

Middle Bronze Age to Iron Age

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Contents

Resource Assessment.....	2
Introduction	2
Chronology and terminology	4
Landscape and environment.....	5
Settlement evidence	8
Settlement distribution	8
Settlement sites	12
Hillforts	13
Oppida and the late Iron Age.....	14
Architecture and buildings.....	15
Food production and the agricultural economy	17
Material culture: technology, production and consumption	22
Copper and its alloys.....	22
Iron	23
Gold.....	24
Silver	24
Flint.....	24
Stone	24
Shale	25
Pottery	25
Salt	26
Glass	27
Wood	27
Textiles	27
Antler and bone	27
Coinage.....	27
Art, decoration and adornment.....	28
Decoration on artefacts	28
Personal ornament and the body	29
Ritual practices	30
Deposition	30
Temples.....	32
Funerary practice	32
Figure 3 Ritual and funerary sites considered in the text (west).....	34
Figure 4 Ritual and funerary sites considered in the text (east)	35
Eating and drinking	37
Social structure and identities	38
Human population	38
Local and individual identities.....	39
Social structures	39

Emergence of kingship	40
Regionality	41
The South-East in its wider context.....	42
The legacy of later prehistory.....	43
Research agenda	44
Research infrastructure.....	44
Environment.....	45
Settlements and settlement distribution	45
Architecture.....	46
Agriculture.....	46
Technology and material culture	47
Coinage.....	47
Art and decoration.....	47
Deposition.....	48
Funerary practices	48
Eating and drinking	49
Society, social identity and social change	49
Regionality and wider context	50
Bibliography.....	50

Resource Assessment

Introduction

The centuries in the middle of the second millennium BC mark a major change in the nature of the archaeological record. The monuments that had characterised the late Neolithic and the early Bronze Age went out of use; funerary practices, whatever they were, left little substantial evidence until the first century BC. Instead, the archaeological record is comprised mainly of the remains of domestic occupation and agriculture. The previous period had left a legacy of two thousand years of agriculture and a landscape at least partially cleared; the major earthwork monuments, especially the round barrows, would have been enduring landmarks. From about 1500 BC, however, changes in the nature of land use and of human settlement produced a very different archaeological record.

By the end of the Iron Age the nature of the record had changed again. From about 150 BC, in many parts of the region, a series of developments introduced new forms of centralised settlement, a recognisable burial custom of cremation and deposition, new forms of material culture, and coinage. In 55 BC, with Julius Caesar's first landing in Kent, south-eastern England also entered the historical record; his *Gallic Wars* (v, 12-4) contains a brief description of the area and a reference to kings in Kent. Thereafter other classical authors provide a few glimpses of the political history of the south-east and its relationship to the Roman Empire before the conquest starting in AD 43.

Our knowledge of the record of later prehistory has been influenced by many different factors, some of them varying considerably within the region. Post-Roman land use on the South Downs in Sussex allowed the survival of earthwork remains of later Bronze Age field systems and their associated settlements, which became a focus of research in the twentieth century (e.g. Curwen 1954), while on the North Downs and the chalk lands of East Kent very few such earthworks survived. From the middle of the nineteenth century the expansion of London led to the disturbance of much archaeological evidence, through construction works and the extraction of sand, clay, gravel and chalk for building; destruction in north Surrey and north-west Kent was considerable, but observation and recording was highly variable. More recently, archaeological investigation has largely followed the pattern of commercial development, with a great concentration around the fringes of London, along the north and east coast of Kent and in certain parts of West Sussex, leaving many areas almost untouched by archaeological intervention. Occasional linear developments, such as road schemes like the Brighton By-pass (Rudling 2002) in Sussex or the Monkton-Mount Pleasant improvements on the Isle of Thanet, Kent (Bennett et al. 2008), pipelines such as the Isle of Grain-Shorne gas pipe in north Kent (Dawkes 2017), or HS1 (formerly the Channel Tunnel Rail Link) through Kent (Booth et al. 2011), have provided information about areas otherwise little known. In the late twentieth century, the popularity of metal-detecting has led to a significant increase in the number of finds reported, especially Late Bronze Age metalwork and Iron Age coins, with some important spatial variations (Worrell 2007), but the evidence is again affected by the differential distribution of detecting activity and reporting.

The very different histories of destruction, recording and excavation within the region have, unsurprisingly, left a very varied legacy of known archaeology. In an agenda for research on the Iron Age in Britain (Haselgrove et al. 2001, 24 and Table 3), Sussex was characterised as a county with sufficient research to allow a regional framework and synthesis, Kent as a county where the limited research results were as yet 'unsorted' though a regional framework might be achievable, but Surrey as a 'black hole', where 'site types are still ill-defined or unknown' and which has 'still seen relatively little modern research beyond the site-specific'. Another view of this regional disparity is provided by a gazetteer of later prehistoric ceramic assemblages (Earl et al. 2007), which recorded 250 assemblages for Sussex, including some of substantial size; 536 for Surrey, mostly very small; and 2201 for Kent. Interpretation of these figures is a complex issue, but it suggests that the Sussex framework is built up from a comparatively small, but well understood, sample of sites, and that Surrey has a considerable quantity of material that is fragmented and difficult to synthesise; while Kent, or at least parts of it, has seen an explosion of activity as a result of recent interventions. A rather different set of disparities has been produced by the database of the Portable Antiquities Scheme; by early 2019, this had recorded over 4,400 items of Bronze Age and Iron Age date for Kent, over 1,500 for West Sussex, nearly 1,300 for Surrey, but only 440 for East Sussex. Again, these figures are difficult to interpret, but may be the result of a complex range of factors including variable use and deposition of material culture items in the past and variable practices of land use and of discovery and reporting in the present.

The period of developer-funded archaeology since the 1990s has contributed a large quantity of high-quality information, but there is clearly a need for a more even regional

coverage of archaeological research, in order to eliminate the biases caused by intensive investigation of limited areas, and for detailed research into the factors that have affected the patterns in the archaeological record.

Chronology and terminology

The use of radiocarbon dating has become more common on many sites, especially for those of the later Bronze Age, with a significant improvement in our understanding of events before c. 800 BC. There has, however, been some reluctance to apply the method to material potentially belonging to the middle centuries of the first millennium BC, due mainly to perceived problems of calibration at this period, but perhaps also an assumption that associated material culture, especially pottery, provides a reliable date. This reluctance needs to be challenged: modern methods of sample selection, analysis and interpretation mean that radiocarbon dating can make major contributions to chronology even in the earlier Iron Age, as much for the duration of cultural practices and the ‘tempo of change’ as for the absolute date of specific events (Hamilton et al. 2015). Radiocarbon dating programmes should become an integral part of research throughout the later prehistoric period.

The most common method of dating a site has been by the pottery recovered from it, and it seems likely that this will continue to be a major element of site interpretation. It is therefore necessary to have a firmly based ceramic chronology, ideally derived from large assemblages, stratified sequences and high-precision radiocarbon dates (Willis 2002). The ceramic sequence for the middle and late Bronze Age in Sussex has been described in detail (Seager Thomas 2008), but not linked to the available radiocarbon dates; dates for Sussex are listed by Hamilton (2003, Appendix 6.2), but not linked to ceramic phases. The programme of radiocarbon dating undertaken by the HS1 project, combined with other sites, has allowed a preliminary attempt at a dated ceramic sequence for Kent (Booth et al. 2011, 155-69), and McNee (2012) has produced a ceramic sequence for the county from the middle Bronze Age to the early Iron Age, linked to available dates. In Surrey the limited number of assemblages and radiocarbon dates has so far not permitted a synthesis. The absolute chronology of the Iron Age ceramic sequence in all parts of the region has not been similarly confirmed by absolute dates and relies on typological assumptions and a very limited number of stratified sequences.

The relative ceramic sequence is reasonably well established in outline, though problems remain in addition to the difficulty of establishing an absolute chronology. The Deverel-Rimbury pottery of the middle Bronze Age, including regional varieties of bucket and globular urns, was followed by a phase of post-Deverel-Rimbury plain ware (Barrett 1980). It has, however, been much harder to establish the nature of the post-Deverel-Rimbury decorated phase, and this part of the sequence needs further research; this is discussed further below. The Iron Age sequence is now reasonably well understood in outline (Cunliffe 2005, 88-117).

A related problem is that of terminology for the chronological sub-divisions of the later prehistoric period. Different schemes are in use by different scholars, using terms that are potentially ambiguous. For example, Hamilton (2003) uses a system based on a

late Bronze Age from 1150 to 750 BC, an early Iron Age from 750 to 450 BC, a middle Iron Age from 450 to 50 BC and a late Iron Age thereafter, whereas Champion (in Booth et al. 2011) adopts a scheme based on that developed in Wessex, with a late Bronze Age from 1150 to 800 BC, an earliest Iron Age from 800 to c. 550 BC, an early Iron Age from c. 550 to 250 BC, a middle Iron Age from 250 to 100 BC. The difference in precise dates attributed to the phases is perhaps less problematic than the actual names, with a term such as 'Middle Iron Age' potentially meaning very different things. There is clearly a need for an agreed terminology.

Landscape and environment

Though the environmental changes that took place in later prehistory were not as great as those of the earlier post-glacial period, they were nevertheless responsible for significant alterations to the coastline and estuaries of southeastern England. At the same time human activity continued to have a major impact on the terrestrial environment, with extensive evidence for woodland clearance.

The post-glacial rise in sea-level had largely levelled out by the beginning of the second millennium BC, but there were still some important oscillations. The most detailed work has been in the Thames estuary, where Devoy's study (1978; 1980; 1982) has shown alternating episodes of higher and lower levels relative to the land; a period of retreat spanning the middle and late Bronze Age was followed by a major transgression, Thames IV, tentatively dated to about 2600 BP, or the early phase of the Iron Age. Though there has been some subsequent re-evaluation (Haggart in Bridgland et al. 1995, 329-38), and doubts about the wider application of the localised Thames Estuary results, the picture generally fits well with that emerging elsewhere. Further up the Thames, mainly around Southwark, research suggests a highest water level about 3200 BP (Sidell et al. 2000), while a more general model for the estuaries of the south-east of England proposes a phase of renewed or increased rise in relative sea-level from about 3200 BP (Long et al. 2000). Although there was certainly considerable local variation in the timing and speed of these changes, it would appear that there was an episode of rising sea-level relative to the land in the late Bronze Age, which would have made some areas no longer capable of supporting human activity. Sea-level had dropped again by the end of the Iron Age or the Roman period, making more extensive human exploitation once again a possibility. The modern coastal zone of the Thames Estuary and the estuaries of the smaller rivers, such as the Medway, Stour and Rother, may all contain surviving evidence for previous episodes of human activity.

Something of the potential of this coastal zone can be seen along the North Kent coast, in the East Kent levels (Halliwell and Parfitt 1985) and in the Willington levels near Eastbourne (Greatorex 2003). The development of Romney Marsh has been well explored (Eddison and Green 1988; Long and Innes 1993; Eddison 1995; Eddison et al. 1998; Eddison 2000; Long et al. 2002), but with little light yet shed on prehistoric activity there. Much less is known about other important areas, such as the Stour Estuary and the Wantsum.

Other coastal processes have had different effects, especially erosion of cliffs and the loss of occupied dry land. Such coastal losses occurred along the Sussex coast,

especially east of Brighton (Woodcock 2003), and around the chalk cliffs of East Kent and Thanet (So 1965; 1966; 1971). Occasionally, as at Minnis Bay, Kent (Worsfold 1943), the remains of later prehistoric settlement survive as heavily truncated hollows in the inter-tidal wave-cut platform, but mostly there is little that can be done about such losses in the archaeological record.

The first evidence for late prehistoric alteration of the terrestrial environment came from early pollen analytical work in the limited number of lowland mires available in the valleys around the chalk uplands, mainly by Thorley in Sussex and Godwin in Kent, summarised by Scaife (1987, 142-4), suggesting extensive woodland clearance for agriculture during the Bronze Age. Other pollen analyses have shown local variability; studies of the valleys of the upper reaches of the Ouse, Cuckmere and Rother valleys (Scaife and Burrin 1983; 1985; 1987; 1992; Allen 2016) have shown a history of human exploitation of the Weald from the Neolithic at least into the later Bronze Age, though in Coombe Haven, west of Eastbourne, extensive forest clearance was not undertaken until the Iron Age, perhaps related to iron exploitation (Smyth and Jennings 1988). In East Kent, the site of Weatherlees Hill on the south coast of the Isle of Thanet also shows intensified clearance in the late Bronze Age and Iron Age (Scaife in Hearne et al. 1995, 303-13).

The suggestion of extensive agricultural clearance in the middle and later Bronze Age has now been supported by other lines of evidence. There is now widespread evidence for the establishment of field systems in later prehistory in many parts of south-eastern England (Yates 2007; English 2013). Dating evidence is limited but sufficient to show that they were started throughout the middle and late Bronze Age. At Saltwood Tunnel, Kent (Riddler and Trevarthen 2006), an extensive late Bronze Age field system was excavated less than 2 km from Godwin's Frogholt pollen site, where he had inferred the initiation of large-scale agriculture at that time.

Studies of the dry valleys in the scarp slope of the North Downs in Kent, between Ashford and Folkestone, have limited information for later prehistory. Work at Brook (Kerney et al. 1964; Burleigh and Kerney 1982) showed colluvial deposits derived from agricultural activity from the early first millennium BC; at Castle Hill and Dover Hill (Kerney et al. 1980) similar accumulations were not well dated, though probably the result of activity starting in later prehistory; at Holywell Coombe the sequence lacks evidence for later prehistory (Preece and Bridgland 1998; 1999). There have been no analyses of the fills of dry valleys on the dip slope of the North Downs in Kent or Surrey comparable to those carried out on the South Downs in Sussex (Bell 1983; Wilkinson 2003). These have shown local variability in the onset of the accumulation of colluvium, but a general picture of widespread deposition, presumably deriving from human agricultural activity, by the late Bronze Age. Some individual observations in Kent do suggest a similar history, at least in some areas; in the area south of Springhead Roman town, for instance, a thick layer of colluvium overlay earlier prehistoric pits and was itself cut by pits containing late Bronze Age

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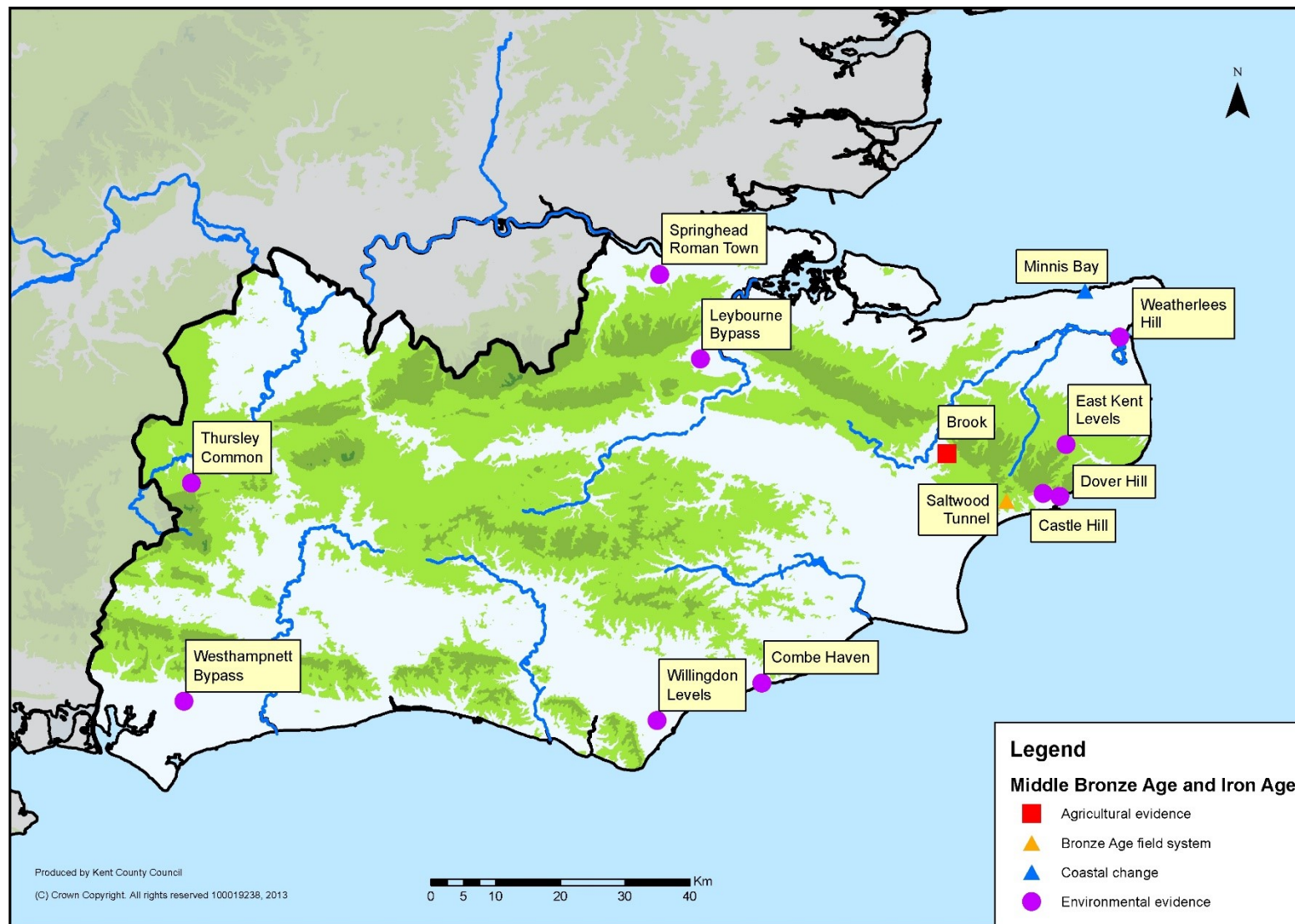


Figure 1 Sites considered in the text that revealed environmental evidence

pottery (Giorgi and Stafford 2006). Despite this extensive clearance, considerable patches of woodland must have survived, as indicated by the regular occurrence of deer bones and antler in the archaeological record.

