

Chapter 5

The Bronze Age

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5.1 Introduction

The Research Framework for the Bronze Age of Jersey will be divided into two principal sections. First, the Resource Assessment will provide a summary of the current state of knowledge for the Bronze Age of the island, through a characterisation of the potential of the resource. Second, the Research Agenda and Strategy will outline a prioritised list of research objectives to help address current lacunae and target future work programmes that will further a fuller understanding of Bronze Age inhabitation in Jersey.

A variety of both published and unpublished resources were drawn upon for the assessment, and much of the information came from reports of sites published in the Bulletins of the Société Jersiaise, many of them relating to antiquarian excavations. Unpublished documents included recently discovered hoards and research from the former Société Jersiaise Field Archaeologist, Robert Waterhouse, primarily relating to field systems. In addition, Jersey's online HER was also consulted.

Now that there is a Finds Officer in post, the number of potential Bronze Age items submitted for identification and recording is increasing. This material is not included in the resource assessment but is part of a project currently being designed to fully catalogue the accessioned hoards and recent discoveries. It is covered under research priority *RQ3: Bronze metalwork* below.

5.1.1 History of research

Antiquarian interest in archaeological sites in the Channel Islands has been documented from the 17th century onwards. The Société Jersiaise was founded in 1873, prompting investigations at a number of major megalithic monuments. Between 1874 and 1883, the Société excavated five sites of Neolithic, Chalcolithic and Early Bronze Age date under the direction of E.K. Cable, a retired civil engineer, and Rev Bellis. These comprised Beauport Dolmen, Ville-ès-Nouaux, Hougue de Vinde, La Moye Dolmen and Les Cinq Pierres. Some of these monuments were already in a ruinous state prior to their investigation and La Moye and Les Cinq Pierres have now completely disappeared, subject to threats from quarrying, ploughing and construction work. These antiquarian investigations were undertaken in a manner and speed that compromised the quality of the data recovered and the accuracy of the stratigraphic recording. Of these sites only Ville-ès-Nouaux provided

rewarding results, including the discovery of a cist-in-circle structure to the north of the main complex.

After this there was a lengthy hiatus before more systematic exploration began between the 1910s to the late 1920s. These sites were mainly in a good condition at the time of investigation and included Monts Grantez dolmen, the Ossuary, La Sergenté, La Hougue Bie, Grosnez Hougue, a tumulus in the Fief de la Houquette and the large cist cemetery of La Motte. In addition, Bronze Age occupation activity was identified at Maîtresse Île in Les Minquiers and at Icho Islet.

In 1939 the first synthetic monograph on the archaeology of the Bailiwick of Jersey was published by Jacquetta Hawkes, over ten years after the monograph on the Bailiwick of Guernsey by T.D. Kendrick in 1928. While this two-volume set provided comprehensive works on Channel Island archaeology, they are now almost a century out of date.

Following the Second World War, the focus upon archaeological remains intensified and included investigations at the Bronze Age sites of La Moye I and II in St Brelade, providing pertinent evidence relating to settlement and non-domestic activity and associated subsistence practices. The majority of excavations in recent decades have been small projects targeting specific research topics, and these tended to focus on individual sites that were studied in isolation. No large developer-led investigations have been undertaken in Jersey and thus an appreciation of multi-period inhabitation at a landscape scale of analysis is missing from the evidence sets. Our understanding of the later Bronze Age, however, has been supplemented by discoveries of bronze hoard deposits, including a flurry of recent findings by metal detectorists.

The accounts of the archaeology of Jersey and Guernsey by Hawkes and Kendrick have been followed by more recent synthetic publications in recent years, including the works of David Johnston, Peter Johnston and Barbara Bender & Robert Caillaud (Johnston 1981; Bender 1986; Johnston 1986). Work undertaken by Mark Patton has engendered interest in the prehistory of the Channel Islands, and his publications specifically focused on Jersey (Patton 1987, 1993, 1995c, 1997a). Patton also conducted some of the more recent excavations on prehistoric sites in this area, particularly those spanning the Neolithic to Bronze Age, while Heather Sebire examined both the historic and prehistoric periods in the Channel Islands (Sebire 2005). David Bukach's doctoral research focused on the Neolithic in the archipelago, as has the recent excavations at L'Érée in Guernsey by Duncan Garrow and Fraser Sturt and their subsequent publication on *Stepping Stones in the Sea* (Bukach 2006; Garrow and Sturt 2017). These works have principally explored the implications of Channel Island maritime interactions during the Neolithic. The nature of connectivity and sea connections in the subsequent Bronze Age remains less well-explored, and our understanding of Jersey's involvement in Beaker and Early Bronze Age spheres of interaction is hampered by rather limited evidence sets to draw upon.

The Bronze Age of Jersey, and of the Channel Islands more widely, has until recently, remained a neglected field of study, despite the wealth of evidence available, while other periods, particularly the Palaeolithic and the Neolithic, have received more attention. In the

last decade, however, detailed research by Driscoll on the Bronze Age of the Channel Islands has been instrumental in providing a broader and more comprehensive understanding of this period. The Bronze Age archaeological resource provides a challenge, and the diverse nature of the evidence has hindered classification. Many sites are ephemeral, relating to dark soil 'midden' layers, some of which are associated with truncated pits and postholes. In addition, Bronze Age evidence has often been identified as part of multi-period site complexes spanning extensive time frames. Disentangling and extricating the Bronze Age from other phases can be complicated and messy, and in the past was sometimes avoided. For instance, excavations at the multi-period site of Ville-ès-Nouaux focused principally on the Neolithic phases of the site, rather than the later urned cremation cemetery (Oliver 1870, 63-65).

In sum, much of the Bronze Age evidence for the Channel Islands is hard to distinguish from other periods, unlike in north-west France or Britain. In the latter areas, the Early Bronze Age is characterised by marked changes in the funerary practices through the emergence of individual burials in cists and round barrows, followed by visible roundhouse settlements in the Middle Bronze Age, often integrated within extensive field system complexes. The emergence of hillforts and hilltop enclosure sites is a characteristic feature of the Late Bronze Age throughout the British Isles and France. Current evidence from the Channel Islands does not support clear changes from the Early to Middle Bronze Ages, although fortified sites are a key indicator of the Late Bronze Age and Early Iron Age. This is an opportune time to evaluate the potential of the Bronze Age resource and discern whether continuity in the use of funerary and domestic sites is real or hampered by a lack of visibility. While some sites have been truncated or destroyed by ploughing and other anthropogenic activity, others may remain hidden under deep buried soil horizons, particularly in valleys. The Research Agenda should help identify areas where further investigation may provide a more comprehensive understanding of the period spanning c. 2450–750 BC.

5.1.2 Summary of chronological frameworks in Jersey

Past typo-chronological approaches have tended to fit the Channel Islands into existing schemes, particularly piggy-backing on those developed for north-west France (Figure 1). While some similarities between these areas can be observed, the islands followed their own trajectories, with distinct material culture assemblages, and this should be highlighted through the creation of bespoke Channel Island schemes.

There is no coherent agreement for the chronological range of the Bronze Age in the Channel Islands, and uncertainty where the Chalcolithic sits within these temporal schemes, as there is seemingly no discernible break with Late Neolithic cultural traditions. If the Chalcolithic is also included, the overall span for the period under consideration is c. 2400–800/750 BC. Patton provides 2250 BC as the starting date of the Bronze Age while Bukach offers 2000 BC, and the date spans for the Middle Bronze Age are also disputed (Johnston 1981; Briard 1986; Patton and Finlaison 2001; Sebire 2005). The Late Bronze Age is better dated, thanks to the numerous hoards that have been recovered in Jersey, particularly of Carp's Tongue tradition, suggesting a flurry of metalwork deposition between 900 and 800

BC. The Late Bronze Age–Iron Age transition, however, is less certain, and it is unclear whether any of the promontory forts originated in the Late Bronze Age.

Very few sites have been subject to radiocarbon dating and the dates suffer from large standard deviations, spanning several centuries, and were determinations on charcoal. A small body of radiocarbon dates from paleoenvironmental samples such as recent investigations by Jones *et al.* and Campbell, may help to refine these, although these lack good contextual resolution (Jones *et al.* 1990; Campbell 2000). In addition, the lack of grave goods from burial sites and the mixed material culture assemblages derived from poorly recorded antiquarian excavations at domestic and funerary sites has hindered the creation of secure typo-chronological sequences for the Bronze Age

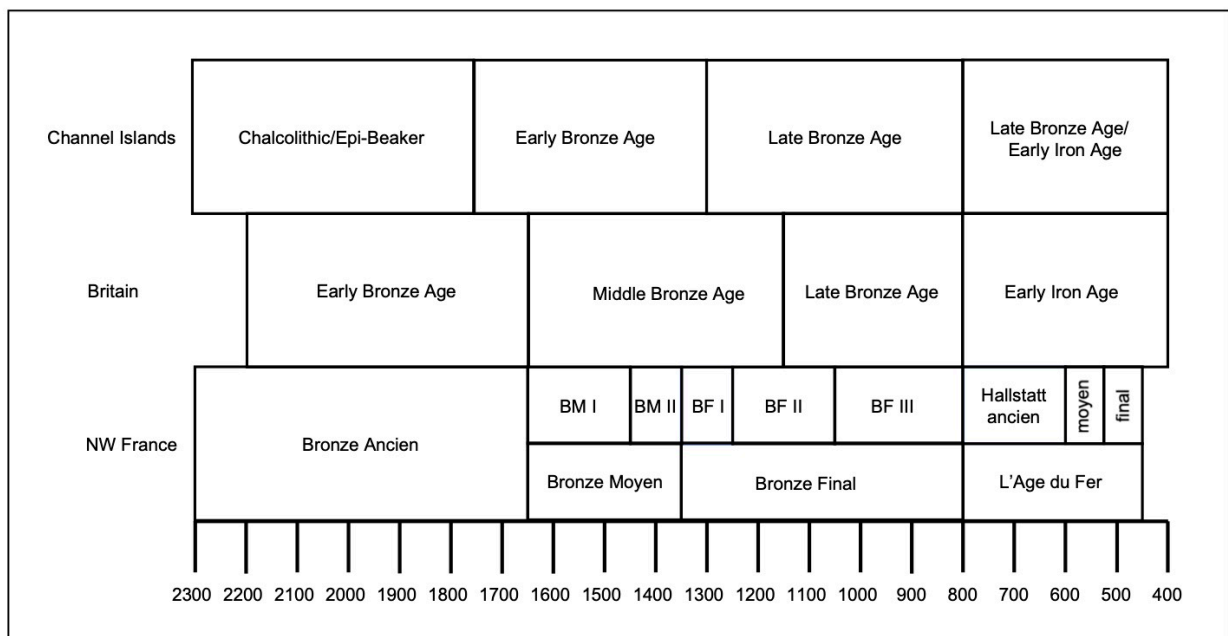


Figure 1. Provisional chronological scheme for the Channel Islands after Driscoll (2011, fig. 12.15).

5.1.3 Sea-level and associated environmental change

A series of sea-level changes have been identified in the later prehistoric environmental record of the Channel Islands and modelling of these oscillations indicate that they had moderate to significant impacts on the landscape (Conneller *et al.* 2016, 36; Garrow and Sturt 2017, fig. 1.05). During the Neolithic-Chalcolithic transition sea levels reached their Holocene maximum (Keen 1981; Keen 2001, 12) resulting in the submersion of the fenland at St Ouen's Bay, the creation of marshland, and the burial of the fertile coastal plains under sand dunes. This is evidenced by peat formation at several sites, such as below the Jersey gasworks cist (Mourant 1985). This environmental change and loss of land has been argued to have placed the inhabitants of the islands under some stress, perhaps forcing them into increasingly marginal areas (Patton and Finlaison 2001, 187). Patton (Patton 1995c) has also suggested that this triggered a series of social and economic changes, including an increasing reliance on pastoral rather than arable practices.

A second major rise in sea-level occurred during the mid-second millennium BC resulting in the transformation of the coastline of Jersey and the other Channel Islands to something akin to the modern outline (Driscoll 2011, 20). By the Late Bronze Age, and around c. 1300 BC, it is argued that available fertile land was much reduced (Bukach 2006). This last change undoubtedly affected not only the ways in which the islanders exploited landscape resources, but such a significant physical transformation to the coastline may have impacted on the ways in which the population conceptualised the landscape around them and movement both across and beyond it (Driscoll 2011, 20). These marine inundation events have been identified from peat cores, but the data set is still rather limited with only three dated samples, two of them from Guernsey. While these oscillations drowned large tracts of previously habitable land, the creation of new harbours and inlets may have facilitated more intensive maritime interaction (Table 1).

Site	Lab Code	Calibrated date BC
Vazon Bay, Guernsey	BM-1858	1738–1133 BC (1 sigma)
La Grand Mère, Guernsey	Q-736	1737–1132 BC (2 sigma)
Les Mielles, Jersey	IGS-C14/145	2136–1774 (1 sigma)

Table 1: Radiocarbon dates from peat cores

5.1.4 Maritime Travel and Connectivity in the Bronze Age

Early accounts of the Channel Islands sometimes described them as ‘isolated, insular’ or ‘detached’. Kendrick postulated that on one hand the comparative isolation of an island could result in a ‘retardation of cultural progress’ or even ‘a sheer backwardness’, but on the other hand he argued that the relative security of an island could lead to accelerated cultural development’ (Kendrick 1928, 3). The proximity of the Channel Islands to adjacent mainland areas, particularly north-west France, likely encouraged interaction from an early date, and they should also be viewed as open and dynamic systems (Evans 1973).

Although the sea could act as a barrier to interaction, technological developments in boat construction would have encouraged transport by water. By the Bronze Age, the sea would have facilitated both more intensive and extensive movement and interaction between the Channel Islands and adjacent areas. The sea has been perceived as a highway linking various land masses (Rainbird 1999, 230), and islands can operate within more expanded horizons than landlocked zones. Stuart Needham has offered a compelling perspective on connectivity by coining the term ‘maritory’, which may comprise a loosely defined territory of the sea criss-crossed by interaction networks (Needham 2009). Needham highlighted how such connectivity would have created a level of coherence between coastal communities and in wider cross-Channel exchanges. Yet at present there is relatively little evidence to suggest that the Channel Islands participated within these spheres of interaction during the Chalcolithic and Early Bronze Age.

Maritime travel to and from the Channel Islands was not always straightforward and could be fraught with peril; the strength of currents and the presence of sharp rocks fringing the

islands created several challenges. Specialist knowledge and technical expertise would have been essential to navigate safely and successfully. The southern coast of Jersey is subject to strong tides making maritime movement hazardous and difficult to undertake. Conversely, the north coast of the island exhibits a calmer environment and offers several sheltered harbours suitable for the landing of prehistoric craft. These would have provided protection against storms, particularly from the prevailing south-westerly wind, and most of the promontory forts are located along the northern coastline.

Current evidence sets suggest that after connectivity between the Channel Islands and adjacent mainland areas in the Neolithic, long-distance interaction may have declined for a period of several hundred years, which is at odds with most other regions of Europe at this time. Jersey was not seemingly affected to any significant degree by Bell Beaker cultural spheres of interaction. Intermittent contact may be suggested by the presence of a small number of objects of Beaker date, specifically pots, but on a much lower level than in most other areas of Europe (Needham 2005). The lack of exogamous contact appears to have continued into the Early Bronze Age and no high-status burials accompanied by sets of exotic grave goods comparable to the Wessex-Armorican traditions; (Needham 2000, 2006) have been found in Jersey. It should be noted, however, that evidence for interaction and connectivity during these times has been gleaned principally from the funerary sphere, and there is a dearth of formal burials of Bronze Age date in the Channel Islands.

In the later Bronze Age communication channels seemingly opened up again as indicated by the presence of metalwork hoards. Jersey has a higher concentration of Bronze Age metalwork compared to the other Channel Islands from which to draw upon. These Late Bronze Age hoards contain objects from a diverse range of origins attesting to the navigation skills of the inhabitants and their sea-faring neighbours. They support an intensification in the circulation of material and highlight the role that Jersey had to play in a chain of long-distance seaward links during this time. The only direct evidence for maritime contact in the Channel Islands, however, comes from the discovery of a logboat in a marsh in St Peter Port, Guernsey. While the boat has not as yet been radiocarbon dated, its form would suggest it is likely a Bronze Age craft; it was also found in close proximity to the Bronze Age settlement at the Royal Hotel (Sebire 2005, 93-94).

