considerable amount of material over a long period of time.
- The site offered shelter at times when much of the channel sea bed was dry land and exposed to dust-laden winds from the barren lands near the ice sheets, inviting human occupation and resulting in dense archaeological layers.
- Finally the ravine itself at the end of a promontory is ideal as a trap for animals feeding on the plateau and, as we shall see later, was exploited as such by Palaeolithic hunters.



Above - Sea level about 16,000BC towards the end of the Palaeolithic Period.  
Below - La Cotte de St Brelade

### The Ice Age Environment

When the first people arrived in Jersey about 250,000 years ago, Europe was in the grip of an ice age and sea levels were much lower than today. During the coldest periods, polar ice sheets expanded further and further south until they covered much of Europe and North America. Although they never reached as far as Jersey, they had a dramatic effect on sea levels as so much water was locked up in the ice sheets.

A drop in sea level of 11 metres was enough to join Jersey to France. The Island became a rocky outcrop in the middle of a vast coastal plain left by the retreat of the sea. Now people could walk across from France following herds of animals as they migrated.

This period (the Pleistocene) is commonly known as the Ice Age. The name suggests one long period of extreme cold, however, the planet actually experienced several dramatic fluctuations in climate caused by changes in the earth's orbit and in the activity of the sun.

During some of the interglacial periods, the climate was warmer than it is today. Rising temperatures caused the ice sheets to melt, and water slowly covered the plain between Jersey and France. The Island would not have been occupied by people because it was no longer accessible. Sea levels gradually rose to present-day levels, and during certain periods were even higher than at present.

This cycle of cold and warm periods is still continuing. At the moment we are living in a warm period which has so far lasted

about 10,000 years. Providing that human intervention - such as the burning of fossil fuels - does not fundamentally affect the climate, it seems likely that colder conditions will return within a few thousand years.



La Cotte de St Brélade was used repeatedly and intensively over a long period of time. The site was first occupied in the Lower Palaeolithic 250,000 years ago, during a cold glacial period when most of the present seabed would have been uncovered. The main finds were flint and stone tools, animal bones and hearths where people warmed themselves and cooked their food.

It was never a permanent home, but was used as a temporary camp by wandering bands of hunters and gatherers as they passed through in search of the herds on which they depended for their food. The ravine would have provided shelter from the bitterly cold winds that swept the barren landscape, while the cliff top was a great vantage point from which to observe the movement of animals on the plain below and to plan hunting strategies.

Palaeolithic people were skilled hunters. Fossil evidence reveals that they made use of the landscape to reduce the risk of injury to themselves. Excavations of the site provided the first definitive evidence of the deliberate stampeding of large animals to the edge of a cliff where they were forced off and fell to their deaths. The animals were then butchered and the meat taken away to be eaten, leaving the carcasses where the animals fell. Such hunting techniques required good communication and teamwork.

In 1966 archaeologists made an important discovery of two bone heaps of woolly mammoth and rhinoceros bones piled together against the rock wall, under a small overhang. These appeared to be deliberate human arrangements. Bone heaps of this kind had never been discovered before.

The first bone heap contained the remains, mainly skulls and ribs, of nine mammoths and a rhinoceros. One of the skulls had a pair of ribs leaning vertically against it and another had a rib through the eye socket, demonstrating deliberate human arrangement of the bones. The second bone heap consisted of the remains, this time mainly limbs, pelvic bones and scapulae, of at least eight mammoths and three rhinoceros. Once more it is likely that the animals were butchered at the site.

A study of the mammoth bones found at La Cotte has revealed another interesting fact. The mammoth bones showed signs of severe trauma. It's an incredibly difficult thing to break a fresh mammoth bone, as they are very elastic and very tough. The legs were badly broken mid shaft, something that would be impossible for people to do. In fact the injuries were exactly what you might expect if, for example, a mammoth had been dropped from a great height and it landed on its feet.