Management of heathland for grazing through burning (Karg 2008) is suggested by the recovery of Ericaceae (heather, ling) capsule and stem from a Bronze Age mound on Thursley Common, Surrey (Fryer and Murphy in Graham et al. 2014, 164). There is also evidence for the use of bracken from the Iron Age onwards with charred remains from the Westhampnett Bypass, West Sussex (Hinton in Fitzpatrick et al. 2008, 172-174) and West Malling and Leybourne Bypass, Kent (Stevens in Andrews et al. 2009). Bracken has a number of uses and while it can grow in a wide variety of habitats its presence in charred assemblages may be related to the exploitation of heathland and rough pasture (Campbell and Pelling 2013).

During the later Bronze Age, therefore, the environment took on an increasingly open aspect, with permanent settlements scattered in organised divisions of the landscape. How uniform this process was is not at all clear, since our evidence is rather restricted geographically. There are distinct concentrations, for example, in the known distribution of the field systems of the middle and late Bronze Age (Yates 2007); clusters are well documented in the Wandle valley in Surrey, along the Thames around Southwark and parts of North Kent, in northeast Kent and Thanet, along the Greensand vale at the foot of the North Downs, and in the central South Downs area. In other areas, however, such as the dip slope of the North Downs, the lower chalk lands of East Kent and much of the Weald, we have far less information about the long-term environmental history.

Settlement evidence

From the middle of the second millennium BC permanent settlements become the major element of the archaeological record, many of them characterised by distinctive forms of architecture such as round houses. The current state of the evidence suggests, however, that there may have been significant breaks in the chronological development of this tradition, in the form of both settlements and architecture, and considerable variation in the density of occupation and exploitation of the landscape at different periods. In this section the evidence for the distribution of human settlement and the form of the settlements themselves will be considered; in the following section attention will turn to the buildings and other elements that comprised the settlements.

Settlement distribution

The distribution of human settlement within the region, and its changing concentration through time, are some of the hardest topics to explore because of the limited and biased nature of the archaeological record; the evidence has been heavily influenced by historic patterns of land-use that promoted physical survival of surface traces into the twentieth century in some areas such as the South Downs, by modern patterns of land-use that have affected responsiveness to aerial photography, and by modern social and economic factors that have conditioned the location and intensity of archaeological observation. There are, therefore, some areas about which we know

almost nothing of their settlement patterns in later prehistory, in sharp contrast to other areas which are comparatively well documented. Linear infrastructure projects such as motorways, the HS1 railway and pipelines have been valuable sources of information, providing transect samples of the archaeological record for some areas, especially where other forms of development have been scarce, though the archaeological response has been variable.

One area where our understanding of human settlement has been transformed is the Weald. Gardiner's survey (1990, 45-6), while noting a lack of detailed information for Kent, suggested a peak of usage in the Neolithic and early Bronze Age, with less intense activity in later prehistory until a phase of renewed activity in the late Iron Age. Although there were few traces of actual settlement, the environmental evidence from the river valleys noted above, as well as suggestive fragments of settlement sites (summarised by Yates 2007, 43-6), all pointed to a certain level of human activity, at least during the later Bronze Age. Subsequent developer-funded work has revealed more evidence of activity in the later Bronze Age and the Iron Age, discussed below. The evidence for the possible exploitation of the iron ore resources from the early Iron Age is discussed below, as is the construction of hillforts around the northern edge of the Weald, and then into the Weald itself during the middle Iron Age. Together, various strands of evidence now suggest a continuous interest in the resources of the Weald, perhaps for pasture as well as the extraction of wood and minerals, throughout later prehistory, even if the details of this activity are obscure.

There are, however, areas about which little is known; most notable are the higher slopes of the North Downs, especially in east Surrey and Kent. There has been little development-led archaeology and much of the area is unresponsive to aerial photography. The increasing use of LiDAR may be able to make a significant contribution here.

We can now begin to see something of the distribution of fields and settlements of the later Bronze Age (Yates 2007, Fig.12.2), especially along the lower slopes of the North Downs and the coastal plain in Kent, the Wandle valley in Surrey and the coastal plain and South Downs in Sussex. The construction of HS1 has also shown the intensity of occupation in the Greensand regions of Kent, with intense settlement in the middle Bronze Age and some consolidation in the late Bronze Age (Booth et al. 2011, 175-82), while occupation at Hassocks, Sussex (Mullin et al. 2010) documents a similar pattern on the Greensand to the south of the Weald. Sites at Brisley Farm (Stevenson 2013) and Westhawk Farm (Booth et al. 2008), both near Ashford, Kent, indicate occupation of the Wealden clays. The Brighton By-pass revealed a transect through the dense later Bronze Age occupation of the South Downs (Rudling 2002). Development-led excavation in the Sussex coastal plain further west has demonstrated the density of occupation there (Clarke 2012; Dinwiddy 2012; Taylor et al. 2014).

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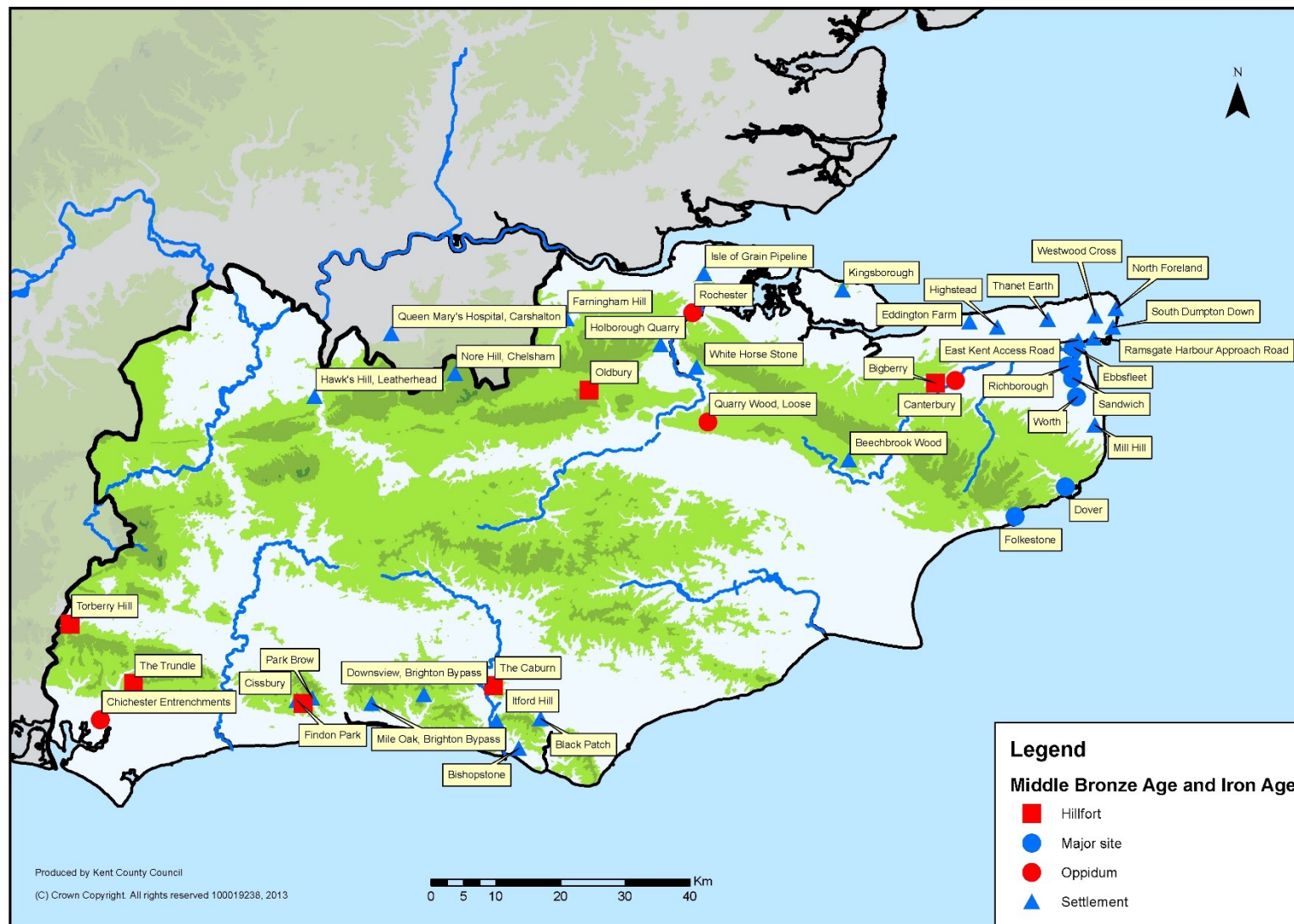


Figure 2 Settlement sites considered in the text.

In the earlier Iron Age, however, many of these areas show little or no evidence of intense settlement. Much of the northern coastal plain of Kent, especially the Isle of Grain (Dawkes 2017, 285-6) and the area between the Medway and the Wantsum (Allen 2009), has very limited evidence of early or middle Iron Age activity, while the HS1 evidence from the Greensand zone south of the Downs shows similarly little occupation of this period (Booth et al. 2011, 180-2). Iron Age settlement sites begin to cluster in areas such as parts of the Isle of Thanet, in East Kent (Moody 2008, 117-26), and perhaps the Medway valley. In north Kent settlement may have retreated away from the coastal plain to a higher elevation on the dip slope of the Downs (Champion 2007a); this is an area that has been little investigated by modern archaeological intervention, though schemes such as HS1 (Booth et al. 2011, 197-200) and the A2 improvement (Allen et al. 2012, 113-72) have shown good evidence of early Iron Age occupation. In Sussex, occupation of the Downs in the east of the county is much less dense than previously, with 'a distinct lack of ... settlement sites and findspots' of this period (Hamilton 2003, 78); occupation was also less dense in the early Iron Age on the coastal plain of west Sussex. The precise nature and causes of this settlement relocation have not been fully explored.

Occupation of the more central areas of the Weald is now known from the middle Iron Age, as at Wickhurst Green, Broadbridge Heath, West Sussex (Margetts 2018) and Horley, Surrey; iron smelting in this period is known at Birchen Lane, Haywards Heath, West Sussex. These sites are broadly contemporary with the construction of hillforts in Kent on the northern edge of the Weald, and then into the Weald itself, discussed below.

In the late Iron Age, or perhaps already starting by the end of the middle Iron Age, signs of settlement are much more widespread, in particular the evidence of a major phase of landscape organisation and division, the first since the field systems of the later Bronze Age. In the West Sussex coastal plain the process had already started by the middle Iron Age (Davenport 2003), with networks of drainage ditches, trackways and rectangular fields revealed by aerial photography and tested by excavations at sites such as North Bersted (Bedwin and Pitts 1978; Taylor et al. 2014) and Oving (Bedwin and Holgate 1985). The same sequence of middle Bronze Age activity followed by renewed activity in the middle Iron Age can be seen further east, on the chalk at Peacehaven (Hart 2015). In Surrey, excavations in the Blackwater Valley have shown a dense landscape of enclosures and trackways, dating from the middle Iron Age (Poulton 2004; Priestley-Bell 2016).

A similar pattern of large-scale landscape colonisation in the late Iron Age can be seen around Ashford in Kent (Stevenson 2013, 5-8 and Fig. 1.6). Elsewhere, where exposures are less extensive, late Iron Age ditches are the first visible cut features since the Bronze Age fields, as on many sites along the HS1 route east of Maidstone (Booth et al. 2011, 259-64); all the late Iron Age sites were new foundations, continuing into the early Roman period, and in many cases overlying Bronze Age features. In East Kent, aerial photography has revealed a landscape of trackways and fields, but their chronology, although possibly late Iron Age or early Roman, is not yet clear. In the Weald a new system of enclosures and trackways dates to the late Iron Age (Gardiner

1990, 46). The full nature and extent of this late Iron Age shift in settlement patterns remains to be better understood.

Settlement sites

Settlements of the middle Bronze Age are best known in Sussex (Hamilton 2003, 70), including classic examples such as Itford Hill (Burstow and Holleyman 1957) and Black Patch (Drewett 1982b); this evidence has been confirmed by more recent excavations, such as those on the Brighton By-pass (Rudling 2002, 255-6). These sites, together with similar ones from Wessex, have been taken as typical for middle Bronze Age settlement in southern England, comprising 'round-houses, accompanied by a few pits, a pond, and perhaps one or two four-post structures' (Brück 1999, 145) and have given rise to considerable discussion of the nature and lifecycle of such settlements (Ellison 1978; Drewett 1982b; Russell 1996; Brück 1999).

Sites of a similar nature are difficult to find elsewhere in the region (Needham 1987, 110-11; Champion 2007b, 103-4). On the Sussex coastal plain, despite the extent of middle Bronze Age activity cited above, definite structures are rare. In East Kent there are rectangular enclosures such as South Dumpton Down (Perkins 1995, 468-70) and Westwood Cross (Gollop 2005), both on the Isle of Thanet, but elsewhere in Kent and Surrey sites of this period are much slighter, with few cut features and little indication of the sort of modular house clusters seen in Sussex. On the HS1 route, middle Bronze Age sites were typically unenclosed, about 20-40 m across, with a low density of postholes and shallow pits (Booth et al. 2011, 191-5). In some cases, occupation is indicated by a single pit, with no other surviving features within significant range.

Occupation sites of the late Bronze Age are even more varied, showing something of the diversity seen throughout southern England but lacking the clear modular plans of the previous period (Brück 2007). One type of site found increasingly frequently, especially in the Thames Valley, as at Reading Business Park (Brossler et al. 2004), is an open settlement with a cluster of round houses and possibly some four-post structures. This has not yet been clearly identified within the region, though some sites, such as Holborough Quarry, Snodland, Kent (Boden 2006), may approximate to such a plan, but with the houses now truncated. Elsewhere in the region settlements of the late Bronze Age are mostly small, unenclosed clusters of features, as in Trench K at Mile Oak Farm, Portslade, East Sussex (Russell in Rudling 2002, 24-32). Occasional enclosed sites are known, for example the small oval enclosures at Highstead A24 (Bennett et al. 2007, 25-31) and Ramsgate Harbour Approach Road (Champion 2007b, 106 and Fig. 4.25), as well as much larger enclosures such as at Eddington Farm, Herne Bay (Shand 2002).