5.2 Chalcolithic and Earlier Bronze Age (c. 2450–1600 BC)

5.2.1 Chalcolithic and Early Bronze Age and burial monuments

It is generally considered that the Channel Islands followed similar burial practices to Brittany and Normandy during the Chalcolithic and Early Bronze Age although with some local divergences. The presence of Beakers and Jersey Bowls, and other associated items, within Neolithic tombs (Patton 1995c, 98) indicates that they were likely re-used for burial during the Chalcolithic and Bronze Age. No classic Beaker or Early Bronze Age burials have been identified in Jersey, although the presence of a bracer with Beaker pottery at Ville-ès-Nouaux (Driscoll 2011, fig. 7.16) might suggest the former presence of one.

A small number of round barrows are known, but few have been investigated in detail and their dating remains uncertain (Sebire 2005, 91-92). The 'cist-in-circles' burial monuments

are an indigenous island tradition, and these were probably constructed in the Chalcolithic and extended in use into the Early Bronze Age, but again precise dating is lacking. Other types of sites of this date that may have had a funerary or ritual purpose include mounds, platforms and isolated cists or cist cemeteries (Figure 2).

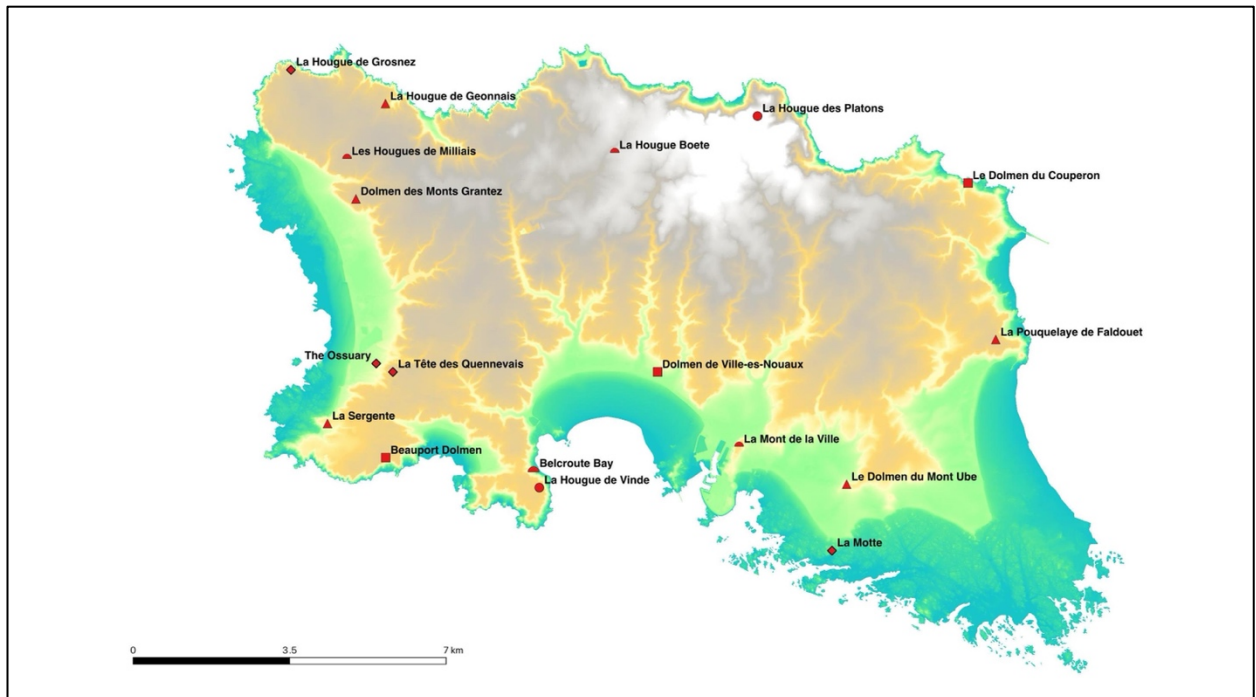


Figure 2: Principal burial monuments with Bronze Age material culture

Relatively few human remains have been retrieved, due to the often-acidic nature of the soils, making it hard to identify funerary practices during the Chalcolithic and Early Bronze Age. For the Beaker period, inhumation is the predominant burial rite in adjacent mainland regions, although in Britain this is more often in the form of individual crouched burial in single graves, while in France this may include re-use of collective burial monuments, sometimes with only partly articulated or disarticulated skeletons. While cremation practices are introduced in the Early Bronze Age, there is little evidence for cremations of this date in the Channel Islands. A possible Early Bronze Age cremation was noted in Sark, comprising ashes associated with pottery and other artefacts including a bronze axe fragment, but this was an old find from the 19th century (Lukis 1849). The passage grave of La Varde in Guernsey may also have been reused in the Early Bronze Age for cremation burials as a number of pots were recovered, including flowerpot vessels, some in association with burnt human bone (Johnston 1981, 109).

5.2.2 Re-use of megalithic tombs

A total of 59 megalithic monuments are known on Jersey and Guernsey, which is an impressive number, but Hibbs has calculated that over 130 further examples may have once existed but have been destroyed since the 17th century (Hibbs 1986, 209).

While these megalithic tombs were constructed in the Neolithic, the presence of later material culture, principally pottery of Chalcolithic and Bronze Age date, indicates that some

of these monuments were subject to later reuse. Evidence for reactivation has been identified at La Hougue Bie, La Hougue de Géonnais, Beauport Cromlech, Monte Ubé, Faldouet, La Motte, Green Island, Hougue des Platons, Ville-ès-Nouaux, La Sergenté and La Hougue Mauger (Bellis 1883; Nicolle and Sinel 1912b, a; Baal and Sinel 1915b; Baal *et al.* 1925; Baal and Godfray 1930). Human remains were recovered from several sites, implying that many of the later episodes of activity also related to burial. The presence of Beaker and flowerpot pottery in blocking deposits at their entrances indicates that some of these tombs may have been deliberately closed in the Chalcolithic and Early Bronze Age.

A secondary burial in Le Dolmen de Geonnais was accompanied by a lugged flowerpot vessel (Godfray and Burdo 1950). More recent excavations in the 1980s refined the chronology of this site and identified six distinct phases of activity (Rault and Forrest 1992). The latest two phases were related to the placement of Seine-Oise-Maritime vessels on the passage floor and the deposition of Jersey Bowls and a possible cremation, indicated by a discrete deposit of burnt bone and charcoal, at the entrance to the passage (Rault and Forrest 1992, 691-2). This reassessment was able to determine that the monument was long-lived and subject to activity between 2850 BC and 2250 BC, with most of the diagnostic finds retrieved dating to the Chalcolithic (Rault and Forrest 1992, 702).

Several pots in the Beauport dolmen were identified as undecorated Beakers, implying reuse in the Chalcolithic (Johnston 1972, 405). One of these bowls was heat-affected and set into a cist in the centre of the chamber. Analysis of residue adhering to the vessel walls confirmed it contained traces of charred bone and vegetable matter (Cable 1877, appendix i). In addition, a fragmentary cinerary urn of possible Early Bronze Age date was thought to have accompanied one of the latest burials (Johnston 1972, 414). This dolmen was formally closed with a thick sealing deposit.

The substantial passage grave of La Hougue Bie in Jersey is one of the largest megalithic monuments in Europe (Mourant 1974; Patton and Finch 1992, 632; Patton 1995b, a). Excavations in the early 1990s (Nash 1997, 1998, 1999) retrieved undisturbed material and refined the chronological sequence of the monument. Three main phases of activity were identified, the first relating to construction, use and augmentation of the tomb between 4500 BC and 3500 BC. The monument may also have fulfilled a funerary role during the Chalcolithic as fragmentary Beaker pots were found in close association with several inhumation burials. The entrance to the tomb was sealed through an extensive blocking deposit that contained Jersey Bowl fragments and was radiocarbon dated between 2900 BC and 2250 BC (Patton and Finch 1993, 116-132; Patton 1995b). The Late Neolithic gallery grave of Ville-ès-Nouaux was also subject to reactivation in the Beaker period, evidenced by Beaker pots and an archer's bracer within the tomb (Hawkes 1939, 260; Driscoll 2011, 79-80). These are indicative of grave goods although they lacked association with human remains, but bone did not survive on this site. Similarly, Beaker and Late Chasséen pottery was found during 19th century excavations at the gallery grave of Mont Ubé, in St Clement, along with fragments of Early and Middle Bronze Age pottery (Hawkes 1939).

A skeleton was retrieved from the blocking material at Les Monts Grantez (Nicolle *et al.* 1913; Patton 1995c, 72). and although undated, relates to the final decommissioning of the

dolmen. Human remains were also recovered from La Sergenté passage grave, St Brelade, relating to both articulated and disarticulated inhumations, and some of these may be post-Neolithic in date (Hibbs and Shute 1984).

Chambered tombs in Guernsey indicate complex life-histories, and a recent programme of radiocarbon dating on human remains at Le Déhus indicated that funerary activity continued into the Late Neolithic (Schulting *et al.* 2010, table 1 & 161). The presence of a tanged copper dagger and three decorated Beakers may suggest further later burials, although these were not directly associated with human bone (Lukis 1844, 1849). Several Beakers and barbed and tanged arrowheads were recovered the passage tomb of Les Creux ès Faïes (Kendrick 1928, 185; Salanova 2000, 274-275), and it may not be a coincidence that the Late Neolithic and Early Bronze Age settlement site of L'Erée was situated close to this monument (Garrow and Sturt 2017, chapter 2).

Funerary practices in the Channel Islands may be paralleled with those in north-west France and even as far afield as western Iberia during this time, particularly for the Chalcolithic. In these regions a number of Neolithic megalithic tombs were reused for Beaker burials, which were often placed in peripheral chambers in the monuments or close to the entrance, and examples include L'île Cairn and Göerem in Brittany and Monte Abrão and Pedras Grandes in the Tagus estuary (e.g. Gibson 2016, 88-94). These included both articulated and disarticulated inhumation burials, accompanied by Beaker-related grave goods, including pots, arrowheads and bracers. In comparison to the Channel Islands, however, the better preservation of human remains has allowed the generation of radiocarbon dates, including a suite of recent AMS determinations. These have demonstrated that rather than continuous use of collective burial monuments there was a break in activity towards the end of the Neolithic, prior to intermittent reactivation in the Beaker period. There is evidence for a quite pronounced episode of later burial around 2450/2400–2250 cal BC, often coinciding with their dramatic closure, through blocking and burning events (Gibson 2016, 99).

5.2.3 *Cist-in-circle monuments*

In the Late Neolithic and Chalcolithic, a number of the passage tombs were incorporated into more extensive ritual and funerary complexes, that included cist-in-circle monuments such as at Le Mont de la Ville and Ville-ès-Nouaux (Figure 3). Cists-in-circles are an insular monument tradition, unique to the Channel Islands. They are generally dated to Late Neolithic or Chalcolithic, although some also show continuity of use or re-use in the Bronze Age. These are more common in Guernsey and Herm, and in the former region, several conjoined stone enclosures with internal cists comprised a cist-in-circle complex at L'islet. The outer enclosures were likely added later but tracing the development of the complex is hampered by the lack of dating evidence, bar possible Late Neolithic-Early Bronze Age pottery. In Jersey examples include the Ossuary (Hill 1924), La Hougue des Platons (Baal and Sinel 1915a), Ville-ès-Nouaux 2 (Kinnes and Hibbs 1988) and the Jersey Gasworks cist with associated avenue, it is unclear if this is a cist-in-circle (Wedgwood and Mourant 1954; Mourant 1985).

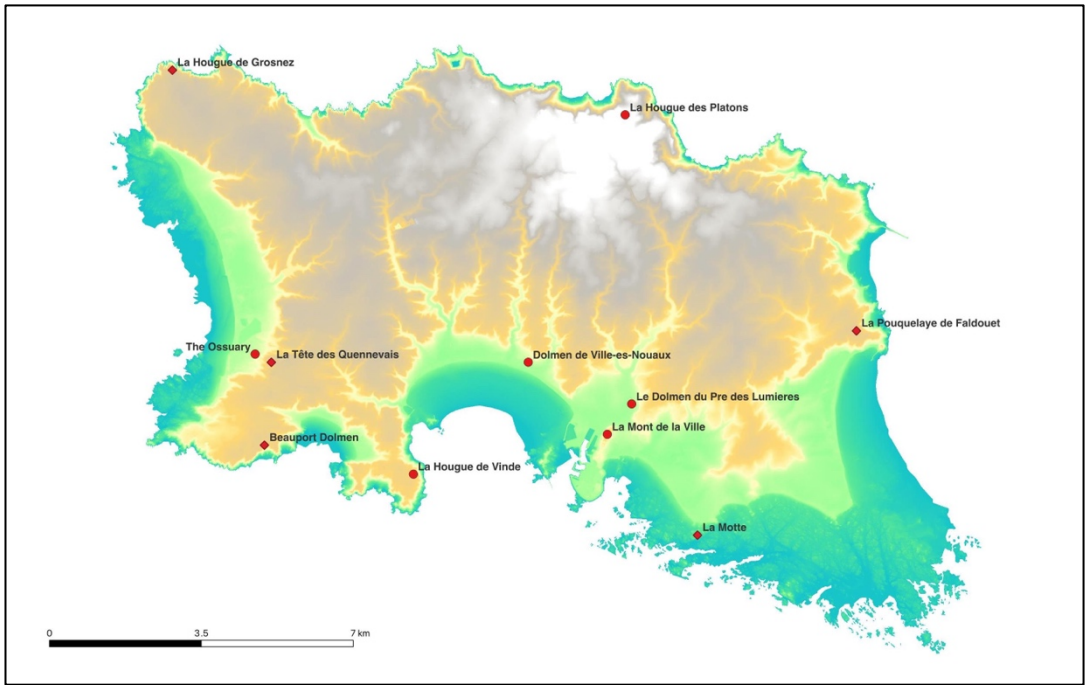


Figure 3: Cist-in-circles and cist sites

Mont de la Ville comprised a central stone chamber with surrounding stone edging (Rybot 1924; Kendrick 1928) and may represent a transitional monument form between passage graves and cist-in-circle types. It contained six cist-like compartments arranged like radial spokes around its inner circumference. The cists may be of Chalcolithic or Early Bronze Age date (Mourant 1963; Hibbs 1985, 49, 61) and inhumation burials were reported to have been recovered from some of them.

Cist-in-circles are small monuments, generally around 5m in diameter, although Les Platons, in Jersey and Martello Tower No. 7, in Guernsey are significantly larger than the others. Typically, they comprise a square or rectangular cist placed centrally within a circle of upright stones. They are considered open monuments contrasting with the preceding closed gallery graves and chambered cairns, although some of them were covered with mounds and sealed as part of their final closure events. Most cist-in-circles have been disturbed and because of their ruinous states they are poorly understood; some such as the structure at Ville-ès-Nouax was completely empty (Driscoll 2011, 80). The example from La Hougue de Vinde had been almost completely destroyed by grave robbers, although the chipped stone assemblage recovered suggested a Late Neolithic or Chalcolithic date (Hawkes 1939; Johnston 1981). Disarticulated human remains, possibly from around 20 individuals that had probably been excarnated, were recovered from the Ossuary, along with Jersey Bowls indicating a Chalcolithic or Early Bronze Age date. A section cut through the original land surface at this site demonstrated that the tomb was likely contemporaneous with the adjacent occupation site of Les Blanchés Banques (Finlaison 1980). At Les Platons cremation in a large barrel-shaped urn was accompanied by a smaller flowerpot vessel (Baal and Sinel 1915a; Patton 1987, 1995c).

No secure absolute dates exist to help refine the dating of cist-in-circles. It is likely that they span a lengthy time frame between the Late Neolithic to Early Bronze Age. This monument type may be paralleled with the simple later Neolithic dolmens of Brittany and Normandy (Bender 1986; Patton 1995c, 52). Similarities may also be drawn with the Early Bronze Age megalithic cist traditions known in western Iberia such as at Outeiro de Gregos I in northern Portugal (Jorge 1995). In addition, the form is conceptually analogous to enclosure barrows in Britain, and thus cist-in-circles may represent an insular twist on a widely adopted north-western European Early Bronze Age burial monument form.