The mammoth shared its habitat with other now extinct species such as woolly rhinoceros, cave bears and giant deer, as well as surviving species like reindeer, musk oxen, horses and bison.

Bones from archaeological sites show that nothing of the animal was wasted. Hunters could make needles, awls and spear tips from animal bones. The sinews, gut and tendons were used to bind stone tools to wooden hafts. The stomach became a useful bag for carrying blood or water. The fat may have been used to waterproof skin boots and other clothing. Grease may have been smeared over the skin to insulate against the cold or to protect the skin from biting insects. Lamps made of fat may have been used within the caves. Horse hair, which has strong fibres, could be twisted together to make thread for sewing clothes or stringing beads and pendants. Animal skins were used to make bags and rucksacks as well as clothes, shoes, sleeping bags and tents.

Although part of their diet was made up of the plants, nuts, fruits, berries, birds' eggs and snails that could be gathered easily, analysis of Neanderthal bones has shown extremely high levels of carbon and nitrogen. This suggests that up to 85% of their diet was meat, the best source of protein and energy available to them. Storing food was important if they were to survive the winter. Meat may have been covered up and frozen in the snow, cut up into strips and dried in the wind, or smoked above a fire. Unfortunately fragile botanical remains rarely survive in the archaeological record.

A reconstructed view looking northwards towards the high land that was to become Jersey



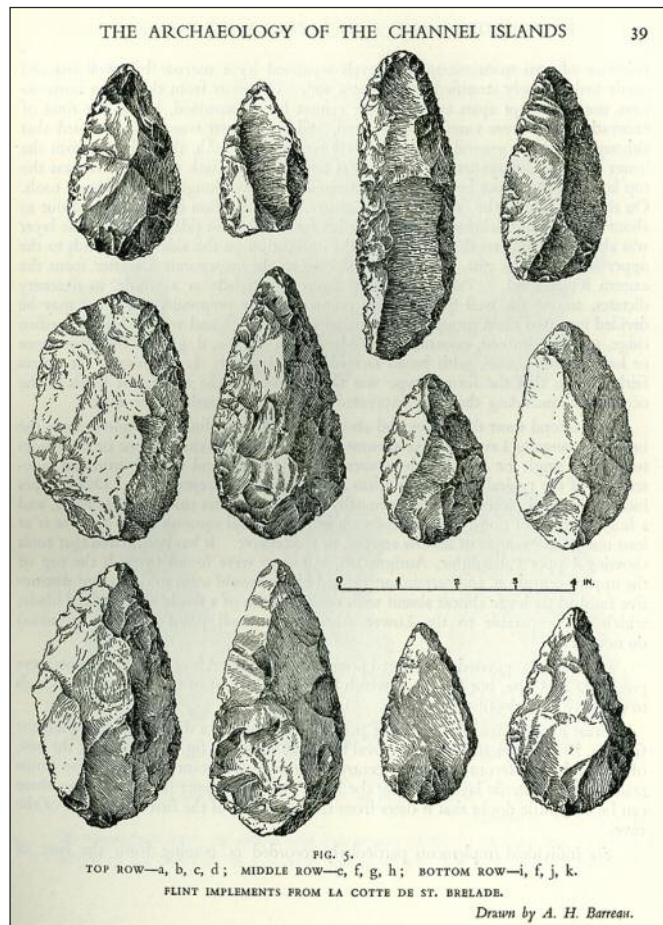
From the evidence of hearths found at La Cotte we know that Palaeolithic people had learned to make and control fire. In Ice Age Europe, fire would have been critical to survival. It kept people warm and allowed them to cook food. It was a source of light in their dwellings and provided a focus for the family group. It also kept predators away and was used by hunters to drive animals into traps. The mastery of fire gave people some control over their world. There is no direct evidence for how they would have made fire, but the most likely method was by rubbing two sticks together or striking flints together to create a spark. Early people would have burnt animal bones, as these burn well once the smoky, smelly fat has been scorched off.

