Discoveries from La Manche: Five Years of Early Prehistoric Research in the Channel Island of Jersey

Matt Pope*, Beccy Scott†, Josie Mills*, Martin Bates‡, Richard Bates§, Ed Blinkhorn*, Chantal Conellerǁ, Sarah Duffy*, Marie-Anne Julien¶, Anne-Lyse Ravon¶ and Andrew Shaw**

Since 2010 a new field project drawn from major UK institutions including the UCL Institute of Archaeology, has focused research on the Palaeolithic and Mesolithic record of the Channel Island of Jersey. In this retrospective of five years of research the history of the project to date, its focus on the Middle Palaeolithic site of La Cotte de St Brelade and its growth into an international research team is charted. The formation of the La Manche Prehistorique research network in 2015 marks a new chapter in the development of this project. With its wider focus, but continued commitment to research in the Channel Islands, the research group are working towards a unified early prehistoric research framework for the English Channel region.

Introduction
In this paper we describe the history of a current, well-established prehistoric research project, now in its sixth year. At the time of writing we are helping to develop a new programme of engineering and excavation at a key ‘supersite’ in Neanderthal archaeology: the coastal locale of La Cotte de St. Brelade, Jersey (Figs. 1 and 2). This site has emerged in the past five years as a focus not only of renewed academic research, but also of study of effects of climate change, and the relationship between heritage protection and the socio-economic agendas of an island nation. Our role in progressively addressing these issues has developed rapidly and profoundly over this time. Now, in a moment of reflection, before our project develops in new directions, we offer it as a case-study of the development of a research team; one to be considered alongside more traditional and hierarchical models.

Jersey is the largest of the Channel Islands, an archipelago comprising outcrops of igneous, sedimentary and metamorphic geologies within the Normano-Breton Gulf (Fig. 2) (British Geological Survey Guernsey 2000). Jersey rises to a maximum height of 120m
above sea level on the north coast of the island; from there, the topography dips to the south, where a series of embayments has been eroded. Around the coastal fringes of the island fissures within the granite and a small number of caves provide a record of climatic change through much of the past 300,000 years. Added to this are a wide number of localities which preserve raised beach deposits, often with great depths of overlying soil deposits of head and windblown loess, which extend the record of environmental change further back into the Middle Pleistocene. This geological resource is enhanced by a number

**Figure 1:** La Cotte de St Brelade under excavation at the start of engineering works in November 2014 (Photo: La Manche Prehistoric Research Group).

**Figure 2:** Location map showing the position of the island of Jersey within the La Manche region, within the Channel Island archipelago and the location of La Cotte de St Brelade (Map: La Manche Prehistoric Research Group).
of localities where stone tools, relating to both modern humans and Neanderthal populations, have been recovered either singly as isolated finds or, in the case of the site of La Cotte de St. Brelade, in their thousands (McBurney and Callow 1971; Callow and Cornford 1986).

Jersey is currently an island due to the fact that we are presently in an interglacial period where global sea levels are high. For much of the last 2.5 million years sea levels have been lower and Jersey, along with the other Channel Islands of Guernsey, Chausey, Sark, Alderney, and the reefs of the Minquiers and Les Ecrehous would have formed raised table-lands and outcrops rising from the relatively lower landscapes of the gulf. Jersey and Chausey, being respectively only 22km and 17km from France, would have always been the last places to remain connected to the continental mainland during periods of sea level rise. The coastal areas of nearby Normandy and Brittany themselves have a rich record of human habitation contrasting with that on the interior landscapes, which have far less in the way of recorded finds. The sites of Le Rozel, Piégu, Les Vallées, Nantois, Mont Dol and Fermanville attest to Neanderthal occupation of these coastal landscapes during periods of both relatively high and low sea levels, and suggest we should consider them, alongside similar locales on the Channel Island coasts as survivals of the human occupation record of a now-submerged landscape (Bailey & King 2011; Scuvée & Verague 1988).

Seen from this perspective, the topographic setting of the island of Jersey would have altered profoundly according to climate and associated sea level change throughout the Pleistocene. During cool–cold and low sea level events, Jersey would have been joined to northern France, isolated between broadly south-east to north-west trending rivers running between Jersey and the modern Cotentin Peninsula (to the north-west) and the Minquiers to the south (Fig. 2). Jersey would have been widely visible across the exposed landscapes of the Channel River plain as an upstanding ‘terrestrial island’ or plateau, especially from the north, becoming progressively isolated as the climate warmed and sea level rose. Seen from our perspective, as archaeological researchers, with an interest in the ancient human occupation record of north west Europe, the Normano-Breton Gulf in general, and Jersey in particular offer an exceptional landscape to explore the responses of hunter-gatherer communities to profound change in climate and environment across a vast timespan. In this paper we document the past five years of renewed Pleistocene research on the island of Jersey and the emergence of a wider research agenda aiming to bring the Palaeolithic record of the Gulf and the broader La Manche/English Channel region into focus. We offer this account of research to date as narrative of the project’s development and to provide an illustration of how an agile research team, initially with minimal material support, can initiate and develop a major research project.