5.2.4 Cists

A number of single cists have also been identified throughout Jersey, again often comprising elements of more extensive and long-lived monumental complexes, such as at Beauport Cromlech and La Pouquelaye de Faldouet (Cable 1877; Rybot 1932; Johnston 1972). On the basis of form and associated finds, these have generally been considered to date to the Chalcolithic and Early Bronze Age. Human remains were reported to have been recovered from both sites, along with pottery and stone axes from Faldouet. A cist burial under the floor of Les Écréhous priory contained a disarticulated female inhumation that may have been excarnated prior to burial (Tanguy 1989, 22). The burial lacked grave goods but was thought to be Bronze Age and worked flints were recovered in the immediate environs of the grave, and only 4m to the west of the grave was a fallen menhir. A sample of human bone returned a date of AD 1040–1170 (Har-9883: 920±60 BP), however, but the bone had been contaminated. Another sample on the skull, was submitted (Aubin 1991, 409), but the results of this determination remain unpublished. An inhumation of an adult male at Icho Islet may have originally been interred in a cist, and the disturbed remains were accompanied by Cordoned Urn pottery that likely suggests a Bronze Age chronology (Hawkes 1939, 182).

The Gasworks site, now known as Le Dolmen du Pre des Lumieres, comprised a cist that contained a few fragments of bone, decayed wood and a flint chip (Wedgwood and Mourant 1954, 151). A peat bed underlay the cist and a second peat deposit sealed it, providing excellent stratigraphic and environmental potential. The lower peat horizon contained a polished diorite axe, pottery fragments animal bone, hazelnuts, and decayed wood (Wedgwood and Mourant 1954, 156).

5.2.5 Cist cemeteries or *cimitières à coffres littorals*

Two coastal cist cemeteries of possible Early Bronze Age date have been identified in Jersey, both located on the south side of the island and potentially indicating Armorican influence. Antiquarian excavations at La Motte on Green Island found nearly 20 cists with some skeletal remains preserved (Nicolle and Sinel 1914). Although no grave goods were recovered from the cists, an adjacent large cairn contained Bronze Age pottery and middens in the vicinity produced pottery spanning the Neolithic to Iron Age (Johnston 1981, 75). While Patton (Patton 1995c, 99, 2002) dated the cists to the medieval period, Driscoll proposed that they could be Early Bronze Age (Driscoll 2010, 72) and in the style of Briard's *cimitières à coffres littorals*. It should be noted that the Breton cist cemeteries, however, date from the Chalcolithic to Early Iron Age as an unbroken funerary tradition (Briard 1984, 66-67).

The cremation cist cemetery of Ville-ès-Nouaux cut into sand layers which sealed the Late Neolithic-Beaker gallery grave and the adjacent cist-in-circle (Hawkes 1939, 260; Driscoll 2011, 80). The cemetery comprised inurned cremations although the pots containing the cremations ranged in date from Bronze Age through to the Gallo-Roman period. Some of the vessels were identified as Beakers, suggesting that this funerary complex potentially continued to be used burial for nearly three millennia.

5.2.6 Tumuli

Although a number of barrows or tumuli are known in Jersey, very few have been securely dated (Figure 4). This contrasts markedly with our understanding of Early Bronze Age funerary practices in southern Britain and north-western France which are epitomised by a proliferation of barrows, some containing 'high-status' burials accompanied by exotic grave goods (Briard 1984; Needham 2000). Driscoll has argued that the barrow building tradition in the Channel Islands did not emerge until after 1750/1700 BC, but this observation rests on rather scant typological evidence (Driscoll 2011). Very few have been investigated and little in the way of secure dating evidence has been recovered from them.

La Hougue Mauger may represent a transitional monument type between megalithic structures and round barrows (Baal and Sinel 1915b; Driscoll 2008, 2011), as it comprised a large stone-faced mound covering a central cist. A number of lugged flowerpot urns were placed in an arc round the edge of the mound and likely represent secondary cremations of Early Bronze Age date. Hawkes identified Les Hougues de Millais as a possible barrow, with a large central cist rather, and a strap-handled biconical/globular urn (or Vases à Anses) of Early-Middle Bronze Age date was recovered from the mound (Hawkes 1939). Les Cinq Pierres has been dated to the Neolithic (Patton 1987, 70), the Early Bronze Age (Hawkes 1939, 290; Driscoll 2011, 68-69) and even the Middle Bronze Age (Johnston 1981, 33). It comprised a cist which was later covered by an earthen mound, but quarrying activity damaged the stratigraphy and disturbed the associated material culture (Bellis and Cable 1875; Bull 1875).

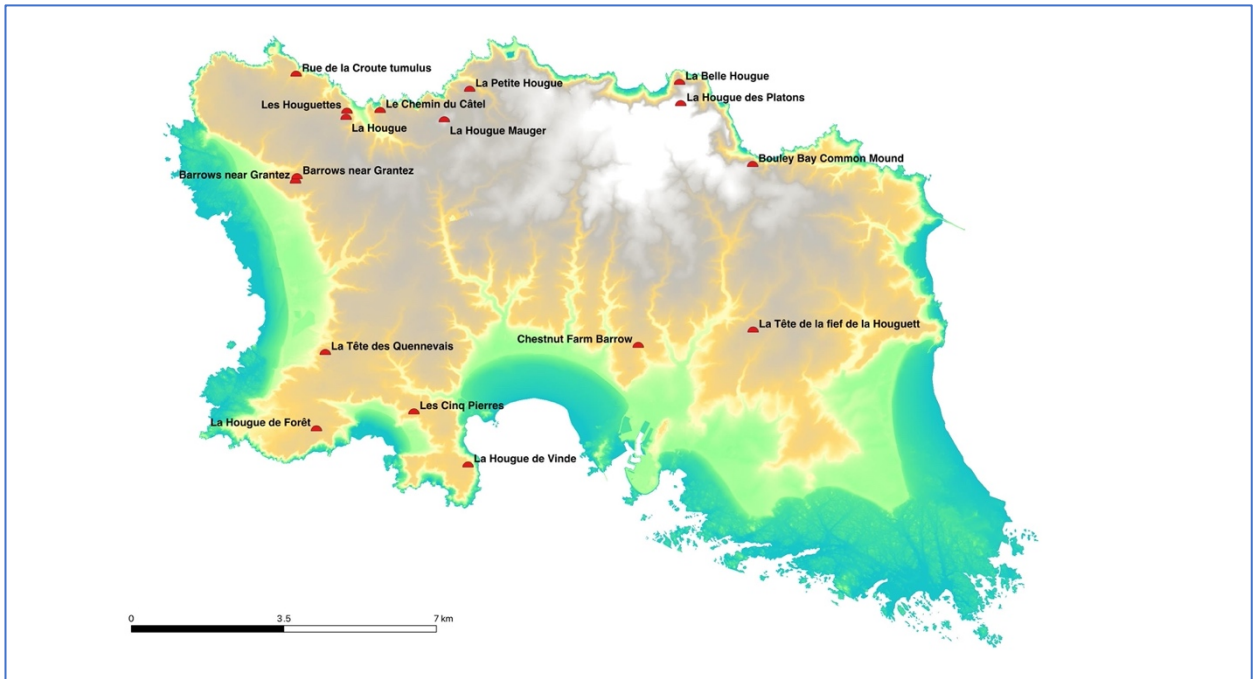


Figure 4: Principal tumuli of potential Bronze Age date

The mound of La Tête des Quennevais, St Brelade, covered two small empty stone cists and sealed an earlier occupation horizon containing pottery of Late Neolithic to Early Bronze Age date (including Jersey Bowls) in a matrix of burnt material (Patton 1991). Earlier Bronze Age pottery, including a strap-handled vase, was found between the mound and platform (Patton 1995c, 99). The excavation revealed four stratigraphic phases spanning the Chalcolithic and Early Bronze Age, sealed by a sand dune deposit. La Tête des Quennevais forms an element of a more extensive complex of Late Neolithic to Early Bronze Age date in the vicinity comprising three menhirs (Rybot 1934), the Ossuary (Hill 1924), and the settlement of Les Blanches Banques (Tanguy 1988, 446; Patton 1991, 453; Patton and Finlaison 2001). The Ossuary lay only 250m to the north-west of La Tête des Quennevais. This monument complex was fortuitously preserved by a sand dune, which encroached over the whole area of St Ouen's Bay towards the end of Early Bronze Age. The close association of domestic, ritual and funerary sites provides a rare opportunity to glimpse a more extensive well-preserved prehistoric landscape.

The tumulus of Les Platons was better preserved and contained a central cist containing two pots, the larger of which was almost full of cremated human remains (Baal and Sinel 1915a). An *in situ* pyre was found beneath the cist. The pottery was identified by Patton as Late Neolithic or Chalcolithic but the practice of cremation and the vessel styles have more affinities with an Early Bronze Age date (Patton 1987). Other barrows tentatively dated to the Bronze Age include the disturbed mounds of La Hougue de Vinde (Johnston 1981, 72) and La Hougue de Fôret (Hawkes 1939, 277). Driscoll's preliminary analysis of rectified aerial photographs from the area around the Grantez dolmen in St Ouen identified cropmarks indicative of ploughed out ring-ditches of barrows, which may be Bronze Age in date (Driscoll 2009). Several tumuli are identified as Areas of Archaeological Potential on the Jersey HER, but few of these have any secure evidence as barrows. 'Hougue' is a common

place-name in Jersey, derived from Haugr which is early Norse for 'a mound', and it is feasible that Bronze Age tumuli may once have existed in hougue-named places.

5.2.7 Menhirs and Standing Stones

Jersey boasts an impressive number of menhirs or standing stones. Most are considered to have been erected in the later Neolithic or Chalcolithic, and some were reused in Chalcolithic monuments. Only a handful of monuments have been investigated and include the excavation of a small pit situated close to the menhir of La Dame Blanche (Rybot 1934). This was full of limpet shells and may mark an offering associated with some event undertaken at this monument. A small excavation next to a large upright stone in a garden at La Poudretterie in Saint Martin found a concentration of flints including a rejuvenated core of Neolithic or Early Bronze Age date (Aubin 2003, 303). A cache of six Middle Bronze Age palstaves were found under a menhir near La Sergenté passage grave, likely using a pre-existing conspicuous monument in the landscape for a safe place that could be relocated. Some of these standing stones might have continued to exert an influence during the Bronze Age, highlighting specific locales connected to pathways of movement through the landscape.

5.2.8 Chalcolithic and Early Bronze Age settlement evidence (Figure 5)

Although Chalcolithic and Early Bronze Age 'occupation' sites are attested to across the Channel Islands, they mainly relate to generalised spreads of material that lack structural evidence. Midden deposits have been identified at Icho Islet, La Motte and La Pulente in Jersey (Hawkes 1939) and at L'Erée (Garrow and Sturt 2017, chapter 2) and Rousse Tower (Clifton Antiquarian Club 2015) in Guernsey. More concrete settlement features such as roundhouses are rare, although postholes, hearths and pits were recovered adjacent to the earlier tomb at Les Fouaillages in Guernsey, perhaps suggesting timber buildings (Sebire 2005, 91). Substantial Chalcolithic and Bronze Age midden layers and 'occupation' deposits were identified at Le Pinnacle, Jersey in association with hearths (Godfray and Burdo 1950) and at Jerbourg, Guernsey (Burns 1988). Most of the evidence relating to the Chalcolithic and Early Bronze Age occupation is thus of a relatively ephemeral nature, and tends to be confined to postholes, pits, hearths, middens or spreads of material.

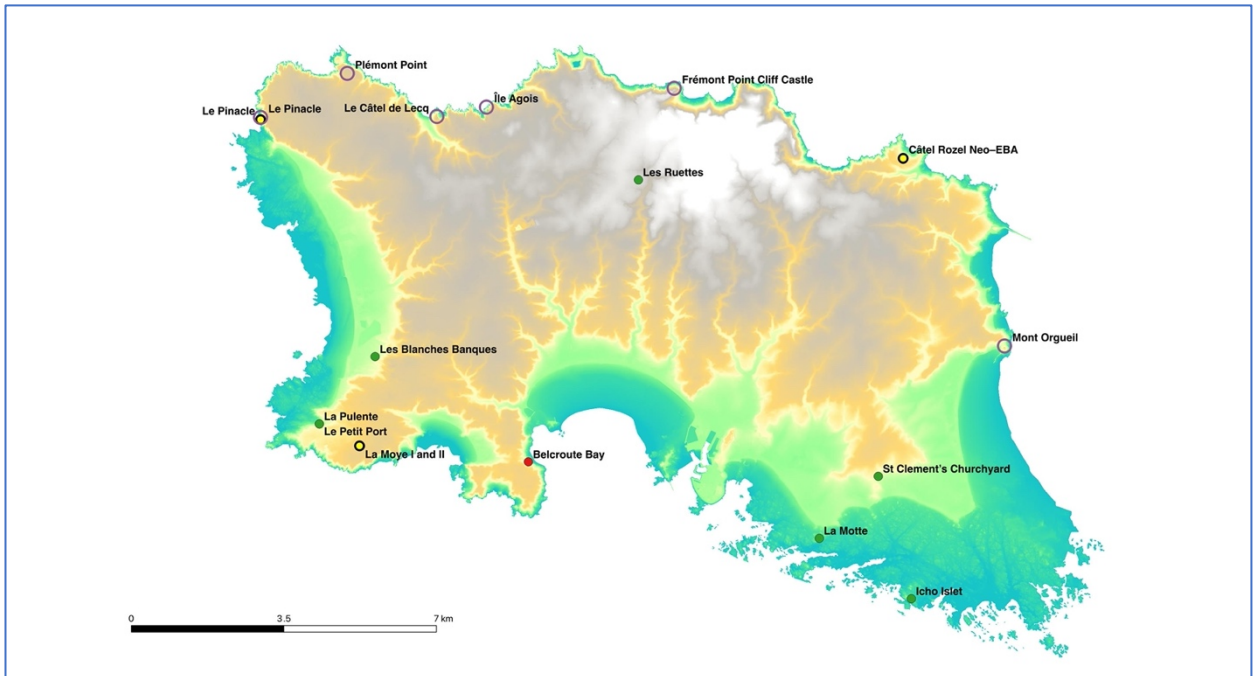


Figure 5: Sites of possible Bronze Age date indicative of settlement or domestic activity

5.2.9 Enclosure sites

Some of the ‘occupation sites’ sites may have been enclosed as ditches and stone and earth rubble rampart circuits have been identified at Le Pinacle and La Moye I in Jersey (Patton 1995c) and Jerbourg in Guernsey (Burns 1988). Le Pinacle, situated on a prominent outcrop on Jersey’s north-west coast, is a long-lived multi-period site attesting to intermittent activity from the Early Neolithic until the medieval period. Its location provided commanding views over the surrounding landscape and sea, along with natural defence. The diorite outcrop was quarried in the Early Neolithic for stone axe production, prior to the creation of a series of earthworks in the Chalcolithic and Bronze Age, associated with extensive midden deposits and a number of hearths. The site was initially investigated in 1916, further excavated in the 1930s (Godfray and Burdo 1950), and the stratigraphy was reassessed by Patton (Patton 1995c; Patton *et al.* 2001). Patton determined that a substantial laminated dark midden horizon initially ascribed to the Neolithic, was more likely laid down in the Chalcolithic as it contained Beakers pots and Jersey Bowls (Patton *et al.* 2001). Carbonised grains from a windblown sand deposit from this layer were dated to 1730–1128 cal BC (Carruthers 2001, 47). Further radiocarbon dates from Le Pinacle were commissioned on short-life organic remains from deposits thought to relate to Neolithic features as part of the Stepping Stones project (Garrow and Sturt 2017, 110, appendix i). These dates were calibrated to the later Bronze Age and highlight the challenges faced with interpreting the site’s stratigraphy, and the presence of intrusive material in potentially mixed midden deposits.

Finds recovered from Le Pinacle included quantities of Chalcolithic and Early Bronze Age pottery including barbed and tanged arrowheads, decorated Beaker sherds, strap-handled, lugged and square-rimmed vessels (Godfray and Burdo 1949, 86; Sebire 2005, 95-6), along with metal objects including a copper axe (Godfray and Burdo 1949, 33) and two Middle Bronze Age basal-looped spearheads (Rowlands 1976, 59). One of the spearheads was

found in the outer earthwork bank (Hawkes 1939, 105; Bender 1986, 243), perhaps as an intentional deposit. Godfray and Burdo interpreted Le Pinnacle as a defensive site and a place of refuge with storage facilities for times of emergency (Godfray and Burdo 1949 35, 1950, 204). In a reassessment of the site, Patton suggested that Le Pinnacle may have fulfilled a ceremonial function, as the nature of some of the material culture within these layers was not entirely typical of domestic habitation (Patton 1987). The presence of more unusual or exotic items including ornaments and metal weapons might be suggestive of activities of a ritual character, associated with feasting events. The platform may have acted as the focus of ceremonial activities, dramatically framed by the surrounding cliffs acting as a natural amphitheatre.