For the Palaeolithic or Old Stone Age, the most durable remains that archaeologists find are stone artefacts which, unlike organic substances of wood, bone, ivory, antler and so forth, are virtually indestructible. In fact for almost 99% of human history the most enduring and often the only evidence of human activity comes from stone tools.

The oldest stone tools come from Africa and date back more than 2.5 million years. They were simple 'choppers' or pebbles chipped away at one end to form a sharp cutting edge. Over time people became skilled at working stone and developed more sophisticated techniques, so that tools were better designed and more carefully shaped.

The oldest tools found in Jersey date back 250,000 years, and were found at La Cotte de St Brélade. Over 200,000 flints were recovered during the excavations, and they show the development from crude early tools to the later more sophisticated designs. Analysis of the La Cotte tools shows that Neanderthal flint knappers were right handed.

Some of the earliest stone implements to be found in the Channel islands come from La Cotte. These flints were drawn by AH Barreau.



Flint was most commonly used to make stone tools because it breaks to produce useful razor-sharp flakes. Generally, people made tools from the raw materials located close to their caves. However, there is no native flint in Jersey. The nearest source is 10 kilometres north of the Island and required a drop in sea levels of 25 metres to be exposed.

At the end of the Lower Palaeolithic period (120,000 years ago) the climate grew warmer and the sea level rose nine metres above today's levels. Jersey became an island cut off from mainland France. There was no human activity at La Cotte de St Brélade during this time as the area was no longer accessible to people or animals.

Cold conditions returned during the Middle Palaeolithic period (about 80,000 years ago) causing sea levels to fall and re-connecting Jersey with France. Additional layers of stone tools, animal bones and hearths indicate that nomadic hunters passed this way once more and sheltered in the ravine for a few nights before moving on in pursuit of woolly mammoth and rhinoceros.

In 1910 archaeologists found Jersey's earliest human remains at La Cotte de St Brélade: a very important discovery of 13 Neanderthal teeth, and in 1912 a small fragment of a Neanderthal child's skull was also found.

Neanderthals had sophisticated tool making skills and a complex social organisation. We know that they were the first human beings to bury their dead and, amongst other advanced behaviours, had developed the potential for speech. Unlike other primates, their larynx was long enough to produce complex sounds. They would have given names to objects, plants and animals, and identified places and exchanged ideas. However they probably did not require language as sophisticated as our own. A rudimentary language may have been supplemented by a number of other acoustic or visual signals such as cries, whistles and facial expressions.

The fossil record shows that nearly half of all children died before reaching the age of eleven. Four out of five Neanderthals died before they were forty. Neanderthal front teeth show heavy wear indicating they were used as vices to grip objects. Microscopic traces of animal material discovered on the surface of the teeth suggest that animal skins were gripped in this way, freeing up hands to scrape away fat and sinew with stone tools.

Neanderthals lived alongside modern humans in Europe for about 10,000 years. They became extinct around 30,000 years ago but we do not know if they were already on their way to extinction or if they were driven to extinction by the arrival of homo sapiens from Africa.

La Cotte de St Brélade is not the only place in Jersey to have produced Palaeolithic evidence. La Cotte à la Chèvre is another significant site from this period. It is a small sea cave on the north-west coast, where in 1861 archaeologists discovered flint tools and hearths. Like La Cotte de St Brélade, the site provided temporary shelter and a good vantage point to observe the herds of animals on the surrounding plain. It was in use at the same time as La Cotte de St Brélade with an estimated travelling time of two hours between the sites.