One distinctive group of sites links Kent with the region of eastern England north of the Thames. These are the so-called 'ringworks' (Needham 1992). The classic plan of a circular monument with a single roundhouse at the centre, as seen at South Hornchurch (Guttman and Last 2000) or Mucking North Ring (Bond 1988), both in Essex, is not matched in Kent or Surrey, but the general class of ringworks is more varied, and sites such as Mill Hill, Deal (Stebbing 1934; Champion 1980, 233-7) and Highstead B70 (Bennett et al. 2007, 16-25) might also be included; there are also other circular enclosures from north Kent, such as those at Kingsborough (Allen et al. 2008) and the Isle of Grain pipeline Site H (Dawkes 2017, 211-5), which could be related.

Further west in Surrey, the earthwork at Queen Mary's Hospital, Carshalton (Adkins and Needham 1985; Groves and Lovell 2002), should belong in this group, though little is known about its interior, as might also the site of Nore Hill, Chelsham (Skelton 1987). The status and functions of these sites, or more probably their varied functions, are not always clear, but their association with field systems and deposits of bronze and other materials (Yates 2007, 112-20) suggests an association with the late Bronze Age elite. These sites have their best parallels in Essex and further north and are unknown in Sussex.

Sites of the early Iron Age, where they are known, are again mostly unenclosed, as at Queen Mary's Hospital, Carshalton (Powell et al. 2017) and Hawk's Hill, Leatherhead (Hastings 1965) in Surrey, sites on the HS1 (Booth et al. 2011, 197-200) and A2 routes (Allen et al. 2012, 304-5), White Horse Stone, Aylesford (Hayden and Stafford 2006) and Thanet Earth (Rady 2009; 2010), all in Kent, or Park Brow (Hawley 1927; Smith 1927) and Findon Park, Sussex (Fox and Wolseley 1927). Occasional enclosed sites are known, as at Bishopstone, East Sussex (Bell 1977), or possibly on the Isle of Thanet, where complex patterns of ditches represent a landscape of trackways and enclosures, as at North Foreland (Moody 2008, 118-22). Enclosure becomes more common in the middle and late Iron Age, for example at Farningham Hill (Philp 1984, 7-71) and the East Kent Access Road west of Ramsgate (Andrews et al. 2015, 180-1) and a site with a double enclosure, unique in the region, at Beechbrook Wood, Kent (Brady 2006).

Hillforts

Approximately fifty sites have been identified in the region as hillforts, though the information about individual sites varies greatly (Hamilton and Manley 2001). There has been comparatively little excavation in recent years; some sites are totally unexcavated, others have seen only small-scale intervention. Despite the relative lack of hard information, it is still possible to discern some patterns of regional and chronological variation in hillfort construction and use, in particular a marked contrast between those in Sussex and those in Kent and Surrey.

The earliest hillforts, perhaps starting as early as the end of the late Bronze Age, are on the South Downs in Sussex, situated on prominent positions on the scarp top or near the sea, with long-distance views, but showing little sign of internal occupation. In the middle Iron Age, four hillforts, Torberry, the Trundle, Cissbury and the Caburn, dominate the South Downs, but now in rather lower but still commanding positions; these forts show much more evidence of occupation, including many pits. At the same time, the first forts were constructed in Kent and Surrey; unlike Sussex, they were not located on the scarp of the Downs, but on prominent positions on the Greensand ridge and further out into the heart of the Weald, though minimal excavation has shown varied signs of internal occupation. Many of the forts throughout the region show signs of the presence of sling stones, usually taken as a sign of deliberate arrangements for defence, though the forts appear to have had other functions to do with the organisation of society in Sussex and perhaps the exploitation of the resources of the Weald from the north.

In the late Iron Age many of the hillforts on the South Downs went out of use, though more were constructed in the Weald, again possibly connected to the exploitation of

iron ores. Some hillforts, notably Oldbury and Bigbury, have been classed with the oppida discussed below, but seem out of place there. Oldbury, in west Kent (Ward Perkins 1944; Thompson 1986), is classed thus because of its size, though excavation has not produced evidence comparable to that of the more certain oppida. Bigbury, near Canterbury in east Kent (Thompson 1983), has certainly produced late Iron Age material, especially hoards of iron work, associated with high-status activities such as feasting, though its context is more suggestive of ritual deposition than of elite residence.

Hillforts have seen little excavation recently, but detailed surveys can produce important results (Lea and English 2015; Hooker and English 2016). Reassessments of old excavated assemblages can also produce valuable conclusions, as at the Surrey hillforts reconsidered by Seager Thomas (2010).

Oppida and the late Iron Age

Major changes in the settlement pattern were taking place in East Kent and West Sussex in the late Iron Age, with the appearance of new types of site conventionally grouped under the term 'oppida', though the value of this term may be questioned (Pitts 2010); similar developments are not known in Surrey and West Kent or in East Sussex. Some of these sites have been termed 'territorial oppida' (Cunliffe 2005, 159, 72) and are characterised by the defensive enclosure of large areas. In Sussex, the Chichester Entrenchments (or Dykes) defend a large coastal promontory between Chichester and Bosham harbours; the whole system is made up of numerous shorter sections of bank and Bradley (1971) has suggested a series of three successive phases of defence, perhaps starting in the middle Iron Age, though the chronology of the whole system is now more problematic (Magilton 2003); claims that one section of the system, at the Devil's Dyke, could be of medieval origin now seem contradicted by OSL dates from the primary fill of the ditch, suggesting that it was dug and had started to fill up in the first millennium BC, before 80 BC (Doherty and Garland 2015). If there was a single focus of population within the defences, it has been suggested it may have been at Selsey, though the evidence is largely coins recovered from the foreshore, probably from multiple non-domestic deposits (Bean 2000, 269-71). Alternatively, it may have been under the Roman town of Chichester; there have been few structural traces of Iron Age occupation other than three poorly dated structures on the Cattlemarket site (Down 1989, 59 and Fig. 12.2), but there are large quantities of pre-Conquest imported pottery (Davenport 2003, 106). Another possibility is that there was no concentrated focus of occupation, but activities were dispersed within the enclosed area; the discovery of coin moulds in a settlement at Ounce's Barn, Boxgrove (Bedwin and Place 1995), might support this idea. To the west, a large ditch at Fishbourne also includes much pre-Conquest pottery (Manley and Rudkin 2005).

In Kent, a substantial earthwork at Quarry Wood camp, Loose, is at the centre of a tract of land surrounding the Loose stream and cut off by linear earthworks; it was certainly occupied in the late Iron Age, but little else is known about its function (Kelly 1971). Even less is known about a possible Iron Age predecessor to Roman Rochester, despite the discovery of Iron Age coin moulds (Harrison 1991). The best known of the *oppida* is Canterbury, though even here the true nature and chronology of the site is poorly documented; pre-Roman features are known at various locations, including Rose Lane (Frere 1954) and the Marlowe Theatre Car Park (Blockley et al.

1995, 32-6), where there was a triple-ditched enclosure surrounding one or more roundhouses dated to the first century BC; occupation in the Whitehall area west of the river Stour began later (Frere et al. 1987, 45-54). There are large numbers of coins from the site (Haselgrove 1987, 139-45; Holman 2005a, 24-30), as well as many imported amphorae (Arthur 1986), suggesting foundation before the middle of the first century BC.

Other major sites may also have existed, though at some the evidence is currently limited to cemetery and coin finds. Burials with significant numbers of pre-conquest imported pots have been found at locations in Dover and Folkestone, as well as on the North Kent coast, suggesting the existence of sites there in the late Iron Age (Rigby 1995). Concentrations of coin finds, mainly from metal-detecting, suggest that, in addition to Canterbury and Folkestone, other important sites may have existed in Kent on the Isle of Thanet and around the Wantsum, at Worth, Sandwich, Richborough and Ebbsfleet, as well as inland; excavation has confirmed the existence of important occupation sites at Worth, Sandwich and most extensively at Ebbsfleet (Holman 2005a; Andrews et al. 2015). It is noticeable that most of these sites are estuarine or coastal, perhaps suggesting their function as ports.

The late Iron Age also saw a renewed phase of landscape division and the establishment of many new occupation sites that continued into the Roman period. The potential density of this occupation is demonstrated in a few areas that have seen extensive excavation in advance of development, especially on the coastal plain of West Sussex (Davenport 2003) and around Ashford in Kent (Stevenson 2013, 5-8), and in the Stour Valley below Canterbury, as at Hersden (Williams 2003). In Sussex a series of small occupation sites have been excavated, linked into patterns of irregular rectangular fields and paddocks; they practised mixed farming and some metalwork and had access to imported finewares (Bedwin 1983; Davenport 2003; Taylor et al. 2014). In Kent, the settlement types of the late Iron Age are less well known, but small rectangular enclosures have been documented, as on the Whitfield-Eastry By-pass (Bennett et al. 2014, 100-8) or the West Malling and Leybourne By-pass (Andrews et al. 2009, 5-7). The best evidence comes from a late Iron Age site preceding the Roman villa at Thurnham, consisting of roundhouse gulleys and four-post structures within a rectangular enclosure (Williams 2003; Lawrence 2006).

Architecture and buildings

Evidence for structures is widespread, but highly variable. Roundhouses are well documented in some periods and regions, but in others are very hard to identify. Postholes indicate the presence of structures, but clear ground plans are elusive. There are suggestions of rectangular structures, especially in the late Iron Age. Otherwise, the only other common feature is the four-post structure.

Double-ring roundhouses, with an internal ring of weight-bearing posts and an outer ring marking the line of the external wall, are well known from middle Bronze Age sites in Sussex such as Itford Hill (Burstow and Holleyman 1957) and Black Patch (Drewett 1982b). They are, however, much rarer elsewhere in the region, though a house at East Valley Farm, near Dover, Kent (Parfitt and Corke 2003) suggests the type may

be more widespread than so far recognised. As noted above, sites of this period on the Sussex coastal plain rarely produce convincing evidence of structures. Excavations during the construction of HS1 in Kent produced evidence for a variety of possible structures of the middle Bronze Age, especially at White Horse Stone and Beechbrook Wood, including examples of possible oval and semi-circular plans (Booth et al. 2011, 200).

Structures of the late Bronze Age are less clearly defined. The clear plans seen in the preceding phase in downland Sussex are not repeated; instead there are more irregular clusters of post holes, as at Mile Oak (Russell in Rudling 2002, 24-32) or Varley Halls (Greig 1997). At Thorpe Lea Nurseries in Surrey, it was 'difficult to make a meaningful interpretation of the features', and later Bronze Age activity was discussed in terms of activity areas rather than structures (Hayman et al. 2012, 188). In Kent, sites such as Holborough Quarry, Snodland (Boden 2006; 2007) or Shelford Quarry, Broad Oak, near Canterbury (Boden 2004), have produced large numbers of postholes but few clear plans. At the former site there was a round-house defined by a penannular ditch as well as four-posters and other possible structures; at the latter there was a truncated round-house with a single post ring as well as a possible rectangular building. At the end of the late Bronze Age, round-houses are found in the oval enclosures at Highstead A24 (Bennett et al. 2007, 25-31) and possibly Ramsgate Harbour Approach Road (Champion 2007b, 106 and Fig. 4.25), but these sites are not typical.

Round-houses of the early Iron Age are equally difficult to recognise. At Bishopstone, East Sussex (Bell 1977, 78), despite good preservation, the absence of circular structures was described as 'perplexing'. In Kent, clear structures are also elusive: despite extensive excavation at White Horse Stone (Hayden and Stafford 2006), a mass of postholes resisted resolution into clear structural plans. Even in the comparatively dense cluster of well explored early Iron Age sites on the Isle of Thanet, no round-house plans have yet been recognised (Moody 2008, 129), except at the East Kent Access Road (Andrews et al. 2015, 180). Some sites have produced evidence of structures in the form of ring grooves or gulleys, as at Highstead (Bennett et al. 2007, 39-41) and Underdown Lane, Eddington (Jarman 2005) in Kent, though without clear internal evidence for the nature of construction. The evidence available from Surrey is largely from old excavations (Hanworth 1987, 146-7); the best evidence comes from sites in the Blackwater Valley (Poulton 2004). In the middle Iron Age the picture is scarcely any clearer. In Sussex, 'examples of Middle Iron Age house types are negligible' (Hamilton 2003, 78, using the term in a wider sense than here). Ring gulleys are known from North Bersted (Bedwin and Pitts 1978) and Oving (Bedwin and Holgate 1985) which may have begun at this period but continued into the late Iron Age. Evidence is also rare in Kent, but a house gully was found at Bigbury (Thompson 1983, 246).

In the late Iron Age the evidence is scarcely better. Ring gulleys are well documented at Brisley Farm, with evidence suggesting a variety of construction methods and possibly a range of functions. Ring gulleys were also found at a site at Rose Court Farm, Isle of Grain (Philp 2002, 139 and fig. 33-2). Two penannular gulleys and a possible post-ring were found at Thurnham, Kent (Williams 2003; Lawrence 2006). The round-house tradition can still be seen in the oppidum at Canterbury (Blockley et al.

1995, 32-6) and possibly in the presumed oppidum underlying Chichester (Down 1989, 59 and Fig. 12.2). In Canterbury, however, it existed alongside other building styles, mentioned below.

Apart from the major buildings, presumably the domestic residential quarters, however they were used, the most common type of structure is the rectangular four-post building, usually interpreted as a granary, though other possibilities have been suggested (Ellison and Drewett 1971; Gent 1983). They are known from as early as the late Bronze Age, as at Holborough Quarry, Kent (Boden 2006; 2007). They then occur on a number of sites in the early Iron Age, as at White Horse Stone, Kent (Hayden and Stafford 2006), and Bishopstone, East Sussex (Bell 1977, 71-5) and become more frequent on sites of this period on Thanet (Moody 2008, 127-9); at other sites they do not occur until the late Iron Age.

As well as these well-defined architectural forms, other structures have been identified with varied degrees of confidence. Oval or semi-circular structures dating to the middle Bronze Age have been identified at White Horse Stone and Beechbrook Wood in Kent (Booth et al. 2011, 200); oval and rectangular structures have been found at Heathy Brow in Sussex (Bedwin in Drewett 1982a, 75-80); a rectangular post-built structure was found at Shelford Quarry (Boden 2004); rectangular depressions at Charleston Brow (Parsons and Curwen 1933, 166) and Park Brow (Wolseley and Smith 1924, 348; Hawley 1927, 34) in Sussex have been tentatively identified as rectangular houses. Rather more certain are the unique rectangular structure built of multiple post lines at Highstead (Bennett et al. 2007, 47 and Fig. 33), with its nearest parallels in continental Europe, a post-built rectangular structure at Tothill Street, Minster (Gollop and Mason 2005), and rectangular structures at Peacehaven (Hart 2015, 175-80). Rectangular structures are also found in the late Iron Age; three have been excavated in Canterbury, at Palace Street and Whitehall (Frere et al. 1987, 47 and 81).

Another new building tradition is also represented in East Kent, found in Canterbury in the form of the sunken-floored structure at Whitehall Road (Frere et al. 1987, 50 and Figs 17-8), and possibly at the Marlowe Theatre Carpark (Blockley et al. 1995, 36), and at Tothill Street, Minster (Gollop and Mason 2005). This structural type, which became more common in the Roman period in East Kent, may also have started before the conquest at the East Kent Access road sites (Andrews et al. 2015, 182).

The post-built round-house, often regarded as a diagnostic artefact of the later prehistoric periods in southern Britain, is in fact something of a rarity in the region. There were clearly much more diverse architectural traditions, including post-built structures of many different plans, but perhaps also building styles that left no trace in the form of cut features. This varied and fragmented body of evidence has received little attention.