In south-west Jersey, small-scale excavation at the rocky headland of La Moye I revealed two truncated and fragmentary enclosures, lying c. 6m apart and built directly against the edge of the outcrop (Patton 1984, 1988a, 550) (Figure 6). The north-western enclosure lacked internal features and was interpreted as a livestock corral; while the south-eastern enclosure contained three small circular stone-built structures and two associated pits (Patton 1988a, 533). These were too small for habitation but may have served as workshops. The floor surfaces of the structures were covered with Early Bronze Age pottery, including burnished barrel-shaped urns (Patton 1988a, 553-5). It was considered that the inhabitants of this site practiced a mixed subsistence economy with querns suggesting grain-processing and the livestock enclosure and an associated possible dung pile relating to animal husbandry. The occupation horizons associated with these enclosures were sealed by a layer of windblown sand, and this was interpreted as a significant storm event resulting in a rapid abandonment of the site (Patton 1984, 532-3).

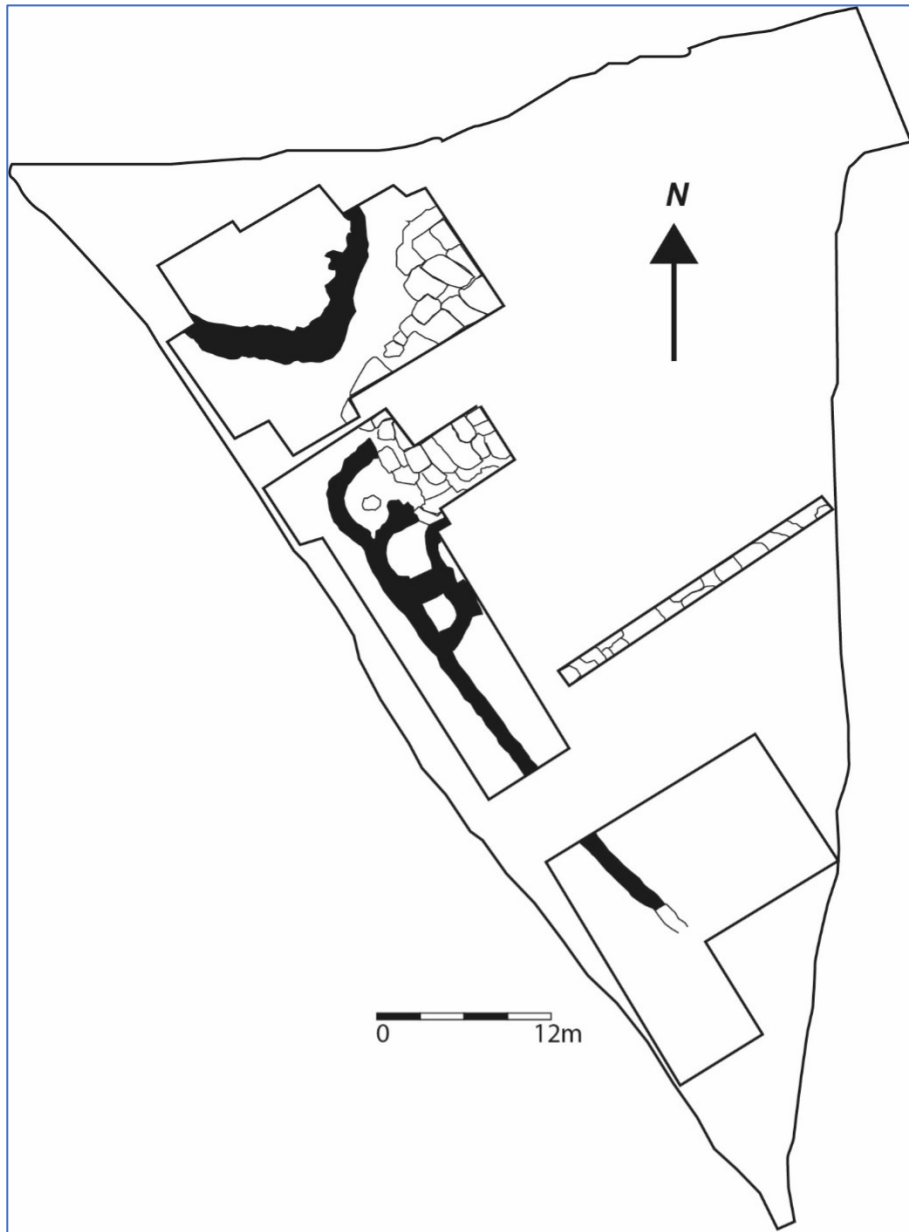


Figure 6: Plan of enclosures at La Moye (adapted from Patton 1988)

5.2.10 Ephemeral settlements, midden sites and occupation scatters

At Les Blanchés Banques, domestic occupation of Chalcolithic and Early Bronze Age date was represented by stakeholes and hearths, associated with Jersey Bowls and other potsherds, stone tools and animal bones (Finlaison 1980, 373; Patton and Finlaison 2001, 188). On the basis of the pottery assemblage, this site is thought to be slightly earlier in date than La Moye I (Patton 1988a, 555). Although soil dune encroachment beginning in the middle of the third millennium BC resulted in the loss of fertile stretches of land in this zone, occupation continued between the Early and Late Bronze Ages but probably only on an intermittent or seasonal basis. The focus of inhabitation shifted over time with later Bronze Age pottery spreads situated to the north of the Chalcolithic material. Both pottery and tool

manufacture was identified at this site, including pottery squeezes and clay lumps with finger impressions, suggesting the presence of workshops.

Middens may have been generated from localised domestic or ritual activity in the vicinity, as suggested at Le Pinacle, but other middens lack associated structural elements such as at La Pulente and Petit Port in south-west Jersey. Ribbon-handled urns and barrel-shaped pots with cordons from the former site indicate an Early–Middle Bronze Age date, although this material was retrieved from fieldwalking and the site has not been excavated (Hawkes 1939, 112-116; Driscoll 2011, 28). A stratified midden at Maîtresse Île on Les Minquiers was dated to the Early-Middle Bronze Age on the basis of lugged bucket and barrel-shaped jars (Godfray 1929; Clarke 2009, 103-109). Large quantities of seal bones within the midden deposits indicated that the island was likely exploited for the purpose of hunting these animals.

More ephemeral habitation evidence also comes in the form of occupation spreads and finds scatters and both Patton's (1995, appendix i) analysis of ten large flint scatters and Jersey's HER have dated these to between the Neolithic and Early Bronze Age. These include working hollows and flint knapping zones containing large quantities of debitage, focussed mainly along the north-west and western coasts (Figure 5). General finds scatters have been identified at Les Landes, Plémont, Câtel de Lecq, Île Agios, and Les Marionneux along the north-west coast, while those associated with occupation horizons are known at Le Pinacle, St Ouen's Bay and Les Blanches Banques on the western coast. Fewer sites have been identified along the eastern half of the island, although the scatters of La Fosse Binet and Le Clos à Genets are known in the parish of St Martin (Mourant 1966, 107).

The concentration of settlement sites focused along the coast is likely a result of differential survival rather than reflecting the original distribution pattern. Patton posited a dichotomy between settlements favouring a coastal location while monuments were focussed further inland (Patton 1997b). This distinction between domestic and funerary/ ritual space is more likely to be artificial than real. Although some sites situated close to earlier coast lines will have been drowned by sea level rises, more sites in the interior of the island have undoubtedly suffered from truncation by later agricultural activity or have been ploughed out completely. Others may have been completely covered by colluvial deposits especially those located towards valley bottoms. Recent excavations and auguring have located some deeply buried and well-preserved habitation sites sealed under substantial colluvial deposits (Driscoll and Martin 2010; Martin and Driscoll 2010).

5.3 Later Bronze Age (c. 1600–750 BC)

5.3.1 Later (Middle and Late) Bronze Age burial evidence

There is also relatively little burial evidence of Middle and Late Bronze Age date in Jersey. By the Middle Bronze Age in adjacent mainland regions, cremation is the predominant funerary rite, comprising both urned and unurned burials which were often placed in cemeteries of various sizes in close association with Early Bronze Age barrows. There is nothing comparable known in Jersey and evidence for possible burial is reduced to small quantities of Middle and Late Bronze Age pottery recovered from megalithic monuments,

such as La Hougue de Géonnais and Les Hougues des Platons (Driscoll 2010), perhaps indicating that they were occasionally reactivated during this time. A small Late Bronze Age urned cremation cemetery was encountered in the sand overlying the megalithic structures at Ville-ès-Nouaux (Sebire 2005, 95), possibly indicating some influence from Continental Urnfield cemeteries. The vessels are described only as 'cinerary urns' and it is uncertain whether they draw on inspiration from the Continent.

5.3.2 Later (Middle and Late) Bronze Age settlement evidence

Evidence for habitation sites in the later Bronze Age is also scant, although that available suggests that settlement form and location continued relatively unchanged throughout the Bronze and Iron Ages. This stands in marked contrast to mainland regions of southern England and north-west France, where domestic occupation becomes highly visible from the Middle Bronze Age onwards through the widespread construction of field systems associated with enclosed and open roundhouse settlements.

There is little evidence to suggest that comparable settlement traditions can at present be identified in Jersey. Instead, earlier settlement locations appear to show continuity in use. At Le Pinnacle, the existing ramparts were augmented through the creation of a second bank. Radiocarbon dates on material thought to be associated with the Neolithic phase of occupation were all calibrated between 1430 and 1300 BC, indicating activity during the later Bronze Age may have been more intensive than originally thought (Garrow & Sturt 2017, 110, appendix i). Later Bronze Age pottery, including strap-handled vessels with flattened rims and finger-impressed cordons, and an associated socketed spearhead (Patton *et al.* 2001) also indicates that occupation may have continued into the later second millennium BC, prior to sand dune inundation that covered the midden horizons.

La Moye II was identified by an extensive spread of material, including a concentration of finger-impressed and carinated pottery in the field immediately to the south of the earlier Bronze Age site of La Moye I. Although the site had been disturbed the pottery was identified as Late Bronze Age (Patton 1987, 387–393), suggesting further occupation in the same location in the landscape after a temporal gap. A midden and possible hearth were revealed during the construction of the WWI Prisoner of War Camp near Blanchés Banques. The midden contained quantities of Middle-Late Bronze Age pottery, animal bone and shellfish remains (Sinclair 1916). Surrounding the site, aerial photographs identified a possible enclosure with an associated field system and together this evidence may indicate a later Bronze Age roundhouse settlement, although the cropmarks remain undated.

A series of excavations from the 1920s to 1970s on Île Agois, beyond the north coast of Jersey, revealed evidence of prehistoric and early medieval occupation. Over 20 'pit dwellings' or hut circles were associated with a diverse range of material culture, primarily of early medieval date (Cocq and Birch 1955; Cocq 1957; Holdsworth 1986, 154). Quantities of finger-impressed pottery and flintwork, however, suggested that some of the structures may have originated in the Late Bronze Age or Iron Age (Finlaison and Holdsworth 1979; Holdsworth 1986). The pottery was associated with a hearth and stake-holes, and a Late Bronze Age socketed axe was found in the foundation deposits of Hut 1 (Finlaison & Holdsworth 1979, 342).

5.3.3 Middle and Late Bronze Age Field systems

There is little direct evidence for Bronze Age field systems, droveways and associated land divisions in the Channel Islands, unlike the later Bronze Age of adjacent mainland areas of southern Britain and north-western France where there is a wealth of evidence for managed landscapes and extensive co-axial field systems. Barry Cunliffe's recent excavations at Tanquerel Fields, in Sark are important as they uncovered two phases of later Bronze Age activity (dating between 1350 and 900 BC) comprising an array of ditches and gullies, associated with clusters of postholes and hearths. These are indicative of field systems and possible enclosures associated with domestic occupation. Large quantities of material culture, particularly pottery including barrel-shaped and round-bodied jars with finger impressed decoration, were retrieved (Cunliffe and Durham 2019).

Clearance cairns may provide indirect evidence for land management and construction of field systems. At Les Carnichers, St Peters Port, in Guernsey, clearance cairns are evident (Sebire 2005, 59), associated with plough marks alongside the cairn, although they remain undated. Robert Waterhouse employed a series of non-invasive and invasive techniques to, including map regression analysis, fieldwalking, geophysical survey and targeted small-scale excavation, in an effort to detect field systems. In a recent unpublished paper, he depicted co-axial field systems covering almost the entire island, with a particularly dense concentration in central Jersey. Waterhouse predicted that prehistoric alignments could underlie relict field system boundaries, but such assumptions can only be proven by further investigation.

The principal ditches of the field systems Waterhouse identified mainly followed NNE–SSW alignments, with further sub-divisions oriented on WNW–ESE axes. In the eastern part of the island, more diversity in the shape, size and alignment of field system boundaries was identified. While contiguous blocks of fields were noted in the western and central zones, in the east there were more disjointed and fragmented, perhaps reflecting variations in topography. Waterhouse undertook targeted excavation of field systems throughout the island and demonstrated that several were of Bronze Age date, although the dating was mainly based on OSL determinations which provide wide ranges spanning several hundred years (Waterhouse unpublished PowerPoint and Table 2). In the western half of the island excavations were carried out at Le Câtelet in St John, St Mary, the Hospice Store and West Lynn in St Ouen, and St Peter (Marks & Spencer), and in the eastern half of the island at Trinity Church, La Ferrière, Samartes, Monte Ubé, St Clements and Green Island.

Site	Context	Date BC	Date type
Green Island	NW-SE aligned field lower ditch fill	2070±190	OSL
Green Island	NW-SE aligned field upper ditch fill	1710±190	OSL
Green Island	Sealing deposit over NW-SE aligned field ditch	1590±230	OSL
La Ferrière, St Saviour	Circular timber building within field system	2540± 230	OSL
La Ferrière, St Saviour	Field ditch fill	1680±210	OSL

Table 2: OSL dates associated with field systems

At Mont Ubé, a field system containing Bronze Age pottery and flints overlay a hearth of possible Neolithic date. Bronze Age pottery, flint and cattle teeth were also recovered from the parallel ditches exposed on the beach at Le Hurel Slip, in Grouville (Clarke 2015, 377). The ditches from the Green Island ditches were dated by OSL to the Early Bronze Age, with the final sealing occurring during the Middle Bronze Age. The co-axial field system complex at La Ferrière, St Saviour, situated close to La Hougue Bie chambered tomb, was also dated using OSL. Here a timber building enclosed by field ditches was dated to the Late Neolithic-Early Bronze Age while the field system was dated to the Early-Middle Bronze Age (Table 2). Most of these field system ditches had been recut several times. Although this could imply that they had been maintained over a relatively long period of time, it is more likely that the ditches were cleaned out regularly as they were prone to frequent silting from sand dune erosion.

Elements of a possible Bronze Age field system were noted on the slopes below the promontory fort of Frémont (noted by John Stratford; see Schedule of Sites of Archaeological significance). Investigations at La Rocque in south-east Jersey, identified Bronze Age land surfaces associated with a field system. The presence of Bronze Age pottery and lithics indicates agricultural and possibly associated occupation activity (Driscoll & Martin 2010).

Indirect evidence for managed landscapes may come from pollen cores in Jersey which suggests an intensification of deforestation during the second millennium BC, perhaps to open the landscape up in advance of field system creation. The pollen sequence shows a dramatic reduction in woodland between 1940-1635 BC at the Milano, St Ouen, between 2200-1775 BC at Les Ruettes, St John, and between 1630-1130 BC at L'Ouaisné Slipway (Jones et al. 1990, 83).