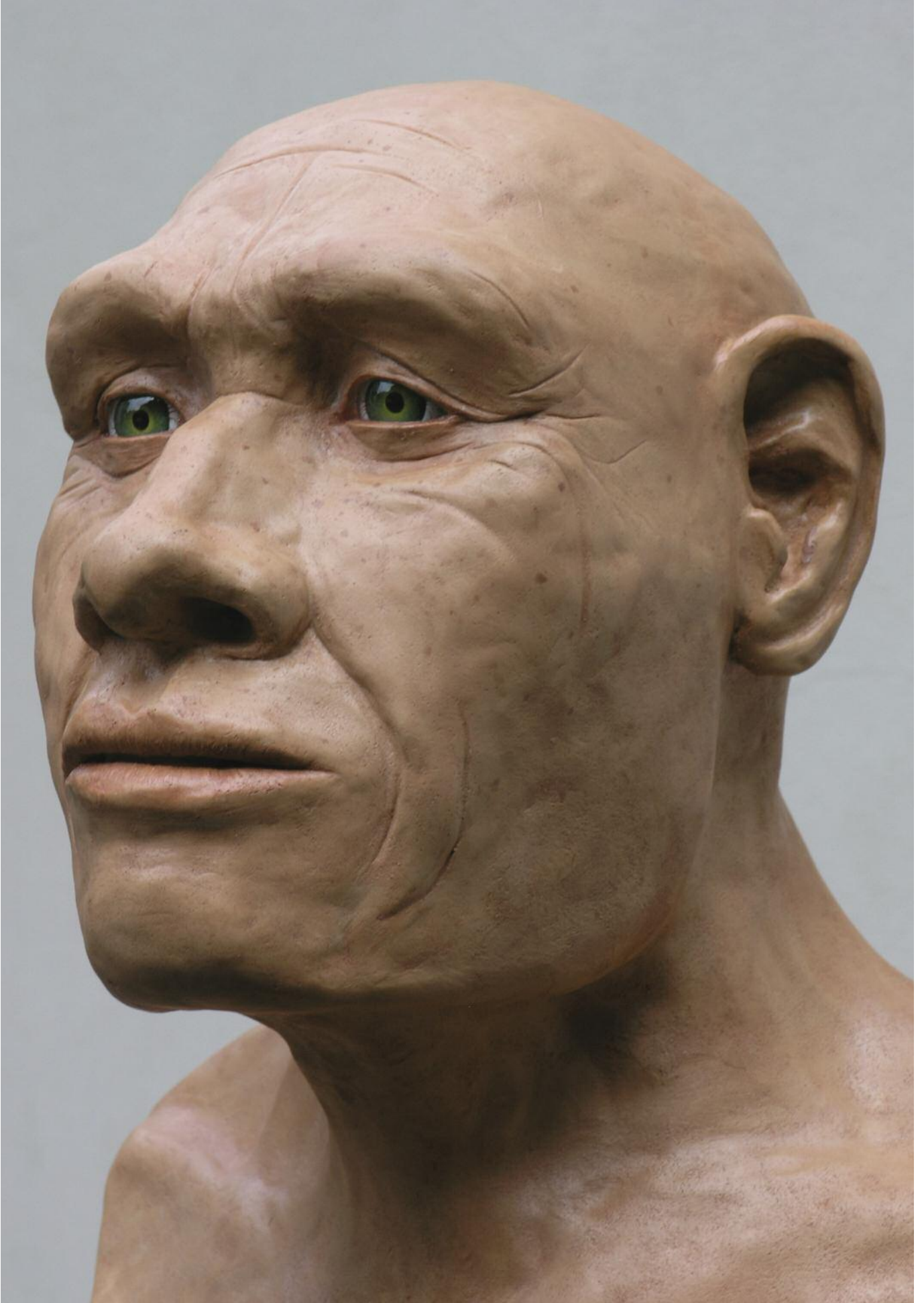
Belle Hougue Caves on the north coast of Jersey have produced important information about glacial sea-level changes. The bones of the extinct Jersey dwarf red deer have also been discovered at this site.

**Warning** - We do not recommend visiting these sites as access is difficult and there is a serious risk of rock falls.

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A reconstructed head of a Neanderthal hunter.