Food production and the agricultural economy

There is surprisingly little information on the development of the agricultural economy in later prehistory. The proliferation of field systems in the middle and late Bronze Age described above is seldom matched by evidence for how the fields were worked; only

occasionally has evidence been recovered, as at Swalecliffe, Kent (Masefield et al. 2003; Masefield et al. 2004, 50 and Figs 17-8), where a water-hole showed a long-term pattern of mixed farming with the rearing of cattle, sheep and pigs and the cultivation of wheat and barley. The majority of the evidence comes from animal bones and charred plant remains recovered from settlement sites, though published reports are still somewhat limited.

In a review of the published reports on animal bones from southern England, Hambleton (2008, 14) notes a 'dearth of ... sites from the east of the region in Surrey, West Sussex, East Sussex and Kent'. In fact her database of sites with published reports discussing assemblages of >200 bones includes only one Iron Age site from Surrey and Kent, three sites from East Sussex and four from West Sussex (Hambleton 2009). This situation was attributed to unfavourable soil conditions in much of the region, as well as to the possibility of site reports awaiting publication. The soil conditions experienced along the line of HS1 were in general poor for bone preservation, but it is now possible to add reports from three sites on the chalk, West of Northumberland Bottom, Tollgate and White Horse Stone (Giorgi and Stafford 2006). There are also small later prehistoric assemblages from Shrubsoles (Hamilton-Dyer in Coles et al. 2003, 49) and Iwade (Armitage in Bishop and Bagwell 2005, 111-8), Hambleton (2008, 100) recommends high priority for faunal remains in those areas where soil conditions do not aid survival, but it remains to be seen whether there are some areas within the region with better conditions for bone survival, especially the chalk lands of Sussex and east Kent; excavations at sites on Thanet, such as Thanet Earth, which included several hundred Iron Age pits, have provided limited data for the Bronze Age but more substantial Iron Age assemblages, which are an important regional resource (Rady 2009; 2010).

With so little evidence for the Bronze Age, it is difficult to draw any conclusions with confidence, though the evidence, such as it is, suggests a predominance of cattle. In the Iron Age, however, there is apparently some regional variation. The limited evidence from Kent shows a pattern of continuing predominance of cattle, similar to what is seen in much of eastern England, though in the later Iron Age sheep increase at some sites (for example see Strid in Andrews et al 2015). Sussex shows a pattern much closer to that of the Wessex downlands, with sheep the dominant species (Hambleton 1999).

Age distributions inform on the use of animals. Hambleton (2008, 55-56) has suggested that in Southern England, sheep were raised for a range of products, with a possible emphasis in the Bronze Age on meat. In the Iron Age the multi-purpose use of sheep is indicated by the presence of juveniles and adults with a lack of prime sub-adult animals. This can be observed in the larger assemblages from the Southeast, for example the East Kent Access Road (Strid in Andrews et al 2015), Margate area (Grimm in Andrews et al. 2009) and Springhead (Grimm and Worley in Barnett et al 2011). Cattle were raised for a range of uses and products and there is little evidence for specialisation in the age distributions (Hambleton 2008; Grimm and Worley in Barnett et al 2011; Grimm in Andrews et al. 2009). At the East Kent Access Road sites the predominance of female cattle suggests that dairy production may have been a focus in the Early Iron Age (Strid in Andrews et al. 2015). In the absence of animal bones, artefacts associated with textiles may indicate the use of animals and

importance of animal products such as fibres, for example Bronze Age placed deposits of loom weights at Westhampnett, (Chadwick and Fitzpatrick in Chadwick 2006, 44).

Wild species played a limited role in the domestic economy (Hambleton 2008, 33-7. The presence of deer bones and antler as a small but persistent element in assemblages suggests the survival of woodland in at least some parts of the region. Some deer bones show evidence of butchery, and therefore probably human consumption, but antler could well have been collected after shedding, for use in the production of tools. Wildfowl are variably present in the larger assemblages, for example ducks, divers, herons, waders and corvids (Grimm in Andrews et al 2009, Strid in Andrews et al. 2015f; Grimm and Worley in Barnett et al 2011). Fish and shellfish are found occasionally in the middle Bronze Age, as at Westwood Cross, Broadstairs, Kent (Gollop 2005), but are thereafter very rarely encountered. This is a trait shared by many sites around the North Sea area in the late Bronze Age and the Iron Age and suggests a marked cultural preference for the avoidance of such foods, even in coastal areas (Dobney and Ervynck 2007). A small assemblage of fish bones recovered from the East Kent Access Road excavations includes eel, herring and small gadids (cod family), small flat fish, thornback ray and sea bass, some of which show evidence of chewing. The small flatfish and ray indicate a low level of coastal fishing with 'the use of fixed nets to capture fish as the tide receded' (Nicholson in Andrews et al 2015, 484). Flatfish are the most common species at the late Iron Age Springhead sanctuary (Hamilton–Dyer in Barnett et al 2011, 51). While fish do appear to be rare in pre-Roman contexts, the use of sieving during excavation, down to 1mm, will provide assemblages which can indicate more reliably the real abundance of fish (where preservation conditions allow) than is currently possible.

A number of domestic, commensal and wild animals were introduced into Britain in the Bronze and Iron Ages, including the horse (*Equus caballus*), cat (*Felis domesticus*), house mouse (*Mus domesticus*), possibly brown hare (*Lepus europaeus*), domestic fowl (*Gallus domesticus*) and house sparrow (*Passer domesticus*) (see summaries in Hambleton 2008). Some, such as the horse and domestic fowl (Bendrey 2010; Sykes 2012), will have had important social as well as economic roles while others, for example the house mouse, will have had economic and ecological impacts.

The horse (*Equus caballus*) is now known to have been present but rare in the early Bronze Age (see forthcoming Neolithic-EBA SERF chapter), increasing in ubiquity in the late Bronze Age and beyond (Bendrey 2010, 12). The early usage of horses, whether for food, as pack animals or other roles, is uncertain, given the scarcity of their remains, though evidence of their consumption has been identified in Iron Age sites (Bendrey 2010, citing Maltby 1996; in some sites butchery evidence indicates disarticulation and meat removal, (Kitch 2006a; Kitch 2006b). Bendrey (2010, 16) suggests that horses would have allowed people to control the movement of livestock and hence wealth, over greater distances in a new system of land management in the later Bronze Age.

The presence of mule and donkey in the Iron Age has been suggested by Johnstone (2004, cited in Hambleton 2008), including at Danebury, Hampshire. Excavations in Thanet have yielded a few potential donkey bones, including a definite metatarsal from an early Iron Age context which may be the earliest evidence for this taxon in Britain

(Strid in Andrews et al. 2015, 444). Their presence elsewhere in the Southeast should not be discounted.

Kitchener and O'Connor (2010) note that domestic cat has been present in Britain since the Iron Age, but that its presence prior to this is uncertain. Identification of domestic cat in prehistoric contexts has been based on context, given the difficulty of distinguishing skeletal remains of domestic and wild cat. Kitchener and O'Connor (2010, 85 citing O'Connor 2007) note that very large specimens may be 'cautiously' assigned to wild cat given their larger size. Recent finds of cat recorded from an early/middle Iron Age pit at Northumberland Bottom (Zone 330, Area B) cannot be assigned to the wild or domestic form (Kitch 2006b).

House mouse (*Mus musculus domesticus* or *Mus domesticus*) is thought to have been a Bronze or Iron Age introduction and was well-established in Southern England by the middle Iron Age (Hambleton 2008, 30; O'Connor 2010, 131-2). Scientific dating of mouse bones is problematic due to their small size and difficulty of secure identification and O'Connor (2010, 131) advises that rigorous recovery and recording of provenance as well as attention to taphonomic analysis are required to clarify the identification and history of putative house mouse finds. The status of brown hare is equally problematic, not least due to the difficulty of distinguishing the bones of brown and the native mountain hare (*Lepus timidus*). As yet there is insufficient data to indicate whether the brown hare was present prior to the Iron Age, by when it was well established (Hambleton 2008, 31).

Domestic fowl (*Gallus domesticus*) are another Iron Age introduction, though their presence does not become common until the later Iron Age (Poole 2010). One of the earliest finds of chicken comes from the HS1 investigations; it derives from an Iron Age pit fill at White Horse Stone (Kitch 2006b, 11) and is radiocarbon dated to 770-390 cal BC (NZA-22045 2429±55BP). A few potentially earlier finds of domestic fowl come from Late Bronze Age/Early Iron Age features in the East Kent Access Road excavations but the bones have not been radiocarbon dated, and there is a possibility that the finds derive from Iron Age or Roman deposits (Strid in Andrews et al. 2015).

Published reports on charred plant remains from the south-east region remain relatively scarce compared to the Thames Valley or Wessex chalk with the exception of the Thames Gateway, Eastern Kent, particularly the Isle of Thanet, and parts of the south coast. Surrey and large parts of East and West Sussex remain poorly represented. Nevertheless, the evidence that has emerged in recent years has indicated that the south-east region shows some distinct regional trends, enabling future research strategies to be formulated and demonstrating that there is potential for exciting discoveries in the future. This is a key area in terms of agricultural development and links with Europe and has produced some of the earliest dates for the introduction of certain crops. Within the region the large geographical gaps in the data are such that it is difficult to distinguish between past regional arable trends (whether driven by social and economic factors or climatic and geological conditions), varied preservation/burial conditions (particularly between brickearth and chalk soils) and uneven sampling and recovery. Several of the larger deposits recovered are derived from apparently isolated features (Pelling in Hutchings 2003; Helbaek in

Burstow and Holleyman 1957, 206-9; Giorgi 2006; Pelling 2004). A larger dataset, which includes a greater range of features, is sorely needed.

Investigations of plant remains are closely linked to major infrastructure projects and economic developments. For example, eastern Kent is relatively well represented by middle and late Bronze Age assemblages, although less well covered in the Iron Age. Far fewer sites are known from East Sussex (late Bronze Age: Black Patch, Hinton in Drewett 1982b; Itford Hill: Helbaek in Burstow and Holleyman 1957, 206-9; Mile Oak Farm and Downview, Brighton by-Pass: Hinton in Rudling 2002, 68-1 and 197) or West Sussex (middle Bronze Age: Eden Park, Littlehampton, Pelling in Dinwiddy 2012, 61-67; Bronze Age and Iron Age sites on the A27 Westhampnett Bypass: Hinton in Fitzpatrick et al 2008, 111-4 and 172-4). From Surrey a single sample is known from a Late Bronze Age pit, consisting of grain (barley and indeterminate wheat) and charcoal (Harding 1964, 14).

Of national significance is the earliest conclusive evidence for the introduction of spelt wheat (*Triticum spelta*), recorded from early Bronze Age deposits at Monkton Road, Minster, Isle of Thanet; a date of 1896-1690 cal BC (3470±30BP, SUERC-32886) was obtained on spelt glume bases (Martin et al. 2012). Middle Bronze Age records are known from both north and south of the River Thames (e.g. Pelling in Hutchings 2003; Pelling in Ritchie 2013, 36-37). It was present in the Upper Thames at Yarnton, Oxfordshire by 1690-1400 cal BC (Hey and Robinson 2011) suggesting fairly rapid adoption following its introduction. However, only the Monkton Road spelt has been directly dated (all other dates are on associated grain, either emmer or barley), making direct dating of spelt wheat chaff a research priority.

Despite the early introduction of spelt wheat to the region it is evident that it did not result in the abandonment of emmer wheat cultivation across southern Britain. With the exception of the Eden park site, Littlehampton, where contamination is possible (Pelling in Dinwiddy 2012, 61-67), spelt occurs in smaller numbers than emmer in the middle and late Bronze Age samples, presumably reflecting a gradual incorporation into the crop repertoire rather than a sudden replacement of the emmer. In fact, emmer continues to form an important component of the Iron Age (and the Roman) cereal economy in the region (Campbell 2017). The reasons for the uneven adoption of spelt and continued cultivation of emmer are likely to be complex and to be linked to cultivation regime, which in turn is likely to be linked to socio-economic and political factors rather than environmental variables (van der Veen and Palmer 1997). The introduction of spelt, with a higher gluten content than emmer, may have been the major factor in the later development of ovens for baking bread (Champion 2014).

Barley is consistently present on the sites in the region throughout the Bronze Age and Iron Age. Single samples are dominated by barley at late Bronze Age Itford Hill, East Sussex (Helbaek in Burstow and Holleyman 1957, 206-9), and middle Bronze Age White Horse Stone, Kent (Giorgi, 2006), showing that it was a major crop. It is mainly the six-row hulled barley that is recorded. Both lax and dense eared forms were present at Itford Hill (Helbaek, in Burstow and Holleyman, 1957, 206-9). Naked barley is less commonly reported, contrasting with south west region where it appears to be better represented in the archaeological record (Campbell and Straker 2003). A relatively large and exceptionally well preserved deposit of naked grain, in associated with small

numbers of hulled barley and emmer, was recovered from a pit as part of the excavations carried out for the East Kent Access Road. This material was directly dated to the late Bronze Age (Hunter in Andrews et al. 2015). The author suggests this unusual assemblage may represent a deliberate deposit. Oat grains are frequently recorded as a minor component in many charred plant assemblages from the region but the diagnostic chaff, which allows determination of wild from cultivated oats, has only been recovered from Iron Age sites: middle Iron Age deposits at A27 Westhampnett Bypass, (Hinton in Fitzpatrick et al 2008, 111-114 and 172-4) and a late Iron Age context at Hascombe, Surrey (Murphy in Thompson 1979, 311-3)

Pulses appear in a number of assemblages in the south-east region from the middle Bronze Age onwards and are more visible in the record than contemporary sites elsewhere in southern Britain. Small numbers of pulses, usually Celtic or broad beans (*Vicia faba*) (Treasure and Church 2017) have been recorded from a number of middle and late Bronze Age sites from Kent (e.g. Smith in Simmonds 2011; Hunter in Andrews et al. 2015), East Sussex (Hinton in Drewett 1982b), and West Sussex (Pelling in Dinwiddy, 2012). Thousands of beans, some showing evidence of bean weevil infestation, were recovered from a Late Bronze Age pit at Saltwood Tunnel (Stevens 2006, 5). Substantial numbers of peas have been recovered from a number of Iron Age sites, in Kent (Campbell 2017), with Celtic bean recovered in significant numbers from Iron Age pits at Westhampnett Bypass, West Sussex (Hinton in Fitzpatrick et al. 2008, 172-174). The relative importance of these two pulse crops both to each other and in relation to cereal crops remains to be fully explored.

There are a number of records for other cultivars or possible cultivars from the region. Several fragments of flax (*Linum usitatissimum*) capsule were identified from late Bronze Age pits at Saltwood Tunnel (Stevens, 2006). The absence of any seeds in this deposit lead the author to suggest that the assemblage might represent flax processing waste. Opium poppy (*Papaver somniferum*) seeds were identified at Itford Hill (Helbaek in Burstow and Holleyman 1957, 208); it is known to have been grown from the middle Neolithic onwards in central Europe (Zohary and Hopf, 1988, 137). Large numbers of seeds of hedge mustard (*Sisymbrium officinale*) found at a Bronze Age settlement site in Yugoslavia lead Kroll (1991, 167) to suggest that this plant may also have been exploited for its oil. In this respect the identification of possible *Sisymbrium officinale* seeds along with those of black mustard (*Brassica cf. nigra*), another possible oil crop, within grain assemblages recovered from pits at Black Patch are of interest (Hinton in Drewett 1982b, 383).

Material culture: technology, production and consumption

Copper and its alloys

The chronological sequence of phases of bronze production in the region is now reasonably well established (Rowlands 1976; O'Connor 1980; Needham 1996; Needham et al. 1997). Copper, tin and lead are lacking in the area and would have had to have been imported (Northover 1982), though bronze was also acquired in scrap form for reworking, as in the Langdon Bay hoard from Dover (Needham et al. 2013). Evidence for bronze casting is limited, though increasing steadily. It has been found at a variety of sites, including the late Bronze Age enclosures at Highstead

(Needham in Bennett et al. 2007, 258-65) and Mill Hill, Deal (Champion 1980, 233-7), and open sites such as Holborough Quarry, Kent (Boden 2006) and Mile Oak Farm, Sussex (Wallis in Rudling 2002, 54-6). There has, however, been no detailed regional study of this production evidence.