By the time our project was initiated, in 2009, there had been no active Palaeolithic research in Jersey for some 25 years. This ranks as the longest hiatus in work on the Island’s earliest Stone Age archaeology since the discovery of La Cotte de St. Brelade in 1881. As a result, both broader understanding of the Pleistocene potential of the Island, and of the context of the finds from La Cotte itself, has not advanced (Pope et al. 2012). The last publication to describe the archaeology of La Cotte in detail had been Paul Callow’s summary in the 1992 Quaternary Research Association Field Guide and the original monograph, published in 1986, had long since gone out of print. But La Cotte de St. Brelade still loomed significantly large in the literature of Neanderthal archaeology: as a site where Neanderthal drove herds of mammoths from cliffs as part of an organised hunting strategy (K. Scott 1986a; 1986b; B. Scott et al. 2013).

Our own interaction with the site as a group began in 2005 when, while visiting
Jersey to discuss an unrelated project in West Papua, Matt Pope was taken to the site by Ralph Nicolls of the Société Jersiaise (Jersey’s learned and scientific society). It was evident from the visit that unexcavated Pleistocene deposits still filled the West Ravine of the site to a depth of greater than 10m, and that these deposits were vulnerable to intermittent erosion by the sea. A subsequent visit in 2008 by Matt Pope and Geoff Smith, allowed for a brief assessment of the collection of faunal remains and lithics from La Cotte stored by the island’s historical trust, Jersey Heritage. The faunal collections were under the care of Institute of Archaeology alumnus Neil Mahrer (see Alumni Reflections in this issue) while the island’s archaeologist, Olga Finch, curated the phenomenally large collection of stone tools, totalling in excess of 250,000, from La Cotte and other Palaeolithic sites on the island.

While the scale of the site, its surviving sedimentary resource and the collections were impressive, the impetus to re-examine the site was emerging from research undertaken as part of the Ancient Human Occupation of Britain project (AHOB) funded by the Leverhulme Trust and coordinated by the British Museum and Natural History Museum (e.g. Scott and Ashton 2011). A key research area addressed by the AHOB project concerned the distribution and nature of Middle Palaeolithic technology in the British Isles in comparison with Northern France, Belgium and Holland. While the landscapes of the Thames Valley and East Anglia, fringing the submerged Doggerland region (Coles 1998) had initially provided the focus for this research, interesting patterns became apparent between the western and eastern parts of Southern Britain, patterns which might require consideration of the largely ignored palaeo-region of the English Channel/La Manche (Fig. 3). It was during a pub conversation with the late Roger Jacobi, then a research leader at the British Museum, that

**Figure 3:** Topography of the La Manche Region. Showing Bathymetry in metres below mean sea level for the English Channel (Map: La Manche Prehistoric Research Group).
we conceived the project. Recognising the importance of La Cotte de St Brelade, as the key regional sequence for the La Manche region was a direct legacy from the AHOB research programme, and plans to develop a Jersey-focused project were consequently put into action.

**The Quaternary Archaeology and Environments of Jersey Project 2009–2012**

By 2009, the project had developed into a research collective aiming to develop an assessment of the La Cotte archive, a wider survey of potential for Palaeolithic/ Mesolithic archaeology in Jersey, and to establish a training excavation for UK archaeology students. In September of that year, a meeting was held at La Cotte with Dr John Renouf, a consulting geologist with Société Jersiaise, and Olga Finch of Jersey Heritage to discuss the possibility of small-scale fieldwork at La Cotte and to identify safer, terrestrial sites for research excavation and student training. A programme to begin assessment of the lithic and paper archives from La Cotte was also developed at the same time, with funding drawn directly from the AHOB project.