5.3.4 Late Bronze Age – Early Iron Age fortified sites

Five of the ten promontory forts known in the Channel Islands are in Jersey, along with a possible interior fortified site (Les Câtieaux, Jersey). Four further promontory forts are known in Guernsey, and three of them are located along its southern coast (La Corbière, Point de la Moye and Jerbourg). In Alderney a possible promontory fort along its southern coast is known at Essex Hill (Johnston 1981, 133). Few of these fortified or hilltop sites have been systematically excavated, although they tend to be assumed to be Iron Age in date (Cotton 1958). In other parts of north-west Europe, however, many hillforts and hilltop enclosures originated in the Late Bronze Age, although their construction intensified in the Early Iron Age. The Channel Island examples are not hillforts in the traditional sense, but it is feasible some of these promontory sites may also have had Late Bronze Age beginnings. For instance, the initial occupation of the promontory fort of Jerbourg in Guernsey was in the Early Bronze Age (although this was unenclosed) with the construction of a substantial earthwork in the Late Bronze Age, radiocarbon dated to c. 1200 BC (Burns 1988; Burns *et al.* 1996, 117; Sebire 2005, 99). With the exceptions of Jerbourg and Vale Castle, which may be Iron Age, the other possible prehistoric forts in Guernsey, including Point de la Moye and Corbière, have not been systematically excavated and remain undated.

In Jersey, from west to east across the island promontory forts include Plémont, Câtél de Lecq, Câtél de Frémont, Câtél de Rozel and Mont Orgueil. (Figure 5). Les Câtieux is the only example situated in the interior between Frémont and Câtél de Rozel. Mont Orgueil is situated along the eastern coast, while the others are located along the northern coastline. The dearth of forts on the southern coast of Jersey may in part be due to the low-lying topography and lack of rugged cliffs. Yet the southern coast of Jersey was also more dangerous to navigate and since these forts also undoubtedly served as lookouts and prominent markers for navigation, there may have been no requirement for them on this side of the island. Hilltop sites were not simply defensive in nature but fulfilled other functions such as providing focal points for inter-group meetings, regional exchange, control and redistribution of produce and metalwork.

The promontory forts in Jersey are evenly distributed across the landscape, averaging 5.2km apart as the crow flies. Preliminary Central Place Analysis by Driscoll (2011, 57–59) demonstrated that they may have been equidistantly spaced to define territorial zones and demarcate boundaries and routeways through the landscape. Their coastal locations also indicate Jersey having been linked to wider maritime interaction networks, with a focus along its northern coastline. Most of these promontory forts of Jersey have been studied in relative isolation, without a consideration of other sites and areas of prehistoric activity in their surrounding landscapes. They may also have articulated more widely in maritime networks of interaction with the forts located along the southern and eastern coasts of Guernsey, including La Corbière, Point de la Moye, Jerbourg and Vale Castle.

Only three of these five potential promontory forts have been partially investigated. Small-scale investigations at Frémont Point Cliffe did not recover any datable finds (Willy 1964), but it was assigned to the Iron Age on the basis of similarities with better-dated cliff fortifications in Brittany and Cornwall (Cotton 1958, 171–173). Limited excavations at Mont Orgueil, beneath Gorey Castle identified a Late Iron Age bank and ditch, and an Early Iron Age pottery assemblage was also recovered (Barton 1984; Cunliffe 1984, 236). Câtél de Rozel has been subject to the most extensive excavation and at 26ha is also the largest promontory fort on the island. The site occupies a defensive position overlooking Rozel Bay and it commands one of the main landing bays along the northern coast of Jersey. Although it was also dated to the Early Iron Age (Cotton 1958, 174–180), Late Bronze Age pottery, comprising thick-walled barrel-shaped vessels with flat-topped rims and some carinated burnished vessels, was recovered from both the rampart make-up and from the interior of this site (Mathews 1986, 188-190; Driscoll 2004). Metal detecting finds from the site included a socketed spearhead and a possible sword blade objects of likely Late Bronze Age date (Mathews 1986, 192).

In addition to the dearth of fortified sites along the southern coast, there is also a general absence of potential settlement sites in the interior heartlands of Jersey although evidence for these may remain hidden under colluvial and sand dune deposits. As Driscoll noted (2011, 61), place-name evidence may hint at the former presence of defended sites, such as Le Câtillon and Les Câtieux which are both derived from castle' or 'defended site.'

5.4 Bronze Age Material Culture

5.4.1 *Ceramic assemblages and typo-chronologies (Figures 7 & 8)*

With the exception of Driscoll's doctoral research (2011), the Bronze and Iron Age pottery sequences of the Channel Islands have not been subject to detailed analysis. In particular, Jersey has suffered from a lack of academic work, perhaps due to the assumption that there are relatively few assemblages with good stratigraphic resolution. Driscoll undertook preliminary analysis on a large body of pottery within museum collections and highlighted its potential to aid future typo-chronological synthesis and interpretation. This complements work by Bukach (2005) and Patton (1995) on the Neolithic and Chalcolithic ceramic assemblages respectively. Despite this, there are still many gaps and uncertainties in the typological framework and contradictions in the dates ascribed to various pottery styles.

5.4.2 *Chalcolithic and Early Bronze Age pottery assemblages*

Relatively few Beakers are known in Jersey, and they are not adopted anywhere on the scale as in adjacent mainland regions. Perhaps this is partly because indigenous styles of pottery known as 'Jersey Bowls' persisted and were not replaced by Beakers. At a number of sites both Beakers and Jersey Bowls (e.g. Le Pinnacle, Ville-es-Nouaux) have been found in direct contextual association (Hawkes 1939; Patton 1995c, 161).

In the Channel Islands Beakers have been recovered from domestic, funerary and midden sites, but few are from secure contexts. While Beaker pots are often highly decorated, at least a third of those from the Channel Islands were plain (Salanova 2000, 67) and motifs were generally reduced to simple bands or incised horizontal lines. Simple squatter forms tend to be restricted to funerary domains, while Maritime (carinated) vessels come from other contexts, perhaps indicating some deliberate distinction in pottery styles and depositional context during this time (Salanova 2000, 164). The squatter forms likely originated from the Lower Rhine and their presence in the Channel Islands may indicate influence from this region.

Jersey bowls can be distinguished from Beakers as they often have carinated forms and may have developed out of the early Maritime styles (Bukach 2006, 161), although tall straight-necked types are also known (Godfray and Burdo 1950, 178). They are poorly dated but thought to emerge in the later third millennium BC although Driscoll (2011, 140) assigns them a mid-third millennium BC date. Decoration on these vessels is restricted to the upper part of the vessel or the zone above the carination (Salanova 2000, 67). Like Beakers they are found in a range of contexts in Jersey, including domestic sites (La Motte, Petit Port and Mont Orgueil), ritual contexts (Le Pinnacle), passage graves (Mont Ubé, Hougue des Geonnais and Ville-es-Nouaux) and cists (The Ossuary and La Tête des Quennavais).

It is generally considered that both Beakers and Jersey Bowls had long chronological spans, continuing in use from the early third millennium BC into the second millennium BC (Driscoll 2011, 137–139; Kinnes & Hibbs 1988). Only one site in the Channel Islands—the megalithic monument of Les Fouaillages in Guernsey—has radiocarbon dates associated with Beakers and Jersey Bowls. These dates roughly span the period 2880-2290 BC (BM-1895R, BM-

1891R and BM-1897R) and stratigraphically can only provide a *terminus ante-quem* for the Chalcolithic activity. Unlike adjacent mainland regions, it is thought that there is no clear-cut distinction in pottery styles between the Chalcolithic and Early Bronze Age in the Channel Islands. The transition to the Early Bronze Age in Brittany and Normandy is marked the emergence of distinctive pottery types from c. 2300 BC onwards (Needham 2000; Marcigny *et al.* 2005; Marcigny *et al.* 2007). In the British Isles, Beaker pottery traditions tend to give way to distinct Early Bronze Age types such as Food Vessels with minimal temporal overlap.

Chalcolithic and Bronze Age pottery



Ville-ès-Nouaux, Jersey Bowl



La Hougue Mauger, flowerpot urn Early Bronze Age



Ville-ès-Nouaux, Bell Beaker



Les Platons flowerpot vessel



La Hougue de Millais, biconical urn Early Bronze Age



La Blanche Pierre pot,
Late Bronze Age

All images courtesy of P. Chowne

Figure 7: Images of Chalcolithic and Bronze Age pottery assemblages

The so-called flowerpot vessels may relate to a distinct Early Bronze Age pottery style and they have been recovered from sites of this date including La Hougue Mauger and Les Platons (see Figures 7 & 8). Flowerpot vessels have not been found in direct association with either Beakers or biconical urns, implying perhaps that these traditions do not overlap. These have been paralleled with north-western French pottery traditions (Patton 1995c), particularly Normandy such as Île Tatihou, but follow local insular styles.

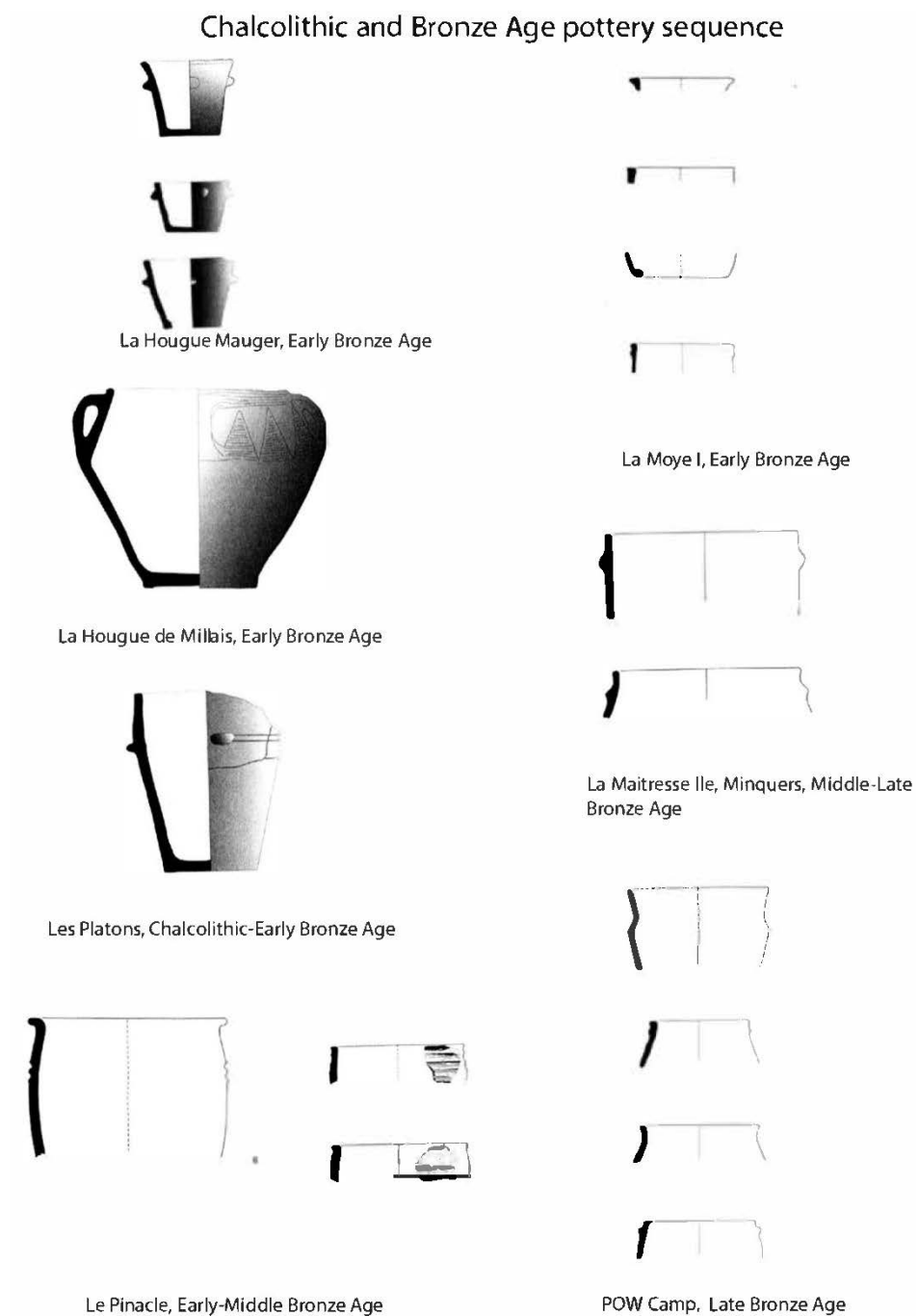


Figure 8: Bronze Age pottery styles from various sites (drawings from Driscoll 2011)

5.4.3 Middle and Late Bronze Age ceramic traditions

The pottery sequence of the Channel Islands suggests that from c. 1650 BC they become more closely aligned with Armorica and this carries on into the later Bronze Age. The emergence of Biconical Urns with ribbon handles are thought to mark the transition between the Early and Middle Bronze Age and are considered an exogenous development as they lack an indigenous precursor. Driscoll (2011) argues that these may have been introduced from Armorica, associated with the Vases à Anses tradition, such as the vessels from La Hougue de Millais (Needham pers. comm.). Some examples may also indicate influences from Cornwall (Needham 2000, 167) as they show close affinities with Trevisker ribbon-handled biconical urns, such as the vessels from Les Houguettes (Parker Pearson 1990). Again, no obvious differentiation between the types of pottery used in domestic or funerary contexts can be discerned (Driscoll 2011, 181).

Biconical urns have come from Le Pinnacle, La Pulente, Les Hougue des Millais, Ville-ès-Nouaux, Monte Ubé and Petit Port from contexts tentatively dated to the Early-Middle Bronze Age. The recent discovery of metal objects in a finger-impressed vessel at Overdale indicates that Cordoned Urns also formed an element of the Middle Bronze Age ceramic repertoire. The only secure radiocarbon date for biconical urns is from Le Pinnacle and this is unhelpful as it has a large standard deviation (1730–1130 BC; OxA-2519).

Simpler, straight-sided vessels emerge around 1200–1000 BC, along with round-bodied jars. Diagnostic Late Bronze Age and Early Iron Age ceramic styles include high-shouldered bipartite jars and tripartite vessels and have been recovered from the Ville-ès-Nouaux, Île Agois and the Late Bronze Age POW camp in Jersey. The small number of assemblages known can be paralleled with Late Bronze Age British and French forms, particularly Hallstatt-style situla vessels from Brittany and southern Armorica (Cunliffe 1986; Briard 1989), and other sites on the Channel Islands such as Les Huguettes in Alderney, suggesting shared traditions of pottery manufacture.

At least two Late Bronze Age hoards were contained within urns, allowing us to date these forms more precisely. La Blanche Pierre hoard was found within a straight-sided lugged urn with a piecrust rim, and although plough-damaged, the vessel associated with the Trinity hoard was a shouldered jar. While La Blanche Pierre hoard dates to c. 1200-1000 BC (Finlaison 1981), the axes from the Trinity hoard suggest a date towards the very end of the Bronze Age or beginning of the Early Iron Age, in keeping with this classic shouldered form.

5.4.4 Hoards and Metalwork of the Bronze Age

For a relatively small island, a large number of metal hoards are known from Jersey; more than from rest of the Channel Islands combined. The hoards are significant both in terms of the number and the nature of objects they contain. No metal sources are known in Jersey, and although Sark and Herm have copper bearing ores, there is no indication that these were exploited in prehistory (Sebire 2005, 90). There is evidence for resmelting of metal however, such as metal slag, smelt and casting sprues recovered from some of the hoards (e.g. Cadoret and Mainlands hoard) and a small crucible with copper residues was found at Clos du Pont in Guensey (Sebire 2005, 90). Analysis by Peter Northover on the Blanche

Pierre bronzes from Jersey, determined that they had similar chemical signatures to hoards in the Paris Basin (Northover 1987). Bronze Age metalwork was likely transmitted to Jersey through maritime interaction with north-west France and southern Britain, although some of the imported material was later recycled into new objects for further exchange.

5.4.5 Early Bronze Age metalwork and hoards

Metalwork of Chalcolithic and Early Bronze Age date in north-west Europe is generally recovered as single isolated finds (principally axes and halberds) or as grave goods from burials, although several hoards of this period are known (over 100 in Britain alone). The metalwork evidence from Jersey broadly echoes this pattern although none have yet been found in the funerary sphere. Only two halberds are known from the Channel Islands. Both were found as a pair in 1853 in Alderney during construction of a fort at Corblets, one of which was later taken to Argyll and mistakenly thought to have come from Portalloch (O'Connor *et al.* 2009). These may have exchanged through a sphere of Atlantic interaction linking western Iberia, north-west France, Britain and Ireland. Single flat axes were recovered from the sites of Le Pinnacle and La Moye respectively, and a flanged axe was found recently in Jersey through illegal metal detecting (Driscoll 2011, 95). The flat axe from Le Pinnacle came from a stratified context on the south slope of the site and its close association with a Grand Pressigny flint axe and barbed arrowheads implies it may have been a deliberate deposit at this ritual complex.