Rowlands (1976) provides a catalogue for the middle Bronze Age metalwork, but there is no similar inventory of late Bronze Age objects. Recent finds, especially those from metal-detecting reported to the Portable Antiquities Scheme, have added considerably to the body of evidence. Hoards have received most attention (Taylor 1993; Turner 1998), but there has been little investigation of other finds of any period; research in West Sussex, identifying a relationship between bronze, burnt mounds and watercourses (Dunkin 2001), shows the potential.

There has been no study of bronze working or bronze objects in the Iron Age. The most spectacular objects are derived from later Iron Age burial contexts in Kent, such as the Aylesford bucket (Stead 1971), the Chilham mirror (Parfitt 1998a), the Harrietsham bowl (Jarman 2002) and the equipment of the Deal 'warrior burial' (Parfitt 1995); these will be discussed further in the sections below on art and decoration and on funerary practice. There is a limited assemblage of other items, mainly personal ornaments and horse harness items, but they have received little attention.

Iron

No detailed study has been undertaken of iron production or usage in the region. Where processing residues are found, reports very often do not distinguish between smelting and smithing activity, making a true assessment of the available evidence difficult.

Iron ores are found widely in the region, notably in the Weald but also in various Tertiary deposits in the zones north and south of the chalk Downs (Salter and Ehrenreich 1984, 147-9). Some of the earliest evidence is from Brooklands, Weybridge, Surrey (Hanworth and Tomalin 1977, 18-23), where ores from the Bracklesham Beds were exploited. Other sites in the same area of northwest Surrey suggest a distinctive regional tradition of iron smelting (Starley in Hayman et al. 2012, 172-3; Starley in Lambert et al. 2013, 94-9).

Few of the primary extraction and smelting sites in the Weald show much evidence for pre-Roman activity, and that mainly in the late Iron Age (Cleere and Crossley 1995). Nevertheless, there are now growing indications that large-scale processing may have started earlier: the early Iron Age site at White Horse Stone (Hayden and Stafford 2006) produced plentiful evidence for all stages of iron working in the sixth or fifth century BC, and, although the source of the ore is not certainly established, it seems very likely to have come from the Weald. Excavations at Birchen Lane, Haywards Heath, Surrey, revealed a smelting site dated to the Middle Iron Age. Furthermore, the iron ingots (so-called 'currency bars') in which worked iron was distributed are found in a variety of forms each apparently characteristic of a production area; the plough-shaped bars, possibly to be assigned to the Wealden ores, are not well dated, but may not be as late as the late Iron Age (Allen 1967; Hingley 1990).

Iron objects are surprisingly rare in the settlement record, but it is unclear whether this represents the real availability of iron in society, or is a product of discard, deposition and poor survival. There has been no detailed study of iron artefacts in the region.

Gold

Ornaments of the middle and late Bronze Age are known from Kent and Sussex, but not Surrey (Eogan 1994). The gold itself may have originated in Ireland and some of the objects are likely to be imports; by the late Bronze Age the existence of distinctively British types of bracelet suggests the possibility of local working, but no evidence of this has been found. There are distinct patterns in the regional distribution of different types: in the middle Bronze Age bar torcs are limited to Kent, with one exception in Sussex; the late Bronze Age 'lock rings' and 'hair rings' are found only in coastal locations in Sussex. Many of the finds are part of small, deliberately deposited hoards; there was a long tradition of depositing gold in the Medway at Aylesford.

After the late Bronze Age there is a gap of more than 500 years before the reappearance of gold in the late Iron Age, in the form of coinage, discussed in more detail below. Although gold was used in some areas at this period for personal ornaments, such as the torcs from East Anglia or the Winchester hoard from Hampshire (Hill et al. 2004), there is no evidence of this in the region.

Silver

Silver is a rare find anywhere in British prehistory before the late Iron Age. A bent finger-ring from Park Brow, Sussex (Wolseley 1927, Fig. J), dating to the Early La Tène period, is a unique import from Switzerland. Silver became more common with its use for coinage in the late Iron Age, when it was also occasionally used for personal ornaments, such as the brooch and bracelet from cremation burials at Folkestone (Winbolt 1925, Fig. 3a,c) and the brooch and chain from Westhampnett (Fitzpatrick 1997, 95-6). The silver was presumably derived from coinage or plate originating in the Roman world, but there is no evidence for the working of silver in the region.

Flint

The evidence for the occurrence of flint tools in later prehistory has recently been reassessed, and a convincing argument made for its contemporary use, albeit in a rather basic industry (Young and Humphrey 1999; Humphrey 2003; 2007). There has, however, been no detailed study of flint tools from later prehistoric sites in the south-eastern region in the light of this new understanding. One specific example of the continued use of flint might be in the working of shale (discussed below), as seen at sites in the Medway valley, perhaps in a way comparable to that well evidenced in Dorset (Calkin 1953).

Stone

There have been no systematic studies of the use of stone in later prehistory in the region. A small number of items such as whetstones exist, but the majority of the objects are querns. Two major quarry sites are known, both exploiting stone from the Lower Greensand. The site at Lodsworth, West Sussex (Peacock 1987), was producing querns from an outcrop of suitable rock in the Hythe Beds; production may

have started as early as the late Bronze Age and continued throughout the Iron Age and into the Roman period. The transition from saddle to rotary querns coincided with a change in the organisation of production; the saddle querns were made by individual users visiting the site to acquire rock, while the presence of rough-outs of rotary querns shows the existence of on-site production, presumably by specialist workers. The other known site is at Folkestone (Keller 1989), where production of rotary querns started before the end of the Iron Age; recent excavation has produced clear evidence of the production process (Green in Coulson 2013, 50-1). Finds from excavated settlement sites include a variety of other rock types, and other quarry sites, so far unidentified, must have existed, perhaps on the Lower Greensand or on suitable rock outcrops on the Tertiary beds overlying the chalk of the North Downs. Apart from the detailed study of Lodsworth, little is yet known about the organisation of production or the range of distribution of querns in the region, nor about the transition from saddle querns to rotary querns.

Shale

Shale objects, mostly bracelets, are known from a small number of sites. The earliest is a piece of shale deposited in the Bronze Age Dover boat of about 1600 BC (Clark 2004, 216), but they are more common in Iron Age contexts. Though possibly derived from sources in Dorset, the evidence of the working of shale at sites in the Medway valley, such as White Horse Stone (Booth et al. 2011, 215), suggests the possibility of another source, perhaps in northern France.

Pottery

Pottery is by far the most prolific material recovered from later prehistoric sites and has a comparatively long history of detailed study and publication. The Bronze Age sequence for Sussex is summarised by Seager Thomas (2008), and that for Kent by McNee (McNee 2012); for Surrey the limited evidence is discussed by Needham (1987) and Hanworth (1987); some older assemblages have been reassessed in the light of more modern understanding (Seager Thomas 2010). Changes in pottery production in the late Iron Age are discussed by Thompson (1982).

There is little evidence for the actual production of pottery (Hamilton 2002) and most studies focus on the technology of production, including form and fabric; studies of surface finish, decoration and use wear are less common, but increasingly form part of modern reports. As a result, the regional sequences of form and fabric are reasonably well established, even if not synthesised in detail. There has been much less discussion of the social organisation of production and distribution, especially the possibility of specialist craft production. Though it is clear that the range of vessels produced expands during the period, the function of the various forms has been little discussed, either by consideration of size and residues or by scientific methods such as lipid analysis; the social context of usage also needs more discussion. Though most sites display the highly fragmented and worn assemblages with low mean sherd weight typical of later prehistoric sites in southern England, there has been little discussion of breakage, discard and subsequent history, apart from an implicit assumption of middens and redeposition.

Most pottery is of local production until the late Iron Age and definite imports into the region are rare: a middle Bronze Age Trevisker urn found on the Isle of Thanet (Gibson

et al. 1997) had clearly been brought from Cornwall. Despite close parallels with continental pottery in the early Iron Age, especially in Kent, there are no certain imports (Barclay et al. 2006, 66); one sherd from White Horse Stone (Morris in Barclay et al. 2006, Fig. 3.7f, WHS/147), from a bowl with a distinctively scalloped rim, if not an actual import, is a close copy of a French type (Milcent 2017, 93 and Fig. 7.9). The picture changes in the late Iron Age, with the importation of amphorae and later other types associated with the preparation, serving or consumption of food and drink, especially fine table wares (Fitzpatrick and Timby 2002). The Gallo-Belgic wares, produced from c. 15 BC, show two centres of importation, one around Chichester and the other in the Thames estuary; the highest concentration of such pottery is in mid-Kent and the Medway valley.

Salt

Remains of salt making have been found in the region since the nineteenth century, though they have not always been recognised, and the various industries are not as well-known as the so-called Red Hills of Essex, major production sites of the late Iron Age and early Roman period (Fawn et al. 1990). It is possible to define three local centres of production in the region, two in north Kent on the Thames Estuary and one in West Sussex, while another may have existed in south-east Kent.

In north-west Kent briquetage including pedestals and containers has been found at Cobham Golf Course (Davies 2006) and at Hoo St Werburgh (Moore 2002, fig. 3, 1-2) and other sites in the Isle of Grain (Dawkes 2017, 282-4), all of late Bronze Age date, and at early Iron Age sites including Cliffe (Cameron and Barford in Kinnes et al. 1998, 54), the A2 Improvement sites (Morris in Allen et al. 2012, 228-45) and sites on the HS1 route (Barclay et al. 2006, 104-14; Booth et al. 2011, 216-8); other evidence of salt working has also been reported from the Isle of Grain in the late Iron Age (Philp 2002, 139) and similar pedestals, not well dated, have been found in the Upchurch Marshes (Barford 1990, 81). In north-east Kent, pedestals have been found at Swalecliffe (Masefield et al. 2003, fig. 28). Distinctive containers, many of semi-cylindrical form, have been found at sites including Minnis Bay on the Isle of Thanet (Worsfold 1943, fig. 8, no. 10) and Highstead (Bennett et al. 2007, 268-70). A distinctive form of briquetage that first appeared in the late Iron Age (MacPherson-Grant 1980b) suggests the possibility of another production region, possibly in the south-east of the county. All of these groups are similar to industries known elsewhere around the southern North Sea and the English Channel, especially those in Essex (Barford 1990), around Poole harbour in Dorset (Morris 1994) and in Lincolnshire (Lane and Morris 2001), and across the Channel in Belgium and Holland (Thoen 1975) and in northern France (Prilaux 2000). The precise method of manufacture is unclear, especially since some of the sites are a significant distance from the coastline as it is suggested to have been in later prehistory; with clear evidence of production rather than consumption, the sites may have been used for a secondary stage of the process, perhaps the final drying and packing of salt which had been previously evaporated elsewhere from sea-water.

In Sussex salt was being produced in the middle Bronze Age in the east of the county, as at Peacehaven (Hart 2015, 99); later evidence from the early Iron Age is known from Bishopstone (Bell 1977, 122-4). There is evidence for salt production around Langstone and Chichester Harbours, as well as sites further east, though precise

dating is a problem. The industry is known not so much for the production sites as for the inland distribution of sherds of briquetage containers used to transport the salt (Bradley 1975). The contexts in which these are found show that local production had begun by the middle Iron Age and continued into the Roman period, with distribution reaching well into Sussex and Hampshire.

Glass

Glass beads are found in small numbers at Iron Age sites in Sussex and Kent, but very rarely in Surrey (Guido 1978). Some are small beads in plain glass, either blue or occasionally amber, but there are also more elaborate beads in blue glass with spiral inlays, Guido's Class 6, the commonest type in southern England. Some types of beads were made in England in the later stages of the Iron Age, but these are extremely rare in the region. All the other beads seem likely to be imports from production sites in continental Europe, perhaps entering through Kent. Chronology is difficult since most examples are found unstratified or unassociated, but they may not date before about the third century BC at the earliest.

Wood

Wooden objects are rare survivals everywhere in British prehistory (Earwood 1993), but the direct or indirect evidence for boats, wheeled vehicles, houses and smaller items such as buckets and tankards suggests a sophisticated level of woodland management, timber working, carpentry and joinery. Occasional survivals in suitable contexts give a glimpse of this industry, such as the buckets from Aylesford (Evans 1890; Stead 1971), Swarling (Bushe-Fox 1925) and Alkham (Philp 1991); the Dover boat (Clark 2004); the hurdles, ladders and bucket from waterholes at Swalecliffe (Masefield et al. 2003; Masefield et al. 2004); and the varied items from the Shinewater wetlands near Eastbourne (Greatorex 2003). The region has many other suitable coastal, estuarine or wetland environments where wood and other organic materials could potentially survive.

Textiles

Actual textiles have not survived from later prehistory, but the tools presumed to have been used in their manufacture are widespread, if not particularly common, finds. Spindle whorls are comparatively rare finds. Loomweights are more common and follow the established typological sequence (see Barford and Major 1992 for chronology): cylindrical ones from the middle Bronze Age and late Bronze Age, pyramidal ones from the final Bronze Age and early Iron Age, and triangular examples from the Iron Age. Bone weaving combs are rarer (e.g. Parfitt 2000). There is no regional study of this craft industry.

Antler and bone

Occasional artefacts of antler or bone have been reported, and even more rarely the evidence of manufacture. Neither is common and there has been no systematic study of the objects in the region.

Coinage

One of the most important developments in the later Iron Age was the introduction of coinage (Haselgrove 1987; Creighton 2000). The popularity of metal-detecting and the success of the Portable Antiquities Scheme have led to a significant increase in the number of known coins. There is considerable variation within the region in the quantity of finds reported; Kent has more than one and a half times as many finds as Surrey, West Sussex and East Sussex combined. The records are totally dominated by coin finds: in Kent and Surrey these comprise more than 90% of all finds, in West Sussex it is slightly less, but in East Sussex only 67%. The reasons for this variability, whether in coin usage, coin deposition or modern recovery, are not clear.

Recent research has either focused on the coinages of specific political groups, such as Bean's study of the coins of the Atrebates and Regni (2000), or of a region, such as Holman's research on the coins found in Kent (Holman 2000; 2005a). Though these include the majority of the coins they are not exhaustive, and certain areas, notably Surrey, have received limited coverage (Hanworth 1987, 151-5). Knowledge of the basic numismatic history has increased rapidly, especially for the early potin issues, whose significance has been transformed by recent finds (Haselgrove 1988; 1995; 2006; Holman 2016).

There is limited evidence for the production of coinage. Fired clay moulds which may have been used for the casting of metal pellets to be used as coin blanks are known from Canterbury (Blockley et al. 1995, 1102) and Rochester (Harrison 1991) in Kent, and from Ounce's Barn, Boxgrove (Bedwin and Place 1995) in Sussex. A die for stamping a Gallo-Belgic A stater found at Bredgar, Kent, is a rare example of this type of object and nationally important.

Attempts to correlate the coinage with the rest of the archaeological record have been fewer, though the increasing number of coins found in controlled excavations on settlement sites, especially smaller denominations of bronze and the later issues of potin, will provide valuable information for the role of coinage. Holman's study of the distribution and key find spots in Kent (Holman 2005a) and Haselgrove's research on the archaeology of the potin coins (1988) show the potential. The concentration of the earliest gold coins, Gallo-Belgic A and B, in west Kent and Surrey has no obvious correlates in the archaeology of settlement sites and other finds and remains problematic. Though the impact of coinage in providing a new means of structuring social relations through the manipulation of wealth is clear, the social context of its original introduction and acceptance needs further research.

Art, decoration and adornment

There have been no direct studies of the occurrence or nature of decoration on artefacts, clothing or the body. Evidence is limited to surviving objects, mainly inorganic materials such as pottery and metalwork, and to personal ornaments and artefacts associated with the treatment of the body.