In the summer of 2010, and with substantial support from the Centre for Archaeology of Human Origins (Director: John McNabb) our first field season was undertaken. Working for just two weeks we undertook assessment through test pitting at the Mesolithic locality of Canal du Squez, in the parish of St Ouens, and of a Late Upper Palaeolithic scatter at Les Varines, in the parish of St Saviours, both led by Chantal Conneller. At the same time Martin Bates undertook section cleaning and recording at La Cotte, work focused in the West Ravine where intermittent erosion of intact deposits appeared to be occurring. The project was implemented as a wide ranging landscape survey with research/training excavation at its core. The set up was agile, with planning permissions in place for more sites than we had time to address to allow us to be adaptable on the ground at short notice. The project team of core staff, doctoral students and volunteers, was purposively collective and non-hierarchical in structure, a conscious response to overly hierarchical styles of project structure we had experienced before. We worked with a small team of students drawn largely from the archaeological undergraduates of Southampton University and UCL Institute of Archaeology. The students, who at that stage were outnumbered by the ‘staff’, were given training in excavation, geo-archaeological approaches to landscape, and surveying, while evening lectures covered topics relating to the Palaeolithic and to field techniques.

Through 2011 and 2012 the project grew in terms of both the number of students and length of the field season which was now extended to a month. These years saw the wider investigation of the Les Varines locality through coring, geophysics and excavation, and the determination that it represented a significant Magdalenian locality. There was also a bathymetric survey of the sea-bed around La Cotte de St Brelade. These years also saw the beginning of a programme of archive reorganisation, funded by Jersey Heritage and the AHOB project, co-ordinated by Beccy Scott and Andy Shaw. The starting point for this work was the unlocking of Paul Callow’s comprehensive and detailed digital archive by Ruth Charles and Kate Jeary at Cambridge. This work, which comprised a kind of digital archaeology, was timely; the expertise and experience was still there to take this legacy data, in obsolete file formats, and transform it into modern versions readable by our software. For the first time we were able to plot the entire artefact assemblage from the McBurney era excavations using Geographical Information System software and began to visualise the site. More importantly, we were able to determine the precise location of each artefact and began to reorganise the collection of 94,919 pieces
into a system based on spatial provenance, rather than technological characteristics.

At the site of La Cotte de St Brelade, the field survey had established an area of highly unstable stratigraphy in the West Ravine. These sediments had never been subject to adequately detailed archaeological or scientific investigation and were clearly at threat of removal by the sea. In response to this we mobilised a second season of excavation in October of 2011 supported by a Natural Environment Research Council (NERC) Urgency Grant to investigate, record, sample and stabilise this area of the site. This work revealed that the West Ravine appeared to contain a deep (> 10m) sequence of intact deposits relating to the last (Weichseilean/Devensian) glaciation. Furthermore, dating of these sediments using Optically Stimulated Luminescence techniques, allowed us to demonstrate that the lower part of this sediment block spanned a period of between 105,000 and 47,000 years before present. This latter date is very close to the time when modern humans are thought to have moved into northern Europe and Neanderthal populations begin to disappear. This fact, combined with our correlation of the West ravine deposits with those which produced 13 Neanderthal teeth and a fragment of cranium in the early 20th century, demonstrated that the site still contained an internationally important sedimentary sequence. This sequence was unprotected and lay entirely at the mercy of westerly storms and high tides. It became apparent that protecting and fully documenting this part of the site would be a mammoth undertaking and costly in terms of time and funding. It would also require very careful coordination between the site owners, the Société Jersiaise, the Jersey Planning and Environment department and other key stakeholders such as Jersey Heritage and the National Trust for Jersey, a process which we knew would take some time to coalesce. In the meantime the project refocused on the site of Les Varines and on developing our relationship with the island through exploring its potential for cultural tourism based on its early prehistoric heritage assets.

**Ice Age Island and the Threshold Project: 2013–2015**

In the spring of 2013 we were successful in receiving two independent funding streams which allowed research into the Pleistocene of Jersey to develop along two separate fronts. The herculean work undertaken in delivering the Charles McBurney and Paul Callow archives into modern file formats and accessible artefact collections opened the way to a successful bid for AHRC funding led by Professor Clive Gamble of Southampton University. The AHRC Threshold project, which at the time of writing is still on-going, seeks to explore the human use of space and landscapes through the detailed reading of behaviour relating to the persistent use of certain locales. The project allowed for the employment of two full-time post-doctoral researchers and the technical support to make sense of the immense data archive from La Cotte. In addition we won funding, in partnership with Jersey Heritage, from the Jersey Tourist Development Fund to continue our excavations at Les Varines (Fig. 4) and to embed our work in Jersey’s promotion of heritage tourism, and to provide public and visitor access to our excavations and research areas. Through developing a series of walking trails, small and large scale museum exhibitions and digital online content, we have been able to develop a research agenda based on Stone Age archaeology which fits alongside the Island’s economic and cultural aspirations.