The flat axe from La Moye and the flanged axe lacked secure contexts, but they were both probably single finds and the latter piece dates to c. 1800–1700 BC. Another unprovenanced recent metal detector find of a copper ingot was initially identified as a razor (Peter Chowne pers. comm) can only be ascribed a generic Bronze Age date. While the Cadoret hoard was deposited in the Late Bronze Age, intriguingly an Early Bronze Age flanged axe formed part of the assemblage. Its relatively fresh appearance implies it may have been rediscovered in the Late Bronze Age, although it may have been a curated item.

5.4.6 Middle Bronze Age metalwork and hoards

Few finds of Middle Bronze Age date are known in Jersey, compared with adjacent mainland parts of north-west France and southern Britain. A Middle Bronze Age basal-looped spearhead was recovered from construction deposits in the rampart of Le Pinnacle, and was most likely intentionally deposited (Bender 1986, 243).

A small hoard of Middle Bronze Age Tréboul type palstaves found beneath a standing stone at La Sergenté, St Brelade, represents the earliest known hoard in Jersey. This was found by accident in the middle of the 19th century, and it is possible that a spearhead originally formed part of this deposit. The Tréboul hoard, Finistère, has been radiocarbon dated to 1745–1495 cal BC (Needham *et al.* 1997, 86), and it is likely that the La Sergenté hoard is also of this date. A Tréboul type flanged axe was recently found on the beach below the cliff at La Sergenté and thus was also dated to the Tréboul phase of the Middle Bronze Age; it is thought to be of Atlantic/Northern French origin. A very recent discovery of a finger-impressed Cordoned Urn containing two fragmentary bronze objects, probably a tongue-shaped chape and casting waste, is also of Middle Bronze Age date, BFI in NW French

chronology (<https://www.bailiwickexpress.com/jsy/news/dig-long-lost-dolmen-recommended-hospital-work-begins/#.YaCxmDP1PZ>). The contents of the vessel have not yet been analysed in detail, but it was found in close association with a ring-ditch and further excavation at this site may provide more evidence for Bronze Age activities at this site, perhaps associated with funerary or domestic structures.

Other metalwork discoveries of Middle Bronze Age date include a gold torc found in 1899 during building operations in Lewis Street, St Helier (Renouf 1974; Northover 1989). Known as the St Helier torc, it is a flange-twisted type with elongated hooked terminals and was made from a single gold ingot. It is one of only a small number of 'massive' torcs, all of which have weights that are close to 750g (Taylor 1980; Eogan 1994) and can be paralleled closely with the Taunton/ Penard gold torcs of Tara I hoard Co Meath and Ysceifiog Clwyd which are of similarly massive sizes (Northover *ibid.*, 112–137). Two other similar examples include a torc from Corrad, Co. Fermanagh and one from the Crow Down hoard in Berkshire. The composition of the St Helier torc is typical of British and French flange-twisted torcs with tapering terminals (Northover *ibid.*, 114), and may indicate influence and interaction between the Channel Islands and Ireland, north-west France or Wales.

An increase in maritime traffic across the Channel during the Middle Bronze Age is indicated by metalwork deposits from shipwreck sites such as at Langdon Bay and Moor Sand (Muckelroy 1980; Needham *et al.* 2013) and the Dover Boat (Clark 2004). Parallels with the St Helier torc may also be found in the two complete rolled-up ribbon torcs and an eight-stranded braided gold torc which were found as part of a large shipwrecked cargo off the coast of Salcombe in Devon (Needham *et al.* 2013.). Briard concluded that the general dearth of Middle Bronze Age metalwork not only from Jersey but all the Channel Islands, indicated that during this period the islands lacked external contact, particularly with north-west France. (Briard 1986) This should be questioned however, however, as the similarities in Middle Bronze Age pottery styles between Jersey and Brittany, along with the St Helier torc, would confirm that limited supra-regional interaction may have been undertaken during this time. The hoards of La Sergenté and Overdale may relate to low level recycling and exchange of metal objects. Metalwork was undoubtedly entering the islands from probably around 1650 BC, although perhaps not on an intensive or prolific scale. It is feasible that majority of Middle Bronze Age metal objects in Jersey were recycled and subsequently exported to other regions, thus leaving no trace in the archaeological record.

5.4.7 Late Bronze Age metalwork and hoards

More metalwork of Late Bronze Age date has been recovered from the Channel Islands than during the Early and Middle Bronze Ages. Several of the Late Bronze Age hoards from Jersey have been found in recent decades, and have been excavated under archaeological supervision, providing important contextual detail (Figures 9 & 10). One of the earliest relates to the large hoard of Clos de la Blanche Pierre in St Lawrence (Finlaison 1981; Northover 1987, 363). A total of 115 metal objects had been placed in an upright large Late Bronze Age straight-sided pot, and most were ascribed to the Wilburton/Saint-Brieux-des-Iffs tradition (Coombs 1988, 129-142). The hoard comprised weapons, tools, ornaments and metalworking debris and included deliberately chopped up axes, spearheads and swords.

More unusual pieces consisted of a fragmentary decorated pin and bracelet, a broken anvil, and horse trappings, such as chapes. This hoard was recorded under archaeological supervision and detailed contextual information was preserved. Smaller objects including the casting debris and raw waste material lay in the bottom of the vessel and the two complete items (an axe and a spearhead) lay in the upper half of the pot. Although the swords were all fragmentary, several conjoining fragments were identified and seven leaf-shaped swords may be represented. Organic deposits were also recorded in the pot, and the objects had originally been wrapped in a bag or cloth within the urn. It was found in an inland location but less than 200m from a major watercourse, and a menhir is also recorded in the vicinity (Northover 1987, 364).

There are no known metal sources known in Jersey and the analysis of the metal objects confirms that the bronze used to make these items was imported. Some of the objects had likely been made with recycled bronze from earlier periods and the anvil had a high tin-bronze content alloyed with an unusual impurity pattern (Northover *ibid.*, 368). The chemical signature from other objects indicates that new metal sources may have been exploited in the Late Bronze Age. In addition, the presence of winged chapes, Wilburton swords and a phalera of Wessex type attest to a diverse range of interaction networks at this time, including with north-west France. Spearheads and winged axes are generally rare in Late Bronze Age Breton and north-western French hoards, however, and may suggest connections with further-flung regions such as the Paris Basin and southern Britain (Coombs 1988; Northover 1987).

A Late Bronze Age hoard from St Mary's, known as the Cadoret hoard, was found in 1995 and to date is the largest collection of Bronze Age artefacts ever found in the island, comprising 232 objects (Driscoll 2003). Most of the objects were of Carp's Tongue tradition, and had seemingly been deliberately chopped into small pieces, exhibiting a diverse range both in terms of object type and origin. Many of the tools and weapons may have come from central-western France, while some of the bracelet fragments were of central European (Urnfield) form, and unusually there was also a fragment of a rotary spit, and a Vénat cylindrical sword pommel (Burgess and O'Connor 2004, 197; Driscoll 2010). These attest to an eclectic range of connections although there was a lack of Breton types. This hoard was found less than 1km from the Early Iron Age settlement of Île Agois which may have had its beginnings in the Late Bronze Age.

An older discovery of over 70 objects, known as the Mainlands hoard, was found in a coastal location in St Lawrence. It comprised a variety of weapons, tools and casting waste, and included socketed and winged axes, swords, knives, razors, spearheads, chisels, casting waste and ingot fragments, although it lacked ornaments (Driscoll 2011, 119; Hawkes 1937). Most of the objects were fragmentary although some of the axes and spearheads were complete. While the majority of objects are typical of the Carps Tongue phase of the Late Bronze Age, the Armorican socketed axes suggest that the hoard was finally deposited in the Earliest Iron Age (Driscoll *ibid.*). Some of the axes had come from south-west Britain and Armorica, and again suggest extensive interaction between Jersey, north-east Brittany and Cornwall during the Late Bronze Age.



St Mary's hoard

Trinity Hoard



St Ouen's hoard

All images courtesy of P. Chowne

Figure 9: Selection of objects from Late Bronze Age hoards

Another large hoard of predominantly Carp's Tongue tradition (1000–800 BC) was discovered by metal detectorists in 2001 in a field by the Ville de l'Eglise road on the southern side of St Ouen (Driscoll 2011, 112–113). This contained 200 objects, predominantly fragmentary weapons, mixed in with casting waste. More unusual or 'high status' components comprised horse riding equipment, miniature shields, clasps and

obscure or miscellaneous objects. A single fragment of a cast bronze vessel provides a feasting element to this deposit. Some of the types indicate far-flung connections such as the presence of Plaisneau, Stogursey and socketed axes from the Somme, south Wales and south-east England respectively. It testifies to a range of both exogenous and local traditions and may again represent the accumulation of metalwork from different sources through complex mechanisms of exchange. The hoard was removed without archaeological supervision and contextual detail was thus compromised. Subsequent excavation was undertaken in the vicinity of the hoard but no trace of any original negative feature, such as a pit, was found (Aubin 2003, 304).

The remnants of a possible disturbed hoard may have been deposited at La Moye, but this contained only two objects of Carp's Tongue tradition (a perforated razor and a hog-backed knife). They were found close to a spring (Hawkes 1937, 107) and it may be of note that both the Blanche Pierre and Mainlands hoards were also found near watercourses.

A hoard of 25 Late Bronze Age socketed axes was recently found in a pot in Rue du Presbytère, Trinity (*BBC News*. 10 October 2012.). The Trinity hoard axes had all been carefully arranged, and tightly fitted within the vessel with their blades facing downwards (Figure 9). The pit containing the pot cut into a finds-rich midden deposit and may have been associated with contemporaneous domestic activity in the immediate vicinity. Burnt material including charcoal, daub and heat reddened stones were also discovered. XRF analysis demonstrated that the axes had a very high lead content and were therefore much more likely to have been ingots than functional axes. The Town Mill hoard also comprised only axes was discovered in 1836 on Trinity Hill. The 88 socketed axes were mainly miniature versions of an Armorican type (Hawkes 1937, 108). Both the Trinity and Town Mill axe hoards probably date to the Earliest Iron Age rather than the Late Bronze Age, and indicate changes in the nature of hoarding, recycling and exchange practices at this time.

The unpublished Radier Hoard in Grouville was found by metal detectorists in 2013 who recovered seven socketed axe heads and other fragments. Information about an intervention by mechanical excavator has recently come to light. A sketch plan records the presence of a ditch and postholes/pits one of which contained sherds LBA/EIA at its base.

5.4.8 Summary of the metalwork hoards

Throughout the Bronze Age, the composition of the Jersey hoards fits into the broader pattern known for North-West Europe metalwork deposition practices. Most contained large numbers of predominantly fragmentary items, comprising tools, weapons, ornaments, metalworking debris and more unusual or 'exotic' items. In the past these mixed deposits were interpreted as foundry or smith's hoards; accumulations of broken objects that were destined for recycling. The Blanche Pierre hoard has Armorican connections, the Mainlands hoard has a Breton character, while the Cadoret hoard has affiliations with west-central France (Driscoll 2011, 121–122).

The cross-channel movement of metal in the Late Bronze Age indicates exchange and potential cultural affiliations between Britain and France with the Channel Islands. Jersey

possesses an excellent maritime location to act as a 'stepping stone' or staging post across the Channel, and this may explain why many of the hoards contained accumulations of metal from diverse origins, perhaps acquired over time through long-distance interaction.

There is an absence of Bronze Age hoards in Guernsey, but a single large hoard from Longy Common in Alderney comprised over 200 objects predominantly of Carps Tongue tradition, including swords, bracelets and spearheads, the latter of British origin (O'Connor 1980). Overall, however for the Late Bronze Age, at least as far as metal exchange or at least deposition was concerned, the evidence suggests that Jersey was more intensively plugged into supra-regional interaction networks than the other Channel Islands. The articulated spit from the Cadoret hoard may have come from northern Portugal or north-western France, and Driscoll (2011, 207) suggested that buckles from the St Ouen's hoard potentially had a Scandinavian origin. Some of the objects in these Late Bronze Age hoards had travelled considerable distances to Jersey, although probably through indirect, rather than direct exchange.

The large size of some of the hoards is likely a reflection of the practice of stockpiling metal over lengthy time-frames. The presence of the Early Bronze Age axe in the Cadoret hoard and the Armorican Middle Bronze Age palstave in the Longy Common hoard could indicate that some objects were kept in circulation for lengthy time frames. In addition, the Armorican axes in the Longy Common hoard indicates that it was deposited in the Early Iron Age (Briard 1986, 42), again implying that the objects were accumulated or retained over several hundred years.

The Town Mill and Trinity hoards are of a different nature and rather than comprising mixed and fragmented deposits destined for recycling, these hoards contained only complete axes that had been freshly recycled into standardised forms. As both dated to the very end of the Bronze Age or Earliest Iron Age, this may indicate that more formalised metal exchange networks were emerging during this time, using axe-ingots as a primitive form of currency. A large number of axe hoards of this date have also been found in Armorica (e.g. Canihuel, Toulénroch, and Briec) (Briard 1965, 304ff), some of them contained within ceramic vessels, implying intensive exchange of axes as ingots at the transition to the Iron Age.

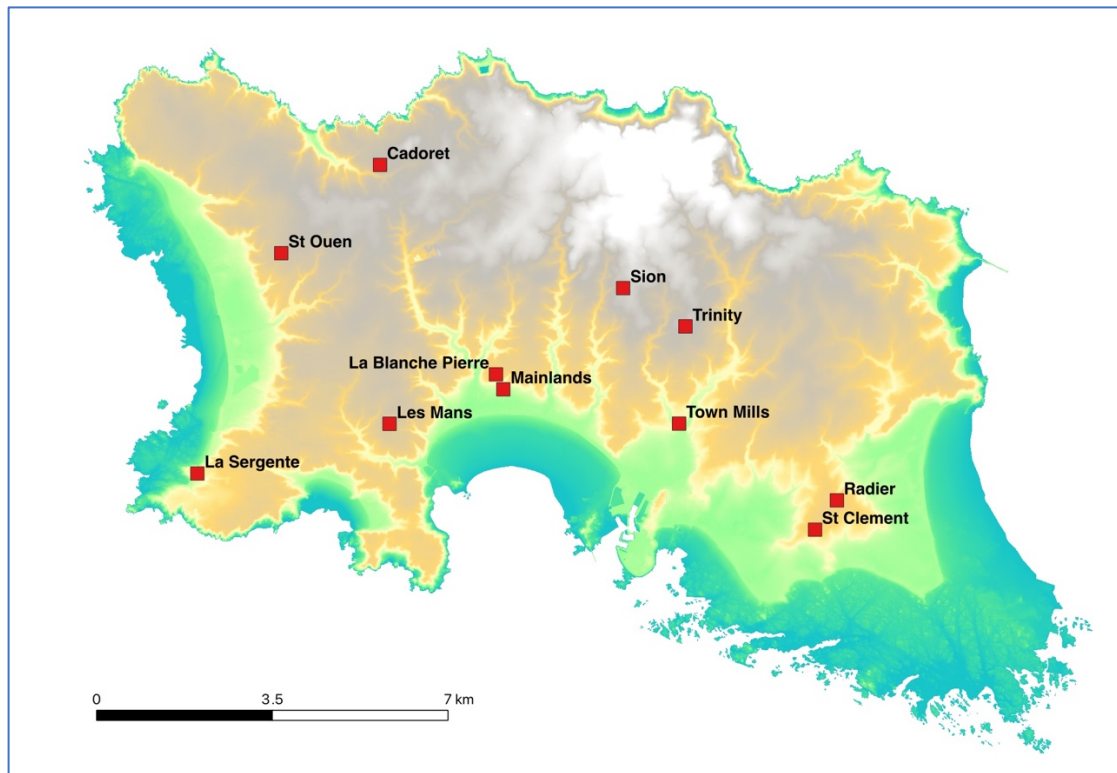


Figure 10: Principal Late Bronze Age hoards in Jersey

5.5 Research Agenda and Research Strategy

5.5.1 Introduction

The Bronze Age of Jersey is rich and varied, but as the summary of the archaeological resource demonstrates, it still floats on an ambiguous chronological framework. The introduction of novel ideologies, technologies, and traditions such as Beakers, bronze metallurgy and the transition from inhumation to cremation burial practices are currently uncertainly dated. The Research Agenda should aim to provide a more secure temporal sequence for the Bronze Age as a research priority, including absolute dates from hoard deposits, following the seminal work of (Needham *et al.* 1997) in establishing an independent chronology for British Bronze Age metalwork. It is only once this has been undertaken that it will be possible to place Jersey within a broader understanding of Bronze Age dynamics and permit an investigation of the nature and levels of interaction between the Jersey and the other Channel Islands, the Continent and the British Isles.