Decoration on artefacts

Decoration was only applied to pottery at certain periods, and its significance has not been researched in detail. Barrett (1980) used the incidence of decoration to define a

‘post-Deverel-Rimbury decorated phase’ of pottery. The reality of such a chronological phase has been questioned (Brudenell 2008) for eastern England, and it is certainly difficult to find characteristic assemblages in Kent, while in Sussex the existence of a distinct chronological phase is also problematic (Seager Thomas 2008, 38-40). The increasing availability of radiocarbon dates from sites such as Cliffs End Farm, Isle of Thanet, also casts doubt on the reality of a distinct phase of decoration (McKinley et al. 2014, 147-56). There is a need to clarify the position, with quantified analyses of appropriate assemblages, before the significance of decorated pottery and the contexts in which it is found can be properly understood.

Decoration becomes more common on pottery of the middle Iron Age, though no quantified studies have been published. In Sussex, Cunliffe (2005, 104 and Figs 5.5, A:15-A16) has distinguished two ceramic style zones on the basis of the decoration of saucepan and similar pottery: the St Catherine’s Hill-Worthy Down style covers central and eastern Hampshire as well as Sussex west of the Arun, while the Caburn-Cissbury style includes the rest of Sussex. A related group in Surrey, the Hawk’s Hill-West Clandon style, can also be distinguished. The position in Kent is less clear, though it has been suggested that a Mucking-Oldbury style can be distinguished there and in southern Essex (Brown 1991). Decoration continues on some pottery into the late Iron Age, with a Late Caburn-Saltdean style in East Sussex and a Mucking-Crayford style in Kent and Essex (Cunliffe 2005, 115 and Figs 5.9, A:29). The significance of these distinctive and broadly contemporary regional styles at a time when the great bulk of the pottery was undecorated has not been explored.

The later stages of the Iron Age also saw the proliferation of decoration on metalwork, though few pieces have been found in secure associated contexts and chronology is difficult. The most important assemblage is that from Grave 112 at Mill Hill, Deal, the so-called ‘Warrior Burial’, which contained a sword in its decorated scabbard, a shield and a crown, as well as coral-inlaid objects including a brooch, a suspension ring and a strap-end, together making up one of the most important groups of decorated metalwork in the British Iron Age (Parfitt 1995, 18-20, 59-95; Garrow and Gosden 2012, 226-41). Otherwise, there are a few other complex items or elaborately decorated objects: the Aylesford bucket (Stead 1971), the Chilham mirror (Parfitt 1998a) and the Harrietsham bowl (Jarman 2002), all in Kent, stand out; the two bucket burials from Alkham, Kent (Philp 1991) need further research. Otherwise, the majority of pieces are more modest, with few examples of enamel inlay decoration. The database of ‘Celtic art’ objects (Garrow et al. 2009) provides a regional corpus for further analysis. There are clear patterns of regional variation in the occurrence of decorated metalwork: finds in the region are mostly limited to Kent and the Sussex coast (Garrow and Gosden 2012, Fig. 3.2), but there have been no studies of the regional finds comparable, for example, to that of East Anglia by Hutcheson (Hutcheson 2004; 2007).

Personal ornament and the body

Evidence for the decoration, clothing and other treatment of the body is inevitably limited to a range of surviving ornaments and other artefacts associated with the body. The lack of a furnished inhumation tradition such as was common in many parts of western Europe in the La Tène period means that such evidence is rarely available in association with a body; Grave 112 at Mill Hill, mentioned above, is a rare example of

what was presumably a very atypical Iron Age male. Otherwise, we have no evidence for the nature of costume or clothing, or for pattern, colour or texture.

There was considerable regional variation in personal ornament in the middle Bronze Age. Pins and penannular bracelets with strong continental affinities were common on Kent, while Sussex showed a preference for quoit-headed pins and annular bracelets, types with distributions extending westwards, and the distinctive 'Sussex loops' (Rowlands 1976, 84-98 and maps 21-4). In the late Bronze Age pins were the prevailing method of fastening clothes (O'Connor 1980, 119-26, 53, 200-6, 56-57).

In the early Iron Age brooches began to appear as a new style of clothes fastening and ornament, though with marked regional variation. Brooches of Hallstatt, La Tène I and La Tène II forms are commonest in Kent, with few in Sussex and even fewer in Surrey (Hull and Hawkes 1987 and Portable Antiquities Scheme database; Adams 2014). The latest forms of pin, the swan's neck and ring-headed types show the opposite distribution: they are very rare in Kent, for example at White Horse Stone (Hayden and Stafford 2006), while they are much more common in Sussex and the picture in Surrey is unclear. It is possible that this represents two regionally distinct attitudes to the new fashion and different rates of adoption, though more finds are needed for certainty.

In the late Iron Age the region shows the same evidence for the proliferation of personal ornaments, especially brooches, as elsewhere in southern England (Hill 1997, 96). In Kent these are seen in settlement sites such as Canterbury (Blockley et al. 1995, 955-82) and cemeteries such as that at Mill Hill, Deal (Parfitt 1995, 95-104), and in Sussex especially in the cemetery at Westhampnett (Fitzpatrick 1997, 91-7). Though mostly of bronze, there is a small number made of silver.

As well as brooches, there were also metal bracelets, in bronze as at Borough Green, Kent (Warhurst 1953), or occasionally in silver, as at Folkestone (Winbolt 1925, Fig. 3c). Biconical bronze beads, as at Quarry Wood Camp (Kelly 1971, 77 and Fig. 9.8) or Bridge (Watson 1963, 186 and Fig. 14.11), both in Kent, may hint at a regional fashion.

Ritual practices

For most of later prehistory in Britain there are no specifically ritual sites or monuments. Instead, ritual practices were integrated into everyday life and the evidence for them is seen in the settlement sites (Bradley 2005). Towards the end of the Iron Age distinct areas were set aside for burial and a very small number of buildings can be identified as shrines or temples.

Deposition

Deposition of bronze in wet places was a widespread practice in the middle and late Bronze Age (Bradley 1998) and the practice clearly continues throughout the Iron Age, but here has been no systematic survey covering the south-east region. Evidence is variable, as few of the smaller rivers have had much dredging or construction work. The Thames has a long history of discovery, including many later Bronze Age bronzes (Needham and Burgess 1980), early Iron Age daggers (Jope 1961) and swords (Stead 2006); more recent finds from former channels of the river include an Iron Age bronze

shield from Chertsey (Stead 1987; Hayman et al. 2012, 32) and Iron Age swords from Shepperton (Hayman et al. 2012, 45-58). The Medway near Chatham dockyard has produced many bronze items, while further up the same river at Aylesford there was a long-lasting practice of depositing gold and bronze at what may have been a significant place in the landscape (Champion 2004). Bronzes recovered from what were once wet places include the finds from Princes Road, Dartford, Kent (Hutchings 2003) and from the Willington Levels, Sussex (Greatorex 2003). There is clearly scope for more detailed research on the landscape context of later prehistoric deposition.

Deposition of bronze and other items on dry land has received less attention, but the recognition that not all deposits on later prehistoric settlement sites represented casual loss or simple rubbish disposal was the key to understanding some of the complexities of the sites; it has now become accepted that bronze items and other artefacts in the Bronze Age (Barber 2003, 43-78) and some items in pits and ditches of the Iron Age (Hill 1995) are the result of deliberate deposition. Brück (1999) has related some such deposits to critical events in the life cycle of middle Bronze Age houses, while Needham (1992, 60-5) has drawn attention to 'event-marking' deposits, especially late in the life of late Bronze Age sites.

Again, there has been no systematic attempt to explore these processes in the region, or to place them in a broader study of site formation processes, though recent site reports have increasingly included discussions of this topic, for example at St. Anne's Hill, Eastbourne, where more than 100 pits were excavated (Doherty and Greatorex 2016, 12-21). Some anecdotal examples show the potential for such a wider study. At South Dumpton Down, Kent (Barber 2003, 60 and Figs 12-3), a carefully selected and placed deposit of bronze objects was found in a small pit cut into the ditch fill of the middle Bronze Age enclosure. At Thurnham, Kent, a disused waterhole, probably of later Bronze Age date, was filled with a deliberate deposit of stone, containing some worked flint and bronze artefacts (Lawrence 2006); in a similar fashion a disused waterhole at Thanet Earth contained a carefully placed deposit of a bronze palstave (Rady 2009, 18). For the Iron Age, Hamilton (1998) has demonstrated the structured nature of the finds in pits at the Caburn, and there is good evidence for deliberately placed deposits in Iron Age pits on Thanet (Moody 2008, 123-4). Some deposits may be best interpreted as marking a significant event in the life of the site or an inhabitant: at Cuxton, Kent, for example, a large deposit of Iron Age pottery, in which the sherds were abnormally large and freshly broken, but had been subjected to intense heat, may be the remains of a feast, possibly marking a significant event (Barclay et al. 2006, 117-8), while many sites contain single deposits that incorporate a considerable percentage of the site's total assemblage of pottery and bone. The number of later prehistoric sites now excavated provides a good sample for the detailed exploration of such practices.

The deposition of animal parts or complete carcasses, sometimes referred to as animal bone groups, has also been the subject of considerable research and debate in recent years (Hambleton 2008; Morris 2008, 2011). Interpretations have varied from waste and discard of unwanted animals to ritual deposition (Morris 2008). A horse burial in a cut grave in an Iron Age cemetery at Mill Hill, Deal, Kent suggests unequivocally that this was a valued animal (Bendrey 2010 14, citing Legge 1995). In addition, the HS1 excavations revealed a number of animal bone groups, including an articulated equid

skeleton and part skeleton at White Horse Stone (Kitch 2006a) and an early/middle Iron Age pit at Northumberland Bottom, with partially articulated skeletons of calves and red deer, limbs and miscellaneous elements of cattle, sheep/goat and pig and wild boar, cat and pine marten, and small mammal skeletons, the latter probable evidence for the exposure of the pit (Kitch 2006b). A range of animal bone parts have also been recorded in Bronze and Iron Age features at Cliffs End Farm, Kent, including a mortuary feature, burial pit, and in association with human burials, providing evidence for mortuary rituals and feasting activity (Grimm and Higbee in Mckilney et al. 2014). In particular, the data from Cliffs End suggests that the deposition of neonatal lambs may be 'a feature of Late Bronze Age mortuary activity', while the burial of horses and horse elements and of a possible dog pelt is evident in the Iron Age (Grimm and Higbee in Mckinley et al. 2014, 174). In order to clarify the depositional sequence and underlying human actions of such placements, excavation and recording in the field and reporting needs to be rigorous and follow good practice (Morris 2011, 183). As with other categories of deposited material, there is now enough evidence from settlement sites to offer opportunities for regional surveys.

Temples

Structures associated with religious practice did not occur before the late Iron Age. The best documented of these temples in the south-east of England, on Hayling Island, lies just over the border in modern Hampshire but must be regarded as part of the Chichester-Fishbourne complex in the late Iron Age. The post-Conquest Romano-Celtic temple was underlain by an Iron Age predecessor, dating from the middle of the first century BC, with a rectangular enclosure and multiple deposits of animal bone, weaponry and coins (Haselgrove 2005; King and Soffe 2008). Elsewhere in the region, pre-Conquest origins for later temples are not so clear. In Sussex there is a late Iron Age rectangular structure at Lancing Down (Bedwin 1981) and Iron Age coins at Ratham Mill (Rudling 2008), but the nature of pre-Conquest activity is obscure. Similarly in Surrey (Bird 2008) Iron Age coins are known from temple sites at Farley Heath and the heavily-looted Wanborough, but pre-Conquest activity is unclear. In Kent, the fourth-century AD masonry temple at Worth (Klein 1928) was built on top of a major late Iron Age (and possibly earlier) site surrounded by a substantial ditch (Holman 2005a, 8-10; 2005b); the evidence for a late Iron Age temple rests entirely on the discovery of some miniature bronze shields, which may be of pre-Conquest date. A rather different type of site is indicated at Springhead, where the small town and temple complex of the Roman period were preceded by a large enclosure of late Iron Age date overlooking the headwaters of the Ebbsfleet (Andrews 2008).

Funerary practice

Formal burial rites are well known for the middle Bronze Age but are harder to document for the late Bronze Age. For most of the Iron Age there is no regularly recoverable burial record, until the re-appearance of cremation and cremation burials in the first century BC. In addition to formal burial, human remains occur in other primary or secondary contexts.

For the middle Bronze Age, cremation burials are known in Sussex (Ellison 1978), Surrey (Needham 1987, 108) and Kent (Champion 1982, 34), though most are old

finds with surprisingly few recent discoveries. The cremation deposits are frequently placed in an inverted bucket urn, though unurned burials are also known. They often occur in small groups in and near a small round barrow, as at Itford Hill, Sussex (Holden 1972), or Bridge By-pass, Kent (Macpherson-Grant 1980a). In Sussex, these small cemeteries can sometimes be directly associated with a nearby settlement, as at Itford Hill (Burstow and Holleyman 1957; Holden 1972).

In the late Bronze Age unurned cremation burials are found, dated by radiocarbon or by location. They are now regularly placed within the settlement rather than in a dedicated cemetery area. At sites such as Shelford Quarry, near Canterbury, Kent (Boden 2004), the burials seem to be placed near the outer edges of the settlement area, perhaps deliberately placed to mark important spatial boundaries. These cremation deposits are the regional expression of practices seen more widely in the late Bronze Age of southern Britain (Brück 1995), though no detailed study has been done of the now quite extensive body of evidence. As in the middle Bronze Age, many of the burials include only a small proportion of the burnt bone that would be expected; though often described as 'token' burials, they are perhaps more correctly thought of as deliberate fragmentation of the body (Brück 2006); it is not at all clear what happened to the rest of the bone and pyre material, but it may have been buried or otherwise dispersed in the settlement or its surrounding landscape. Excavations at Cliffs End Farm, near Ramsgate, Kent have revealed a large feature, possibly originally a quarry, the fill of which was used for burials (McKinley et al. 2014); there were three fairly short-lived episodes of burial one in the late Bronze Age

South East Research Framework Resource Assessment and Research Agenda for the Middle Bronze Age to Iron Age periods (2011 with additions in 2018 and 2019)

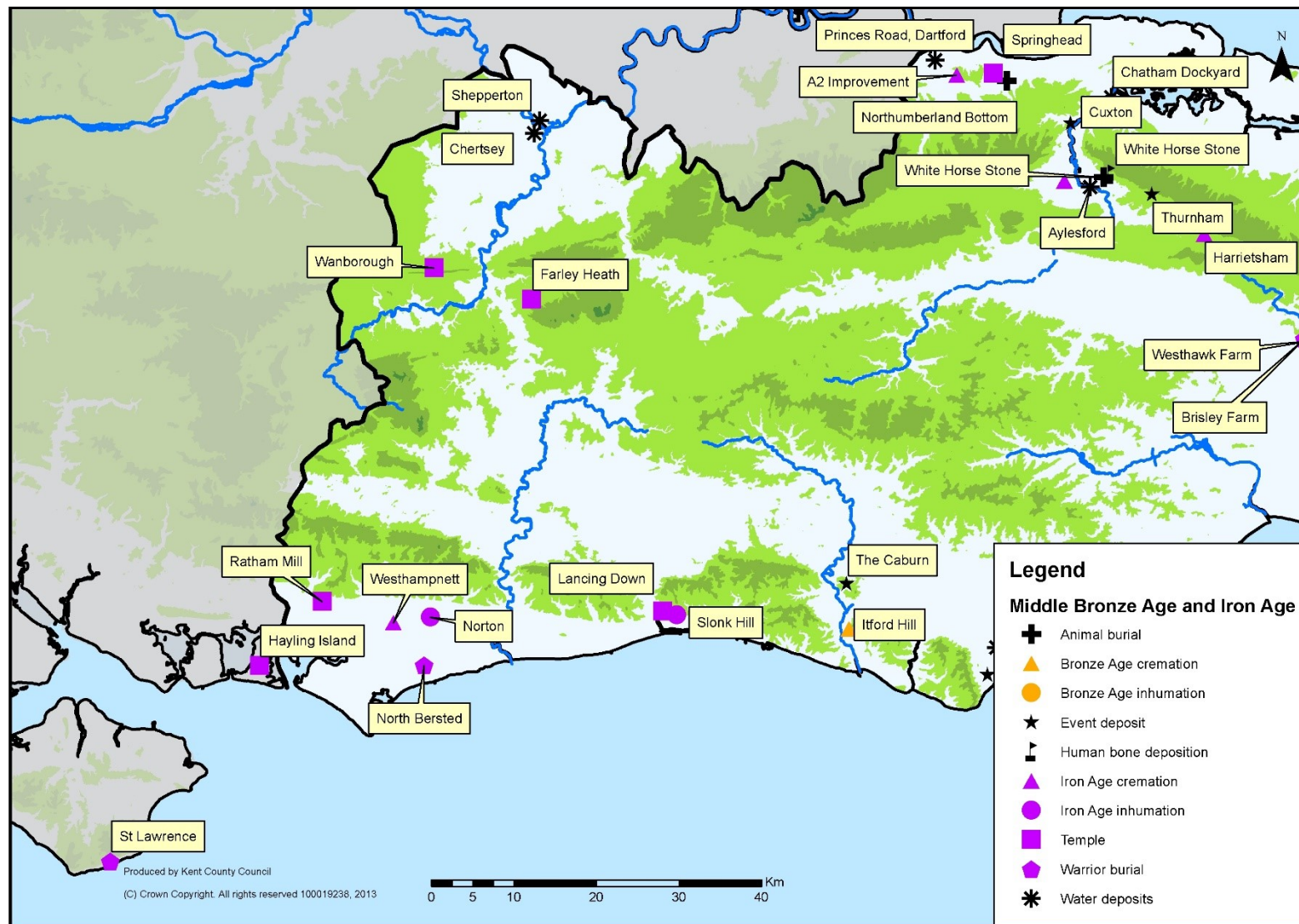


Figure 3 Ritual and funerary sites considered in the text (west)