The profile of the project was raised in 2013 by the publication of two papers detailing our initial reassessment of the site of La Cotte de St. Brelade, which put into doubt the long-held perception that it was the site of specialised mammoth drives by Neanderthals (Scott, B et al. 2014) and also presenting our dating evidence for the West Ravine sequence (Bates et al. 2013). Media interest had steadily grown through the past
couple of years with coverage by TV and Radio documentaries leading to the broadcast in 2014 of the BBC’s flagship series, Ice Age Giants, which featured our work at La Cotte. The project has now become part of the fabric of Jersey’s heritage engagement sphere and our current research is actively promoted to tourists and followed by the island through regular press and radio coverage. The aim has always been to make the island the main focus of our work, and to consider it as a single landscape shaped by processes of climate and sea level change. As with other beautiful coastal landscapes in the British Isles, whether it be the Dorset Jurassic Coast World Heritage Site or the Devon Riveria Geopark, the geological and archaeological resource preserved and discovered within those landscapes has an important part to play in the economic performance and cultural profile of the communities who live there. Our approach has always been to embed our research within these wider public agendas to attempt a fully three-dimensional approach to the archaeological work, looking at how our work can benefit the public at local, national, regional and international scales.

**Return to La Cotte 2014–2015**

Over the winter of 2013–2014, northern Europe was hit by a series of severe Atlantic storms. In Jersey a number of these coincided with high tides causing widespread damage to coastal areas. Alongside the erosion of sea walls and flooding of near-shore roads, the destruction of sediments in the West Ravine at La Cotte de St Brelade accelerated substantially, removing a large block of sediment from the base of the West Ravine sequence.
in the areas we had identified in the 2011 NERC-funded work. The response from the site’s owners and Jersey Heritage was instant and effective, commissioning our team to undertake an assessment of damage at the site and putting together a multi-disciplinary team of engineers, architects and other specialists to develop a response. Plans initially developed by John Renouf and consulting engineer John Sharp were developed further in light of the observed sea levels during the storm events, and a fully costed proposal to undertake full-scale engineering works at the site was developed. These plans comprise the building of a sea wall within the West Ravine then reprofiling the unstable sedimentary deposits under archaeological control, of the West Ravine cliff, and reinstatement of a secure access path along the cliff edge from common land above the site.

As part of these enabling works a laser scan and photogrammetry survey were considered desirable to create an accurate three-dimensional model of the site on which to base detailed construction plans and to create a benchmark record of the site before engineering works commenced. A laser scan team from 3DIMpact based in UCL’s department of Civil, Environmental and Geomatic Engineering was therefore commissioned to survey the entire headland. In addition, detailed survey work was undertaken by team member Sarah Duffy on the interior of the cave system. The complete capture of the site took five days and within a couple of weeks the data was being used to help model wave-heights during storm events within the cave, and to create accurate models of sediment removal and re-profiling of the site to effect stabilisation.

In November 2014 the first stages of the remediation works got underway with the covering of the West Ravine’s unstable section in a protective membrane. Subsequent to this safety measure, excavations were undertaken by the project team ahead of wall construction at the base of the slope. In order to coordinate this specialist archaeological response within the framework of a multi-partner team combining private, public and third sectors, UCL Institute of Archaeology’s Centre for Applied Archaeology (CAA) were commissioned to coordinate the works alongside engineering contractors and to begin to develop a forward management and conservation plan for the site (see News item on CAA in this Issue). Jon Sygrave and Gai Jorayev from the CAA are currently progressing these plans and seeking financial backing to undertake a programme of works anticipated to cost in the region of £500,000.

The View from the Island: Future Directions for Prehistoric Research in the La Manche Region

The spring of 2015 saw the Institute of Archaeology host a one day meeting of researchers currently involved in aspects of the Jersey research. While not every colleague could attend, representatives were there from the multiple strands of the project including the AHRC Threshold team led by Clive Gamble, the study of human remains from the site led by Chris Stringer from the Natural History Museum Human Origins research group and the Ice Age Island excavation at Les Varines. The meeting drew together the now diverse threads of the project recognising that, with La Cotte de St Brelade at its core, the project was in the process of transformation from being a single team to a much wider research network.