Current evidence sets do not support the suggestion that the Channel Islands were intensively plugged into supra-regional networks of interaction in the earlier part of the Bronze Age. The limited evidence for Bell Beaker related material culture and the total dearth of exotic Early Bronze Age grave goods made (Briard 1965) from bronze, amber, gold and faience, suggest that the widespread connectivity evident in other parts of Europe and the cross-Channel exchange between Armorica and Britain made little impression or only fleetingly touched the Channel Islands. The favourable geographical positions of the Channel Islands as stepping-stones for long-distance maritime voyages does not appear to

have been exploited between 2450 and 1600 BC. Perhaps this indicates that sea journeys across the Channel were oriented to avoid these islands, or that for whatever reasons, the Channel Island communities did not feel the need to participate in or adopt novel technologies, ideologies or aspects of material culture to any significant degree, but possible reasons for this remain unclear. It is not until the Late Bronze Age that there is clear evidence that Jersey became enmeshed in supra-regional metalwork exchange as part of Atlantic Bronze Age spheres of interaction. Detailed research by (Briard 1965; Burgess 1968; O'Connor 1980; Driscoll 2008, 2011) have demonstrated the intensity of cross-Channel exchange and the role that the Channel Islands played as an inter-regional maritime archipelago.

All aspects of the evidence for the Bronze Age in the Channel Islands are to some extent partial and there are many lacunae that require to be filled. Burial practices and funerary ideologies remain rather elusive, and the lack of grave good assemblages have hindered the creation of a robust typo-chronological framework, particularly for the Early Bronze Age. Much of funerary evidence has come from secondary re-use of megalithic monuments, such as Les Hougues de Millais and Le Monte Ubé. In addition, settlements are also rare, and most known examples have only been subject to small-scale excavations, with limited comprehension of their overall character. Our understanding of domestic activity has been supplemented by occupation spreads such as the 'middens' at Petit Port and La Pulente, or from generic finds scatters discovered during fieldwalking. For the Late Bronze Age, an overwhelming reliance has been placed on metalwork hoards, many of which have been found in contextual isolation (Kendrick 1928; Hawkes 1939; Coombs 1981; Northover 1987; Coombs 1988).

Broader questions that the Research Agenda should address include tracing continuities and discontinuities throughout the Bronze Age. At present, it is difficult to discern differences in burial and settlement practices between the Chalcolithic and the Early Bronze Age, unlike in most other parts of north-west Europe during this period.

RQ1: Revising and refining the chronological framework: Scientific Dating

At present the Bronze Age typo-chronological framework for Jersey relies upon schemes created for other regions, particularly north-west France. The creation of a stand-alone chronological scheme must rank as a high priority element of the Research Agenda (see Driscoll 2011, 13, Figure 1). The detailed chronological sequences that exist for north-west France (Marcigny and Ghesquière 2003; Mordant 2013) and southern Britain (Needham *et al.* 1997; Roberts *et al.* 2013) should be drawn on to help refine overall phasing for Jersey and help identify similarities and differences between Jersey, the other Channel Islands and adjacent mainland areas.

A robust chronological framework can only be established if detailed typological analyses of artefacts including pottery, lithics and bronze objects are combined with absolute dates from associated secure contexts. The dearth of absolute dates from Bronze Age sites in the Channel Islands requires urgent addressing. AMS dates should be commissioned as part of future dating programmes, derived from both archived material and future excavations. Sites

that demonstrate re-use or continuity over long periods of time should be assessed carefully during sample selection to ensure material is taken from secure contexts. Multi-period 'occupation' sites or monument complexes with stratified deposits such as Le Pinacle, La Tête de Quennavais, the Ossuary or Ville-ès-Nouaux may be of value for Bayesian modelling to refine overall phasing and create a more robust temporal framework.

Correlating absolute dates from paleoenvironmental sequences with those from associated archaeological sites will help identify whether soil erosion and sea-level rises directly impacted upon changing occupation patterns. For example, the Le Dolmen du Pre des Lumieres possible cist-in-circle was constructed on top of a peat deposit and sealed by a further peat horizon, and decayed wood was preserved within the cist chamber. Dating the organic deposits from these deposits and other sites, combined with pollen analysis should help to reconstruct past landscape vegetation and will help chart environmental changes more accurately.

Suitable organic material found in association with pottery assemblages and metal objects from hoards (such as wood in sockets of axes or organic wrappings), should also be radiocarbon dated, as current dating relies solely on typological analysis. Residues adhering to a vessel from Beauport dolmen would provide a direct date for the pottery if this organic material still exists (Cable 1877, appendix i). Organic deposits were identified in the pot from Clos de la Blanche Pierre and the recent discoveries of the Overdale and Trinity hoards were excavated under controlled archaeological conditions, thus promoting preservation of potential organic remains.

In addition, further radiocarbon determinations will refine the dating of the Neolithic megalithic monuments that were subject to later activity in the Bronze Age. Tombs with long and complex chronologies such as La Hougue Bie and Monte Ubé should be reassessed to ascertain the nature and date of revisitation in the Bronze Age. The formal blocking of megalithic tombs in the Channel Islands remains poorly dated, but in north-west Europe closure of long barrows and chambered tombs generally occurred around the mid-third millennium BC, associated with the introduction of Beaker cultural and burial practices. A single radiocarbon date for the blocking of La Hougue Bie indicates that the tomb was closed at some point between 2900 and 2250 BC (Patton 1995b) but identifying whether Channel Island chambered tombs and gallery graves were also formally decommissioned during a specific time-frame requires further determinations. If closure events occurred during the mid-third millennium BC, this may indicate that the impact of the Beaker cultural complex was more pervasive than the current funerary evidence suggests.

All human bone samples recovered from megalithic monuments should be dated where possible to identify the various episodes of funerary activity. These would include human bone fragments from the passage graves of La Sergenté, La Pouquelaye de Faldouet, and Les Monts Grantez, and the gallery grave of Beauport. A skeleton was associated with the blocking deposits of the Grantez dolmen (Nicolle *et al.* 1913) and a secondary inhumation burial associated with a flowerpot vessel was recovered from La Hougue de Geonnais (Rault and Forrest 1992, 709).

Suitable human bone from other funerary contexts considered to be Bronze Age should also be dated, including the Ossuary cist-in-circle, the cist burials from La Mont de la Ville and the large multi-period cist cemetery of La Motte. Identifying the transition from inhumation to cremation practices in Brittany is hampered by the acidic nature of the soils, but in Britain cremation became the dominant funerary rite after 2000 BC. It is considered that inhumation practices may have given way to those of cremation relatively late on in the Bronze Age in Jersey, perhaps reflecting adherence to indigenous funerary traditions for longer (Driscoll 2011, 13, 65). No radiocarbon dates have yet been generated on cremated human bone in the Channel Islands and this needs to be addressed. At La Hougue Mauger a number of cremations were contained within flowerpot vessels, presumed to be Early Bronze Age (Baal and Sinel 1915b); dating these remains would also help firm up the currency of this pottery style (Kinnes and Hibbs 1988, 36; Patton 1995c, 159-160). At Les Platons, burnt human remains were contained within a large barrel-shaped pot, and inurned cremations were also identified from the cist cemetery at Ville-ès-Nouaux. These cremations were provisionally dated to Middle and Late Bronze Ages respectively on the basis of the pottery styles. There is a reference to a cremation from Les Hougue de Millais, where an Early Bronze Age four-handled jar was found in a 'thick bed of ashes' but this is from an antiquarian excavation.

Bronze Age tumuli in the Channel Islands are not well-dated although Driscoll (2011, 219) argues the tradition began around 1700 BC. As this is over 600 years later than their emergence in adjacent mainland areas, it seems unlikely. To refine their dating, radiocarbon determinations on the organic deposits from a burning horizon in the mound at La Tête des Quennevais and from the *in situ* pyre deposits sealed under the tumulus of Les Platons would be useful.

RQ1 Activities:

- a) *Build new theoretical models to critically examine the evidence and reassess whether change or continuity is the prevailing trend in the Channel Islands' Bronze Age.*
- b) *Commission a body of radiocarbon dates from organic remains (especially bone and short-life plant remains) from secure contexts from excavated sites to refine chronological phasing;*
- c) *Establish robust sampling strategies in research and commercial excavations to ensure generation of charred plant remains and other short-life organic material.*

RQ2: Bronze Age pottery sequences

Driscoll outlined in his thesis (2011) that substantial revision of the Channel Islands' pottery sequences are long overdue, particularly relating to the Chalcolithic and Early Bronze Age.

Across much of Europe the Chalcolithic is marked by the appearance of Beaker forms of pottery and associated material culture. In the Channel Islands relatively few Beakers are known, and they tend to be found in direct association with indigenous forms of pottery known as Jersey Bowls. No supporting radiocarbon dates are currently available to date the

inception or duration of Beaker forms of pottery in Jersey, but unlike other parts of north-west Europe (perhaps with the exception of Ireland) they do not appear to have been adopted wholesale as part of the Beaker 'package' but rather were incorporated into existing cultural practices.

Little in the way of petrological work has been undertaken on pottery assemblages, particularly in Jersey while clay sourcing and thin-section analysis on pottery in Guernsey identified that some of the prehistoric pottery was exchanged from the other Channel Islands (Bukach 2002). Clay sourcing in Jersey should be undertaken sampling colluvial valleys and marshy zones in particular to help identify local signatures (Jones et al. 1990, 79). Thin-section analysis may help clarify whether there is evidence of Beaker or Bronze Age imported wares, and determine potential flows of influences from other neighbouring mainland regions.

There is still uncertainty regarding the extents of overlap between Beakers, Jersey Bowls and flowerpot vessels in particular. Driscoll's preliminary analysis on pottery assemblages housed within museum collections in Jersey highlighted its potential to aid future synthesis and interpretation. Drawing on both archived material and assemblages from more recent excavations, reassessment of pottery typologies should begin at the site level, bolstered by radiocarbon dates where possible.

For Jersey Bowls, site archives to revisit could include Monte Ubé, Hougue de Geonnais, Ville-ès-Nouaux, the Ossuary, La Tête de Quennavais in Jersey and Les Fouillages and Martello Tower in Guernsey for funerary sites. A comparison with Jersey Bowls from domestic contexts would include re-examination of assemblages from La Motte, Les Blanches Banques, Le Petit Port, Le Pinnacle and Mont Orgueil in Jersey and Jerbourg, Hougue Câtelain and the Royal Hotel in Guernsey.

Efforts to date the flowerpot style of pot more securely should be undertaken, as these vessels have been dated to the Chalcolithic (Patton 1987), Early Bronze Age (Marcigny *et al.* 2005, 67) and Middle Bronze Age (Hawkes 1939, 120) respectively.

From the Middle Bronze Age onwards, it is generally accepted that ceramic repertoires in Jersey indicate greater influence from north-west France. A reassessment of the pottery traditions will help ascertain the extent to which exogenous factors governed the emergence of new styles and provide a richer understanding of networks of interaction during the Bronze Age beyond that known from the metalwork. The recent work on Armorican Vases à Anses pottery assemblages on the Contentin Peninsula (Cassen *et al.* 2000) and southern Britain (e.g. Tomalin 1988) will aid in tightening up the later Bronze Age pottery sequence. Sites with Vases à Anses vessels include La Varde passage grave in Guernsey (*ibid.*). Trevisker and Deverel-Rimbury styles of pottery have been found in north-west France, and vessels from the WWI POW Camp indicate some affiliation with the post-Deverel Rimbury tradition (Stuart Needham pers. comm.). Further evidence for influences from southern Britain and north-west France should be investigated.

RQ2 Activities:

- a) *Clarify the Bronze Age pottery sequences and re-examine archived material from earlier excavations;*
- b) *Revise typologies and refine chronologies in light of newly generated absolute dating programmes;*
- c) *Undertake clay sourcing and petrological analysis of pottery assemblages.*

RQ3: Bronze metalwork

The distribution of Late Bronze Age metal hoards in the Channel Islands is uneven and while many have been recovered from Jersey, only one is known from Alderney and no examples have been identified from Guernsey to date. The composition, condition and chronology of the objects in most of the hoards suggests that they were formed by fragmented objects that were accumulated over lengthy time frames. In the past these would have been interpreted as foundry or smithing hoards, with objects destined for recycling. Further research should include a detailed understanding of their depositional context.

Many of the Jersey hoards attest to a stockpiling of metal derived from far-flung places. In the Late Bronze Age Jersey may have acted as a hub for metalwork destined for recycling with large numbers of broken objects exported to the island from southern England and the Continent, particularly France. The nature of the potentially instrumental role that Jersey played in the Late Bronze Age Atlantic metal exchange networks should be revisited.

Some of the objects from the hoards were seemingly deliberately chopped up. Evidence for fragmentation should be analysed in more detail, including possible joins between objects from different hoards of similar dates. Most of the objects from the St Ouen and Blanche Pierre hoards were fresh, despite being broken. In contrast, the majority of objects in the Mainlands hoard were worn. Driscoll suggested that this may indicate oscillations in metalwork supply networks, and worn objects suggest they were held on to for longer, perhaps due to a scarcity in bronze towards the end of the Bronze Age (Driscoll 2011, 129). This hypothesis could be tested further through assessing whether similar use-wear patterns can be identified in contemporaneous hoards from adjacent regions in north-west France and southern Britain.

Few of the hoards have been subject to detailed metallurgical analysis and future research would benefit from undertaking lead-isotope and elemental analysis on all metal objects from deposits that have not yet been analysed. The results from the lead isotope analysis undertaken by Peter Northover on the Blanche Pierre (1987) and Mainlands hoards (u.p. but see Driscoll 2011, appendix 4) highlighted the diverse origins for the metal objects. Future scientific analysis will identify specific chemical signatures of the metalwork that may aid in a more detailed reconstruction of the various potentially complex exchange mechanisms that lay behind the accumulation of these objects.

RQ3 Activities:

- a) *Undertake elemental and lead-isotope analysis of all metalwork;*
- b) *Undertake use-wear analysis of hoards;*
- c) *Reassess whether any patterns can be discerned in the fragmentation processes of the hoards.*

RQ4: Bronze Age food economies

Economic practices for the Bronze Age in Jersey are still imperfectly understood, and acidic soils across much of the island have not always promoted the survival of bone. It is considered that ovicaprids rather than cattle became the predominant species during the Bronze Age as sheep and goat are more adaptable and have a greater grazing capacity in marginal zones (Scott 2001). A reassessment of well-preserved faunal assemblages from stratified midden sites (including from new excavations) should be undertaken to permit quantified analyses of the various species represented in different layers, and suitable bones should be selected for AMS dating. This will provide more robust data sets that can be used to assess if changes from cattle to ovicaprids occurred relatively rapidly and whether they were directly linked to environmental changes.

There is a chronic lack of charred seed assemblages to inform on crop husbandry and cereal-based agriculture. Evidence has mainly come from pollen cores which indicate a low number of cultivars, but these are poorly dated. The dearth of palaeo-botanical evidence is partly due to a reliance on old excavations where soils were rarely environmentally sampled. All future excavations should undertake systematic soil sampling programmes to provide much-needed data concerning the nature of the plant-based economies practiced during the Bronze Age. Charred plant remains survive in acidic soils and provide an excellent resource for the generation of short-life AMS dates.

The limited evidence suggests that the Bronze Age inhabitants of Jersey continued to rely on wild resources to supplement the diet, including shellfish, and birds such as goose and cormorant (Hawkes 1937, 138). In addition, seals were also likely exploited for their fatty meat, as indicated by the faunal record from the Early-Middle Bronze Age horizons at Maitresse Île on the Minquiers. The later Bronze Age midden from the WWI POW camp near Blanches Banques contained a variety of shellfish (Sinclair 1916), and large quantities of shells were found in a pit adjacent to the menhir of Dame Blanche.

In other parts of north-west Europe, a relatively rapid switch from marine to terrestrial resources has been identified at the onset of the Neolithic, and stable isotope data of human bone supports a large-scale dietary shift towards domesticated animals (Richards 2003; Richards *et al.* 2003). A research objective would be to determine the extent to which resources from the sea were relied upon during the Bronze Age. This could be significant as it may suggest economic practices differed substantially from adjacent parts mainland

Europe where from the Early Neolithic onwards until the end of the Iron Age, marine resources were not utilised and were seemingly avoided.