South East Research Framework Resource Assessment and Research Agenda for the Middle Bronze Age to Iron Age periods (2011 with additions in 2018 and 2019)

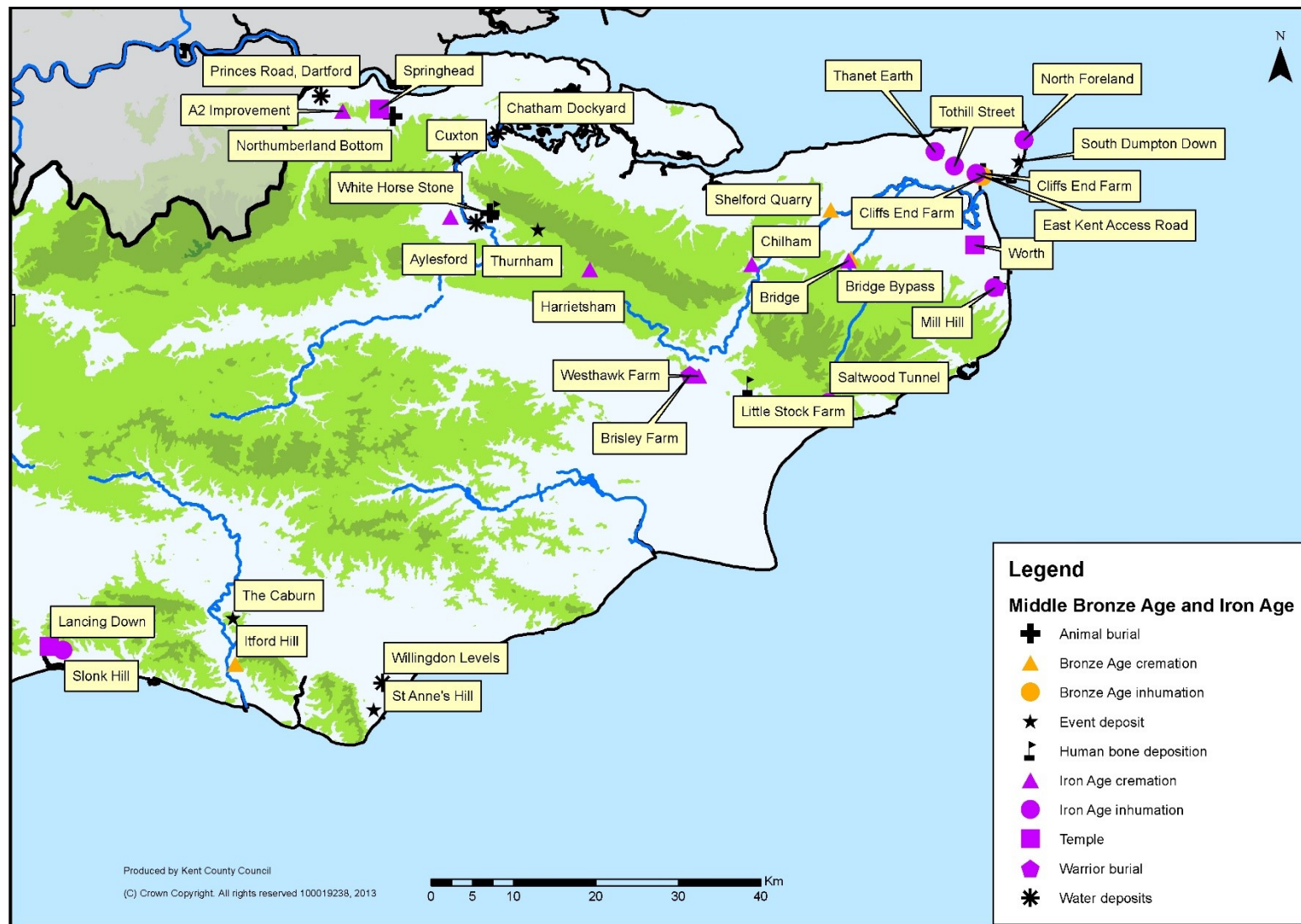


Figure 4 Ritual and funerary sites considered in the text (east)

and two in the early Iron Age. The rites were varied, including inhumation of fully articulated corpses, manipulation of the remains and redeposition of articulated fragments, exposure and excarnation, as well as burial of individual bones. The East Kent Access Road excavations also located a number of inhumations dated to the late Bronze Age (Andrews et al. 2015, 102-5, 11-2). These assemblages are very rare for this period and provide a nationally important group of late Bronze Age skeletons.

For most of the Iron Age there is a marked lack of evidence for formal burial rites throughout the region. In the late Iron Age burials reappear, at least in two areas. In east and north Kent cremation cemeteries form the southern extension of a regional practice centred on Essex and Hertfordshire, termed the 'Aylesford' or 'Aylesford-Swarling' tradition after two of the earliest cemeteries excavated, both in Kent (Evans 1890; Bushe-Fox 1925; Birchall 1965; Stead 1976). The chronology of this innovation has been much debated, but in the light of recent revisions to the continental chronology for the late Iron Age, a date around or before 100 BC may be likely. Within this Aylesford-Swarling tradition there are a small number of richer graves, termed the 'Welwyn' and 'Lexden' groups by Stead (1967, 44), though none of the burials in Kent is as richly furnished as some of those north of the Thames. Perhaps what would originally have been the richest burial was a poorly preserved, isolated cremation burial at Westhawk Farm, near Ashford, dating to just before the Roman conquest, where the ashes were placed in a bronze-bound wooden box and accompanied by a bucket and imported pottery and bronze vessels, and possibly other more elaborate items (Booth et al. 2008, 27-34). Two other rich cremations were found in the A2 improvement scheme in north-west Kent: one contained pottery, brooches and other metalwork, the other a bucket and other metalwork (Allen et al. 2012, 288-302). Elsewhere, Burial Y at Aylesford contained an elaborately decorated bucket and an imported set of Roman bronze tableware, comprising a jug and a pan, while Burial Z included a bronze-bound wooden tankard (Birchall 1965); a burial at Chilham was accompanied by a bronze mirror (Parfitt 1998a), a bronze bowl was found in one of the burials at Harrietsham (Jarman 2002), and at Bridge a bronze helmet was used to contain the cremated remains (Farley et al. 2014). These finds suggest considerable variation in wealth and status among those buried, though there has been no recent study of the burial rite, or of regional or social variability within the wider tradition.

These burials are confined to north and east Kent, being absent in the west of the county and in Surrey. A variant tradition appeared in West Sussex, most notably at the large cemetery at Westhampnett, near Chichester (Fitzpatrick 1997); radiocarbon dating of the burials suggests a much earlier origin for the practice than originally proposed (Fitzpatrick et al. 2017). Cremated bone, ash and the remains of objects that had also been burnt in the pyre were placed in pits, unurned but frequently accompanied by a pot and other items, especially brooches.

There is accumulating evidence for a localised tradition of Iron Age inhumation in East Kent, seen in cemeteries such as those at Mill Hill, Deal (Parfitt 1995), Tothill Street, Minster (Gollop and Mason 2005) and Thanet Earth (Rady 2010, 8). Though most frequent in the late Iron Age, it has earlier origins, with radiocarbon dates going back to at least the third century BC (Parfitt 1998b); a burial at North Foreland, Broadstairs

(Perkins and Macpherson-Grant 1981, 21-4), containing distinctive sherds of Early La Tène pottery, and a group of poorly preserved inhumations at Saltwood Tunnel, also containing early Iron Age sherds but difficult to date precisely (Riddler and Trevarthen 2006), suggest that the tradition may be even earlier. The East Kent Access Road also revealed a number of inhumation burials (McKinley in Andrews et al. 2015, Vol.2, 353-74), including a small cemetery (Andrews et al. 2015, Vol. 1, 154-7); seven of the burials were deposited within a comparatively short time in the fourth and third centuries BC (Barclay and Stevens in Andrews et al. 2015, Vol. 2, 575-7). There are occasional examples of deliberate inhumations elsewhere, for example the burials at Slonk Hill (Hartridge 1978) and Norton (Seager Thomas 2005) in Sussex.

A distinct group of inhumations comprises the so-called warrior burials. Grave 112 at Mill Hill, Deal, has already been mentioned, and three other burials can be added. A burial from North Bersted, West Sussex, probably of first century BC date, contained a range of items including a rare example of a helmet (Taylor et al. 2014, 59-64, 121-8); it was an isolated burial and can be best paralleled by a group of such burials belonging to the later Iron Age and widely scattered throughout England, such as that found at St Lawrence, Isle of Wight (Jones and Stead 1969). The excavation of a large area of late Iron Age occupation at Brisley Farm, near Ashford, Kent, revealed two burials of a rather more unusual nature and dating to about the time of the Roman conquest (Stevenson 2013, 151-79): two adult males, both with sword, spear and shield, were found in small rectangular enclosures, probably originally covered by barrow mounds, attached to a larger enclosure in the ditches of which were pottery and animal bone suggestive of feasting. As with the richer cremation burials mentioned above, the full significance of these distinctive burials for our understanding of later Iron Age society remains to be considered.

Human skeletons are also found as deliberate deposits in Iron Age storage pits, as elsewhere in the south of England (Whimster 1981; Wilson 1981; Wait 1985). They seem particularly common on the Isle of Thanet (Moody 2008, 124), but it is not clear if this is simply a product of the density of Iron Age settlement and of excavation there. There has been no detailed study of this practice in the region.

Individual human bones occur regularly in settlement sites. Some are found in the ordinary fills of features; though sometimes taken as evidence for excarnation and dispersal (Carr and Knüsel 1997), studies of weathering (Madgwick 2008) show that they are less weathered than animal bones and had presumably been concealed and protected somewhere. Occasionally, human bones were deposited in clearly deliberate places: at Little Stock Farm, Kent, for example, fragments of human skull had been placed in an entrance posthole in a fence line of probable early Iron Age date, while at White Horse Stone a human skull and a selection of long bones had been placed near the bottom of a pit (Booth et al. 2011, 235-6). There has been no detailed study of this phenomenon in the region.

Eating and drinking

The limited knowledge concerning agriculture and food production has been described above, but even less research has been published on the preparation and consumption of food and drink. Querns have been reported but there has been no discussion of the transition from saddle querns to rotary querns. The settlement evidence is frequently so poor that structures such as hearths and ovens have rarely been reported, though large-scale modern excavations with improved recovery and recording could, with appropriate survival conditions, provide plentiful evidence.

Pottery is the most abundant evidence, but few reports have contained detailed discussion of use wear, especially burnt residues; the ceramics report for the HS1 project in Kent is an important beginning for such a study (Barclay et al. 2006, 85-104). Although there is great scope for the study of the types and sizes of pots (Morris 2002), little work has been done in the region. One significant observation is that the early Iron Age vessels from East Kent are larger than those from elsewhere in the south (Booth et al. 2011, Fig. 4.37); the explanation needs further research, to see if it relates to different foodstuffs or different ways of preparing and serving the food, or if it is following continental practices.

Evidence for cooking practices is very limited. It has been suggested that perforated clay plates found in the Thames estuary region and further north in the later Bronze Age were elements of ovens for baking bread, but they seem to have left no technological legacy (Champion 2014). Many sites have produced quantities of fired clay and occasionally hearths, but structural evidence for ovens is rare.

The biggest change was in the late Iron Age. Mediterranean amphorae indicate the importation of wine and later olive oil; other exotic edible foodstuffs, as demonstrated at late Iron Age Silchester, where olive and seeds of coriander (*Coriandrum sativum*), dill (*Anethum graveolens*) and celery (*Apium graveolens*) have been identified in pre-Claudian contexts (Lodwick 2014), have not yet been documented in the region. The switch to a greater predominance of pig, rather than sheep or cattle, as at Fishbourne (Sykes in Manley and Rudkin 2005), is part of a trend, seen especially in oppida, towards a more continental diet. The importation of Arretine and other ceramics, and their eventual imitation in Britain, as well as smaller quantities of bronze table vessels, also show a major change in the way food and drink were served and consumed, though how rapid and how far-reaching these changes were in society needs further exploration.

Social structure and identities

Human population

The small quantity of inhumation burials and other human remains has limited the opportunities for investigating questions of demography, health, diet and violence, as well as origin and upbringing. Previous reviews of the research potential and priorities (Mays 1994; Mays and Anderson 1995) have noted this problem, and the fact that the Iron Age record is dominated by the late Iron Age cremated material, and have stressed the need for more evidence. The number of inhumation burials, especially from East Kent, is growing slowly and these, because of their regional rarity, will be an important resource for south-eastern England; they will offer the opportunity for further

research, including analysis of stable isotopes. There is so far only a limited number of published reports on major human bone assemblages, especially those from Mill Hill, Deal (Anderson in Parfitt 1995), the East Kent Access Road (McKinley in Andrews et al. 2015, Vol. 2, 353-74) and Cliffs End Farm, Ramsgate (McKinley in McKinley et al. 2014, 93-133). The sample size is still small, but the available evidence does not suggest any great difference in terms of health or life expectancy from other Iron Age populations that have been studied. Further research is needed as the evidence permits.

The only studies of stable isotopes in human bone are from Cliffs End Farm (Millard in McKinley et al. 2014, 133-44) and the East Kent Access Road (Millard and Nowell in Andrews et al. 2015, Vol. 2, 429-32). At the former site, most of the population showed a predominantly terrestrial diet, little different from that seen in other later prehistoric populations in East Yorkshire and Dorset. A combination of strontium and oxygen isotope analyses suggested that, for all three periods of burial, there were varied places of origin, with three groups evident, one local, one from northern Europe, possibly Scandinavia, and one from further south, possibly western Mediterranean Europe. The East Kent Access Road analyses were designed to follow up these suggestions of migration; oxygen isotope results here also suggested that some of the population buried in the cemetery had migrated from elsewhere, probably the near continent.

Local and individual identities

The lack of burial evidence before the late Iron Age and the very limited quantity of high-quality settlement evidence, with clear house plans and good occupation layers and other associated deposits, have meant that there has been little attempt to analyse settlements in terms of the household or family and to explore the identity of individuals. The one exception is the middle Bronze Age settlements of Sussex, which have encouraged more detailed interpretation (Ellison 1978). The most fine-grained analysis is that of Black Patch, East Sussex, where Drewett (1982b) suggested occupants and functions for specific buildings, though his account is made more problematic by a reconsideration of the chronology of the site (Russell 1996). The recent increase in settlement excavations will make these questions easier to address.