Taking the project forward, we now have the opportunity to consider the direction and management model for our future research. Emerging from this process is the recognition that we are now well placed to embrace exactly the cross-channel, inter-regional scale perspective that has been considered a key research aspiration since the early days of the AHOB project. The La Manche region, covering the submerged and terrestrial landscapes from the Western Approaches of the English Channel to the Straits of Dover, is an area of largely unknown Palaeolithic potential, investigated to date in a patchy and
uncoordinated manner. The excellent work of French teams based in Brittany (Rennes), Normandy (Caen) and Picardie (Amien/Lille) and managed by researchers from French Universities, the Institut National de Recherches Archéologiques Préventives (INRAP), and the Centre National de la Recherche Scientifique (CNRS) is certainly broadly comparable in terms of quality to that undertaken in Southern Britain, if not in terms of scale. But there are big differences between regions and between each country in terms of how results are collated and interpreted. Developing a single, contiguous and comparable dataset of Stone Age sites and sedimentary records would be transformative as the first stage in looking at the record and developing strategic research aims to further address it.

More pressingly, perhaps, we can see there are large disparities in the way that fieldwork in commercial, development-led contexts is undertaken on both sides of the English Channel, and between regions within each country. This is crucial to address because differences in approach, in current on-going and large scale fieldwork, could be deleterious on a large scale to our ability to manage, protect and investigate the record in comparable ways across the region. Consequently, in 2015 we consider our primary research driver to be the fostering of a research network with the aim of identifying common ground and reconciling differences. The La Manche Prehistoric research group (LaMP) has been established directly out of our Jersey-based work not only to continue active research in the Channel Islands, but to develop a wider community of cross-channel research with the aim of sharing data and expertise and to work towards unified mapping and resource management frameworks. We see the development of this network as the single most important outcome of our research in Jersey, which has provided a strategic platform, separate from both UK and French systems in which to harmonise research of both countries.

As for the archaeology of the submerged English Channel landscapes themselves, this requires more careful consideration. Potential has barely been assessed in comparison to Doggerland, but glimpses of well-preserved palaeo-topography and accessible sedimentary bodies on the sea floor, and the presence of substantial, submerged sites indicated by Middle Palaeolithic artefacts from the sea bed off Fermanville, indicate what could be there. This is emerging as a crucially important area in which to concentrate our research, as the Normano-Breton Gulf, in common with other areas of the English Channel sea bed, is set to become the focus for development of renewable energy infrastructure in the coming decades.

At a small scale we have begun this work, considering the archaeology in the waters around Jersey itself, undertaking bathymetric survey of near-shore landscapes, and considering large areas of usually submerged Pleistocene landscape exposed during the exceptionally low tides of the Gulf de St Malo at locations like Seymour Tower and the Minquiers. However we consider that a strategic approach to these submerged landscapes is not yet adequately developed for the region, and in the short term we need to develop immediate and achievable approaches to these inaccessible landscapes through our existing and emerging skills as terrestrial archaeologists. For example, one thread we are now actively pursuing is the reconsideration of raw material provenancing as a direct way of taking artefacts from terrestrial Prehistoric sites and attempting to identify sources of flint or other raw material which do not occur at any known terrestrial locale. The possibility of matching these materials to sources now submerged not only offers the potential for looking at human movement and raw material provisioning strategies, but also for providing a direct link between human behaviour, sea-level change and global climate through the Quaternary.
Moving forward and keeping momentum and progress across all aspects of research (at La Cotte de St. Brelade, within Jersey and across the wider La Manche region) will require careful coordination and adequate funding. At the same time we are committed as a team to maintaining the flat hierarchy and multi-institution approach which saw the birth of the project, and to creating frequent opportunities for student training and research and for wider public engagement. The important achievements of the project to date, aside from the aspects of new discovery about our Prehistoric past, are restoring the site of La Cotte de St Brelade to its central role in the region and beginning to realise its role in bringing closer the early prehistoric research traditions of France and the UK.

Competing Interests
The author’s research in Jersey, as part of the La Manche Prehistorique research group has been funded through the States of Jersey Tourism Development Fund. In addition, enabling works at La Cotte de St Brelade, managed by Archaeology South East, has been funded by Jersey Heritage.

Acknowledgements
Grateful thanks are extended to Jersey Heritage, the Société Jersiaise, The National Trust for Jersey, the States of Jersey Department of Planning and Environment for their generosity and support; to the AHRC, NERC, the Leverhulme Foundation and the Calleva Foundation; to Olga Finch, Neil Mahrer, Anne Best, Sheena Brockie, Dominic Jones and Charlotte Hotton for their support on the Island; to Alan Hubbard and Nolwenn Chauche for their time and the use of the survey ship Gambo. We would also like to thank Marcus Hatch, Joroen Adrianson, Jesse Bennett, Lucie Bolton, James Cole, Sam Griffiths, Andy Needham, Dave Underhill, Karen Ruebens, Tabitha Paterson, Geoff Smith and Rebecca Wragg-Sykes for their contributions to fieldwork and archive reorganisation.

References