RQ4 Activities:

- a) *Systematic soil sampling methodologies in all future excavations to recover palaeobotanical data for quantified analysis;*
- b) *Stable isotope measurements for any suitable human skeletal remains.*

RQ5: Refining the burial sequence and clarifying monument types

Our understanding of Bronze Age funerary traditions in Jersey has been impeded by poor survival of human bone, and further compounded by the fact that many of the burial monuments have suffered from disturbance by unrecorded antiquarian investigations, quarrying or ploughing. Current evidence suggests unlike many other parts of Europe, the transition to the Chalcolithic was not obviously marked by the introduction of novel funerary ideologies, such as the emergence of single burial accompanied by individual grave goods. The presence of Beaker and Early Bronze Age material, particularly pottery, in megalithic tombs such as passage graves, may imply that Neolithic practices of collective burial continued as an unbroken tradition into the Bronze Age. In north-west France and western Iberia megalithic monuments were also employed for individual burials of Beaker date, but after a temporal break. A similar set of practices occurred in the Jersey tombs, but direct evidence for this is lacking. It is also feasible, however, that both individual and collective burial was practiced simultaneously as an unbroken tradition and continued into the Early Bronze Age. While the cist-in-circle monuments are generally thought to be associated with single burials, the remains of many disarticulated individuals were recovered from the Ossuary, suggesting that practices of excarnation and collective burial may have carried on into the Bronze Age.

Despite the poor survival of human bone, there is some evidence for the disposal of the dead for all periods of the Bronze Age. Central Europe has a continuous sequence of burial throughout the Bronze Age, while southern Britain and northern France only have burial evidence in the Early and Middle Bronze Ages. Bronze Age burial traditions in the Channel Islands may have been more closely aligned with those on the Continent, but with their own distinctive indigenous twists. Further investigation of Further burials particularly of Early Bronze Age date may have yet to be discovered in the Channel Islands, especially if they comprised inconspicuous flat graves or cists. A programme of geophysical survey around known monument complexes could help identify smaller graves that may have been interred in the vicinity.

A number of mounds or hougues in the Channel Islands have not been characterised with any certainty as to whether they relate to man-made tumuli or natural mounds of potential Bronze Age date. Geophysical survey should be undertaken around potential barrow sites as this may identify features such as external ring ditches or peripheral flat graves. Coring

through these mounds would provide a relatively non-invasive and effective method of characterising them and may also result in the retrieval of material suitable for dating.

Many of the megalithic monuments were subject to later activity in the Bronze Age. Patton dated the final depositions of burials at megalithic tombs to the Chalcolithic while Driscoll argued that the reuse of Neolithic tombs reached its zenith in the Middle Bronze Age, although not necessarily associated with funerary concerns (Patton 1995c, 72; Driscoll 2010, 65). Driscoll's dating evidence was based on the presence of strap-handled vessels (*Vases à Anses*) from Hougue des Platons and Ville-ès-Nouaux, which have a lengthy currency that likely stem back to the Early Bronze Age.

Human bone samples from funerary sites of Chalcolithic and Early Bronze Age should not only be subject to radiocarbon dating but if enough collagen survives, a programme of isotope and aDNA analyses should also be considered. Such analyses could provide important insights into the identities and diets of the Bronze Age communities and help ascertain whether there was any discernible movement of people into the island during this time. This would complement the results from other isotope and aDNA analyses in other parts of Europe which demonstrate that small-scale migration was on the rise from the Beaker period onwards (Olalde *et al.* 2018). The Channel Islands are strategically situated for involvement in such movements and analysis of human bones could reveal clues for mobility that are currently not supported by other aspects of the archaeological evidence.

RQ5 Activities:

- *Trace emergence and development of Bronze Age funerary traditions in the Channel Islands;*
- *Assess whether the various islands followed similar or different burial trajectories;*
- *Undertake wider landscape surveys including geophysical survey and field walking in the wider environs of megalithic monuments;*
- *Selection of well-preserved bone samples for isotope and aDNA analysis;*
- *Undertake a programme of coring and test-pitting through undated mounds and tumuli, and geophysical survey around them.*

RQ6: Contextualising landscape inhabitation through a variety of survey techniques

Settlement development

No coherent scheme of Bronze Age settlement development and organisation has been established for the Channel Islands. The majority of evidence for occupation throughout the Bronze Age relates to midden sites or finds-rich spreads, surviving as small pockets or preserved under buried soils. A more diverse settlement pattern likely existed that may have included open, enclosed and defended settlement sites, but this has yet to be discovered. The multi-period enclosure of Le Pinnacle is important as it attests to activity of Chalcolithic

and Bronze Age date, but a comprehensive understanding of inhabitation at this site is hampered by its confused and mixed stratigraphy. At Les Blanchés Banques, hearths and stakeholes suggest the presence of structures such as post-built roundhouses. Further investigation at midden sites such as La Pulente and Petit Port may help refine their stratigraphy and it is possible that more ephemeral negative features, such as postholes and small pits, may have been missed in previous excavations. Late Bronze Age settlement evidence is also elusive and mainly restricted to finds-rich spreads such as that from La Moye II and the POW camp at Les Blanchés Banques, although it is feasible that some of the promontory forts may have originated during this time.

Models based on current topography and bathymetry for the Channel Islands (Garrow and Sturt 2017, 9, fig. 1.05) demonstrate that the coastline of Jersey changed significantly between 5500 BC and 4000 BC, and again between 400 BC and 2000 BC, particularly along the south-eastern side of the island. Undoubtedly, some Early Bronze Age settlements were lost because of sea level rise and rapid coastal zone surveys should be commissioned as they could help identify possible eroded or submerged sites of Bronze Age date. A survey of coastal sites will also help assess the extent to which climate change may have exacerbated the erosion and destruction of these fragile sites in recent years. The once-extensive later prehistoric occupations horizons at Maitresse Île, Les Minquiers had been almost completely eroded away by 1979 and many other Bronze Age sites are under increasing threat due to climate change. Sites under threat should be continuously monitored.

The St Ouen's Bay complex of prehistoric sites was once protected by over c. 5m of sand deposits but this has now been considerably reduced to less than 1m (Patton 1995c, 459). This extensive erosion is a trend that should be addressed to ensure the preservation of the wider prehistoric landscapes. Where logistically and financially feasible, efforts should be undertaken to protect these fragile sites. Measures would include the erection of storm defences and the planting of vegetation, such as marram grass, to reduce soil erosion. Some sites may not be salvageable, and these should be targeted for rescue excavation to preserve them by record before they disappear completely.

An understanding of inhabitation at a landscape level of analysis has been hampered by the lack of developer-led excavations which often reveal extensive multi-period sites. Bronze Age evidence for occupation is often restricted to small pits, postholes, and shallow ring ditches. These less conspicuous features are generally only found through larger-scale investigations. To remedy this to some extent, it would be instructive to undertake geophysical survey in the environs of known sites to identify zones of activity in their surrounds. Analysis of the recently generated LiDAR imagery will add to a more comprehensive overview of potential prehistoric (including Bronze Age) landscapes.

The programme of investigation in St Ouen's Bay at Blanchés Banques has been partly successful in clarifying how various sites articulated with one another temporally and spatially within a wider landscape of inhabitation, and similar methodologies could be adopted for other site complexes. In the Blanchés Banques landscape, several sites were linked and considered contemporaneous. The cist stones of the Ossuary were set into the same ancient land surface associated with the adjacent Little and Broken Menhirs and with

the occupation horizon of the nearby Blanches Banques settlement (Patton 1995a, 78). Evidence for later settlement activity has been noted in the vicinity of other megalithic monuments in the Channel Islands, including Early Bronze Age domestic occupation at L'Éree in Guernsey close to the chambered tomb of Les Creux ès Faïes (Garrow and Sturt 2017).

While we may be missing a significant component of the Bronze Age coastal settlement pattern, further biases in the settlement pattern likely result from the partial denudation or complete loss of inland sites from ploughing and erosion. Other sites may still survive but lie hidden deeply buried under accumulated soil deposits. Jersey possesses several deep and steep-sided valleys cutting mainly north-south across the island. These valleys have silted up with thick colluvial deposits that may occlude underlying prehistoric settlement sites, including those of Bronze Age date. Future research to help redress the biases in the current settlement distribution patterns could include a combination of non-invasive and invasive reconnaissance techniques. Geophysical survey, particularly employing ground penetrating radar, may help identify potential buried sites and associated field systems of Bronze Age date. A systematic programme of field walking, survey and test pitting should be undertaken to highlight and characterise finds scatters, some of which may be indicative of ploughed-out occupation sites. Previously identified scatters, such as those at Les Landes, Plémont, Câtel de Lecq, Île Agois, and Les Marionneux should be excavated as they are under threat from ploughing. A more intensive programme of auguring colluvial deposits along these valleys may reveal underlying occupation sites and ascertain the potential depths of soil that seal them. A combination of these investigative tools may be instrumental in revealing the potential wealth of Bronze Age inhabitation evidence, as well as identifying sites at risk from ploughing. A fuller understanding of the nature and potential of this resource will help guide future mitigation strategies in advance of proposed development.

Current interpretations regarding inhabitation during the Bronze Age suggest that settlement location was largely governed by environmental change. Sea-level rise and the sand dune ingress is argued to have become more extreme in the Early Bronze Age resulting in the exploitation of marginal soils, followed by an abandonment of settlement sites in marginal locations in favour of more fertile soils in the interior (Patton 1988a, b; Jones *et al.* 1990). The abandonment of coastal sites and the inland migration of settlement from the Middle Bronze Age onwards is argued to have coincided with the adoption of new economic practices and field system creation (e.g. Bukach 2005; Patton 1995a; Patton & Finlaison 2001). Available pollen cores show a decrease in woodland during this time, indicating the opening up of the landscape.

This model for changing Bronze Age settlement patterns in the Channel Islands should be revisited. The emergence of more managed landscapes through field system creation occurred from the Middle Bronze Age onwards, if not earlier, throughout many parts of north-west Europe and these developments were not precipitated by environmental factors such as coastal erosion. While the location of sites such as Le Pinnacle or La Moye I in marginal locales have been used to indicate increasing pressure on resources, neither of these sites are typical of domestic settlements and Le Pinnacle has more of a ceremonial character. These arguments are based on relatively limited data sets and the environmental patterns

may only be indicative of localised conditions. Further samples should be collected and dated from a systematic programme of coring and pollen analysis to build up a more comprehensive picture of vegetation and environmental change across the island during the Bronze Age, and whether the two can be directly correlated.

Absolute dating of organic material from windblown sand deposits and associated occupation sites will help establish to what extent, if any, environmental changes may have impacted directly upon Bronze Age settlement relocation and interior migration. In some cases, sand layers sealing sites may have occurred because they had already been abandoned and the islanders were already moving further inland as part of new agricultural regimes, as witnessed by the creation of field systems throughout many parts of Europe in the Middle Bronze Age. Micromorphological analysis of soil horizons from these sites would help characterise the nature of these events. A better-dated sequence of these various soil inundations will allow comparison between sites to ascertain whether these events can be linked, and whether they suggest localised or island-wide events.

In Britain and France roundhouse settlements of Middle and Late Bronze Age date were often closely connected with co-axial field systems, and it is likely that similar settlement patterns in the Channel Islands remain to be detected. For instance, Barry Cunliffe's excavations at Tanquerel Fields in Sark uncovered Middle and Late Bronze Age ditches and gullies, and clusters of postholes and hearths. Large quantities of pottery and other finds indicate the presence of domestic settlement associated with these field system ditches and enclosures spanning 1300–900 BC (Cunliffe & Durham 2017, 102–103).

In Jersey, few field systems of any date have been identified and fewer still have been dated with any degree of precision. Preliminary investigation by Waterhouse detected Bronze Age components of field systems across the island. This is a welcome start and future research should build on his work to evaluate whether other elements of bounded and managed landscapes of this date can be identified. Targeted excavations on possible field systems identified from LiDAR imagery and aerial photographs, such as the cropmarks near Les Blanchés Banques or below the promontory fort of Frémont, could help date them. The field systems excavated by Waterhouse at St Ferrière should be subject to more excavation as they were associated with evidence of possible domestic inhabitation of Late Neolithic–Early Bronze Age date, and more roundhouses may lie in the vicinity. The recently trialled portable OSL technique or OSL-PD on undated boundaries in England was successful in dating several ditches to the Middle and Late Bronze Age (Vervust *et al.* 2020). This is a relatively cost effective and rapid method and could help refine the dating of relict field boundaries in the Channel Islands, especially those that lack organic remains.

Promontory forts in the Channel Islands are still poorly understood and they have also mainly been studied in isolation. Future targeted investigation at some of these sites (such as Câtel de Rozel) will help date their origins and development more precisely. Fieldwalking, test pitting and geophysical survey will provide a more comprehensive understanding of how these forts functioned in the wider landscape and whether they articulated with other sites in the vicinity. Employing Thiesson polygons, Driscoll (2011, 57–59) undertook preliminary central place analysis of the forts. This study could be developed further as a research

objective to assess territorial zones and routes of interaction between the forts and other sites. A comparison of the forts from Jersey with those along the southern coast of Guernsey should be undertaken to ascertain whether they were contemporaneous and connected to wider spheres of exchange and interaction.

Standing stones movement through the landscape

While Jersey boasts an impressive number of menhirs and standing stones, they are poorly dated although they are generally considered to have been erected from the later Neolithic to Early Bronze Age. Few excavations have been undertaken around menhirs or in their immediate vicinity. Further investigations at these monuments, including geophysical survey, field-walking and test-pitting, may reveal the nature of activities that were undertaken in the surrounds of standing stones. A pit containing organically-rich deposits including seashells was found adjacent to the menhir of Dame Blanche, and could be dated.

The standing stones should be understood within their wider landscape to assess whether they existed isolated features in the landscape or formed part of wider monument complexes, or were related to occupation activity. Menhirs may have functioned as waymarkers in the landscape highlighting prehistoric routes through it. Virtually nothing is known about pathways of terrestrial movement through Jersey and plotting potential relationships between menhirs, monuments, burial sites and metal deposits may help identify potential Bronze Age paths, and highlight connections between different sites.

RQ6 Activities:

- a) *Rapid coastal zone surveys, particularly focusing on areas subject to intense coastal erosion and sea level change;*
- b) *Preservation and excavation of sites under severe threat by coastal erosion;*
- c) *Undertake aerial survey techniques, including LiDAR, to create high resolution landscape-scale digital terrain models (DTMs);*
- d) *Walk-over surveys (guided by results of aerial surveys) to target potential inland buried and denuded sites;*
- e) *Test pitting and excavation of finds scatters;*
- f) *Revise methodologies for excavating and recording deeply stratified midden deposits;*
- g) *Revisit the confused stratigraphy at Le Pinnacle. Clarify whether the stratigraphy relates to sequential midden deposition or rather a series of windblown bands of eroded soil interleaved with occasional layers of occupation;*

- h) Targeted excavation of cropmarks and relict field system ditches identified from aerial photographs and LiDAR imagery, accompanied by radiocarbon and Portable OSL dating;*
- i) Coring, test-pitting and radiocarbon dating of deeply stratified buried soil deposits, particularly in colluvial valleys and marshy zones;*
- j) Targeted excavation at poorly-dated promontory forts such as Frémont;*
- k) Employ LiDAR imagery, geophysical survey and GIS analysis in environs of existing site and monument complexes to build up more extensive patterns of landscape inhabitation;*
- l) Employ GIS analysis to identify whether standing stones articulated with other Bronze Age sites or highlight ancient routes through the landscape.*

The Société Jersiaise have recently created the Société Jersiaise Megalithic Cycle route connecting all of the Société owned sites in the island (<https://www.strava.com/routes/19858055>). These are predominantly focused along the coastal fringes of the island and takes in several multi-period sites with the journey beginning at Ville-ès-Nouaux. This impressive undertaking is important for raising awareness of the prehistoric archaeology to the local communities and visitors, and this could be expanded further to highlight some of the Bronze Age components of the landscape along the route. The creation of a bespoke app, accompanied by QR codes placed on available notice boards would be relatively straight-forward and cost-effective, and could provide an ideal opportunity to show the articulation and interplay of different periods of prehistoric inhabitation throughout the island.

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