Social structures

The nature of social relations in later prehistory has received little attention in the region. West Sussex has been included peripherally in Sharples's (2010) discussion of social relations in later prehistory, though his discussion is dominated by the evidence from further west in Wessex. In a similar way, Hill's (2007) discussion of changing social organisation in the later Iron Age of eastern and south-eastern England has focused largely on evidence from north of the Thames. With the possible exception of middle Bronze Age Sussex, the region of Kent, Surrey and Sussex has been largely marginalised in the debates over the nature of social organisation and social change in later prehistory, dominated first by Wessex and for the final period by the Essex/Hertfordshire region. This may have been due to the comparative lack of high-quality information, but the recent increase of excavation in the region will make these questions easier to address.

The later Bronze Age has been subsumed within broader discussions of society in Britain at that time, with a focus on the circulation and deposition of bronze and on elite

activities such as warfare and feasting; the regional evidence has not played a prominent role in this discussion, with the exception of the volume of hoards in the Thames estuary region and the appearance of the 'ringworks' at the end of the Bronze Age as possible elite residences. There have been few attempts to relate the bronze economy with other spheres of activity such as agricultural production, though Dunkin's (2001; 2016) analysis of bronze deposition in Sussex and Yates's (2007, 112-20) demonstration of the correlation between later Bronze Age fields and the deposition of bronze should be noted.

In the early Iron Age the presence of early hillforts and the emergence of developed hillforts has linked Sussex to the sequence in Wessex and thus to debates about the function of hillforts, though mostly the debate has exploited evidence from further west. The very different history of monument construction in Kent and Surrey has linked them to eastern England, where debate about social organisation has been very limited (e.g. Hill 2007, 19-21). Even so, Kent and Surrey have played a minor role compared to areas north of the Thames. The increasing quantity of good site data should permit greater discussion.

Emergence of kingship

In the century between Caesar's expeditions to Britain in 55 and 54 BC and the Claudian invasion of AD 43, there is strong evidence for the existence of a social hierarchy and of structures of political and military authority. Caesar himself refers to *reges* (kings) in Kent, and in 54 BC Cassivellaunus was able to muster and command a considerable force to oppose him. The later historical record hints at political links between the Roman empire and the ruling dynasties of southeastern England (Champion 2015). The iconography of late Iron Age coinage also shows close links to Rome, and a small number of issues bear inscriptions in Latin including the word REX, suggestive of a formal political alliance (Creighton 2000, 146-215).

The archaeological record, however, is more problematic. The rich graves mentioned above are suggestive of a social hierarchy, but there is little in the settlement record to support this; the so-called oppida are poorly documented and of uncertain function, and the importance of Chichester and Canterbury in the Roman period should not be simply projected backwards into the late Iron Age. The apparent social transformations within the region during the late Iron Age have generally been discussed as part of the wider phenomenon of the emergence of two 'kingdoms', the Southern and Eastern Kingdoms (Creighton 2000, 55-79). These 'kingdoms', however, are largely constructs based on the geographical distribution of certain coin types, though the connection between political power and coin production and circulation is very unclear. West Sussex has been seen as part of the emerging Southern Kingdom, in which the Chichester-Fishbourne area played a central role despite the vagueness of the evidence for a pre-conquest settlement at Chichester itself (Davenport 2003). The concentration of population in the coastal plain of west Sussex from the middle Iron Age onwards must have been an important part of this process, but the emergence of an elite here, and the nature of its authority, need further exploration.

North Kent has generally been subsumed into the discussion of the Eastern Kingdom centred north of the Thames in Essex and Hertfordshire and regarded as peripheral to that process (e.g. Hill 2007). Nevertheless, the more localised development of the

process would merit further examination: for instance, some of the earliest series of coins, including Gallo-Belgic A and B and the potins, are distributed predominantly in Kent rather than north of the river, suggesting a key role in the origins of the process, though as yet unmatched by any other evidence. The processes of social change that characterise the later centuries of the Iron Age in southeastern England are perhaps the most significant changes of the first millennium BC but are still very poorly understood.

Regionality

One theme pervading much of the previous discussion has been the spatial differences within the region in such things as the nature and distribution of settlement and the occurrence of different artefact types. This variability deserves more detailed consideration. It is also clearly a matter of scale: the connections of the region with neighbouring regions will be considered below, here the emphasis is on local variability within the region.

One critical question is whether the region formed by the four modern administrative counties forms a coherent entity for the purposes of analysing and interpreting the archaeological record of later prehistory. The number of examples cited above of clear regional variability suggests that the answer is 'no'. Not only is the Weald a central region where the sparse archaeological record is in clear contrast to the regions north and south of it, but there are frequently sharp differences between those other zones: to rehearse some examples cited above, the differing traditions of middle Bronze Age metalworking, the distinctive ornaments and settlement sites of the period found in Sussex, the ringworks of the late Bronze Age found in Kent and Surrey, the early tradition of hillfort building on the South Downs, the differences in animal and crop husbandry, the different practices in the production of decorated pottery in the middle Iron Age and late Iron Age. This is not to say that the Weald was a zone of thick woodland and represented an impenetrable barrier to communication; indeed, the evidence discussed above suggests that it may have been more heavily exploited than is currently documented. It was, however, a zone of less dense occupation between two geographically very distinct zones, the North and South Downs, which, as will be discussed below, show closer affinities to regions to the north and the west than to each other.

Within the region it is also possible to distinguish smaller-scale variation. The concentration of settlement in the early Iron Age in areas such as East Kent and the Isle of Thanet, and later in the coastal plain of West Sussex, would have produced very different landscapes of settlement and interaction. Regional variations in material culture, seen most clearly in the style zones of decorated pottery in the middle Iron Age, are difficult to explain, but suggest a small-scale social coherence and at the same time a sense of belonging to a wider community that was characterised by local variation.

By the late Iron Age, a rather different form of regionalism had developed through the emergence of the two major cultural zones, often seen in political terms as the Southern and Eastern Kingdoms; they are marked by different patterns of coin

production and circulation, and by the concentrations of imported high-quality ceramics, though their precise political significance is unclear. Northern Kent belonged firmly in the cultural province of the Eastern Kingdom, as shown by coin distributions, but also sharing similar cultural styles as in pottery and burial rites. The Southern Kingdom embraced West Sussex, and again cultural similarities can be seen, though less clearly, in such things as pottery and burials. Other regions, however, were not incorporated into the kingdoms in the same way. West Kent and Surrey were outside their orbit and, for example, show few signs of the new burial rites or continental imports. East Sussex also seems to be outside the sphere of political and cultural innovation.

The South-East in its wider context

The south-east of England clearly occupies a pivotal location in the geography of western Europe, what Clark (in Bennett et al. 2008, xv) has called the 'great crossroads', with the shortest crossing to continental Europe and a key location in trade through the English Channel and the North Sea. This geographical advantage shows itself in various ways in the archaeological record of the region, either through cultural practices shared with other regions on either side of the Channel or through actual imports or their imitations.

At the widest scale, the region shares in some pan-European traits, most notably the use of La Tène (so-called 'Celtic' art) to decorate pottery and metalwork. This links it into a network of shared ideas that extended from Ireland to Hungary, with much local variation. There may not be many outstanding pieces, but they show the region participating in one important and widespread cultural practice. At a slightly smaller scale, the region was a central part of the metalworking traditions of the Atlantic Bronze Age, with affinities along the coastal regions from the Netherlands to Portugal. At a smaller scale again, the region was part of the Lowland Zone of the British Iron Age, sharing in its general repertoire of site types, architecture and material culture, including pottery. Some of these types also occur on the near continent, such as the triangular loomweights (Wilhelmi 1977; 1987) and the bone weaving combs (Tuohy 1992; 1999), as well as round houses; in many ways, southeastern Britain and the near continent were culturally very similar (Webley 2015). These large-scale zones of common cultural practice are difficult to explain and need further investigation.

At a smaller scale, cultural similarities tend to link different parts of the southeast to their neighbours to the west and north. Despite Hamilton's protestation (2003) that Sussex is not Wessex, it does show many elements that relate it more closely to Wessex than to Kent and Surrey: the nature of middle Bronze Age metalwork and settlements, the history of hillfort construction, the long-term development of agriculture, the prevalence of saucepan pots and curvilinear decoration in the middle Iron Age. In the same way, Kent and to a lesser extent Surrey show features that relate them to eastern England north of the Thames: the ringworks of the late Bronze Age, agriculture, late and limited development of hillforts, ceramic decoration of the middle and late Iron Age and late Iron Age funerary practice.

There are also close ties with the areas of the near continent across the English Channel, particularly in Kent. Surprisingly few objects can be identified as actual imports: there are limited numbers of imported objects in the middle Bronze Age (Rowlands 1976) and the late Bronze Age (O'Connor 1980), but much bronze must have crossed the Channel, either in ingot form or as cast objects: the Langdon Bay hoard, the cargo of a ship wrecked outside Dover harbour, shows how imported metal would have been transformed into locally manufactured objects (Needham and Dean 1987; Needham et al. 2013).

In the early and middle Iron Age there is a very short list of actual imports, including the Swiss silver ring from Park Brow, the coral for the inlay in the decorated metalwork found with the Deal warrior burial, and many of the glass beads, all mentioned above. The early Iron Age pottery of East Kent shows remarkable similarities with that of northern France (Leman-Delerive 1984; van Doorselaer et al. 1987; Hurtrelle et al. 1990; Blancquaert and Bostyn 1998; Milcent 2005; 2017), now reinforced by finds from HS1 sites (Barclay et al. 2006, 72), but no single sherd can be clearly recognised as an import. Nevertheless, the local variations on La Tène art seen in the Deal burial and other objects and the adoption of the successive types of La Tène brooch suggest very close familiarity with continental design and production, even if no actual imports survive.

The cultural transformations of the later Iron Age discussed above, including the adoption of coinage, new pottery styles, wheel-thrown pottery technology, new modes of eating and drinking and new burial rites, are all rooted in continental practices, and clearly demonstrate a close familiarity with the near continent and an intense level of communication and interaction. Unlike the earlier periods, actual imports are clearly visible, including coins (Holman 2000), amphorae, first from Italy and then later from Spain (Fitzpatrick 1985; Arthur 1986), the Italian bronze vessels from Aylesford and Westhawk Farm mentioned earlier, and pottery including Arretine, early Samian and Gallo-Belgic wares (Fitzpatrick and Timby 2002).

These contacts across the Channel, as well as others across the Thames estuary, and probably around the coasts of eastern and southern Britain and along its rivers to acquire gold, copper, tin, shale and other commodities, must have required water transport, including sea-going vessels. After the Bronze Age boat from Dover (Clark 2004), however, there is no evidence for any such vessels other than log-boats (McGrail 1978).

The legacy of later prehistory

By the time of the Roman invasion of AD 43 south-eastern England had seen two centuries of major change. The millennium before that, however, had already provided the background of an environment largely cleared for the development of a successful mixed agricultural regime; it also saw a tradition of landscape organisation and division, and of substantial, permanent settlement sites with distinctive architecture. Though the scale and significance of the bronze industry may have declined, it did not disappear altogether, and was accompanied by an emerging iron industry. Technological production was increasingly in the hands of specialists, for example in pottery, iron

smelting, salt production and quern manufacture, and presumably also such crafts as gold, silver, bronze and glass. By the end of the Iron Age there had also been large-scale reorganisation of the landscape, which had produced new patterns of fields and trackways, filled with settlement sites, many of which would continue well into the Roman period. There were also significant innovations in settlement patterns, with the emergence of a new type of central place, such as Chichester and Canterbury, which would play a major role in post-Conquest political organisation. Above all, there had been dramatic changes in the nature of social organisation, with the appearance of centralised political authority in the form of kings. Coinage facilitated new ways of using wealth in the negotiation of social and political relations and ultimately penetrated other forms of economic activity.

Communication across the Channel had been constant, exchanging people, goods and ideas, but towards the end of the Iron Age the adoption of innovations from continental Europe reached a new intensity. New forms of burial and of religious practice that required the construction of temples were introduced in some regions. Wine was imported from the Mediterranean, and the importation and imitation of bronze and ceramic tablewares shows a wider familiarity with Roman culture, at least among the elite.

Research agenda

In the light of the assessment above of our current state of knowledge, a number of more or less detailed proposals can be made for the enhancement of our understanding of later prehistory. Some represent current opportunities which could be implemented through examination of the sites and finds already available, but many are areas of ignorance or uncertainty that will require new interventions to provide the right sort of evidence.

Research infrastructure

Our understanding of the later prehistory of the region is currently limited by the very uneven spatial distribution of sites investigated, and by a poorly developed regional chronology.

- There is a need for a more even regional coverage of archaeological research, in order to eliminate the biases caused by intensive investigation of limited areas, especially parts of north Kent and West Sussex, and to develop the very basic knowledge of other areas such as Surrey, the Weald and East Sussex.
- Since most sites will be dated by the pottery found there, there is a need for a firmly based ceramic chronology, ideally derived from the detailed typological analysis of large assemblages and stratified sequences and made absolute by an appropriate programme of high-precision radiocarbon dates.
- To that end, there should be dating audits for the various areas within the region to identify the strengths and weaknesses of the current basis for dating.

- There is also need for an agreed terminology for the sub-phases used within the later prehistoric period.

Where anoxic deposits (permanently waterlogged deposits) are encountered in association with human activity, they should be subject to comprehensive recovery strategies.

Environment

Despite some important work, especially on coastal change, there is still great potential for further research on the later prehistoric environment, both on the coast and inland.

- There is enormous potential for research into past land use by exploiting the resources of the modern coastal zone of the Thames Estuary and the estuaries of the smaller rivers, such as the Medway, Stour, Rother, Adur and Arun, which may all contain surviving evidence for previous episodes of human activity.
- There is a need to explore the long-term environmental history of some important sub-regions such as the dip slope and high downlands of the North Downs, the lower chalk lands of East Kent and much of the Weald.
- In particular, there is scope for analysis of the colluvial deposits in the dry valleys on the dip slope of the North Downs in Kent and Surrey, comparable to studies already carried out on the South Downs in Sussex.

Settlements and settlement distribution

Excavation strategies in the past have been primarily focused on individual sites, and in particular on larger sites with obvious structural features. This has obscured the variability of the evidence for later prehistoric activity and missed the opportunity to place settlement activity in a landscape context.

- There should be regional syntheses of the settlement evidence produced by excavation in recent years.
- An ideal long-term research goal must be the development of a reliable predictive model for the distribution of human settlement activity in later prehistory. To achieve this, we need more even knowledge of the settlement histories of all the sub-regions within the region, and a better understanding of the variability of settlement evidence at different periods.
- We therefore need to counter the limited and biased nature of the existing archaeological record by improving our knowledge of under-researched areas such as the Weald and the high slopes of the North Downs in Kent and Surrey.
- We also need to pay particular attention to the diversity of evidence for settlement activity, especially in the recognition of small-scale and low-density activity, and to document the full range of settlement forms in the various periods.
- In view of the evidence for the varying nature and density of later prehistoric activity, we need to understand how sites of all types related to their wider landscape setting.

- Future fieldwork should be guided by research strategies that recognise the importance of small-scale and low-density activity as well as the more concentrated evidence of traditional sites.
- The precise chronology of the construction, use and abandonment of field systems in the middle and late Bronze Age needs further research.
- The precise nature and causes of the apparent clustering of occupation in the early and middle Iron Age needs more detailed examination.
- The hillforts of the region, especially in Kent and Surrey, need further research to elucidate their function.
- The evidence of a major phase of landscape organisation and division in the late Iron Age needs more careful examination on a suitably large scale, to understand its spatial patterning, its causes and its chronology.
- The oppida of the late Iron Age need further research, not only on their social, economic and political functions, but also on their spatial organisation and development, and their wider landscape setting.

Architecture

The post-built round-house, often regarded as a diagnostic artefact of the later prehistoric periods in southern Britain, is in fact something of a rarity in the region. There were clearly much more diverse architectural traditions, including post-built structures of many different plans, but perhaps also building styles that left no trace in the form of cut features. This varied and fragmented body of evidence has received little attention.

- There should be a synthesis of the existing evidence for later prehistoric structures of different types in the region.
- The reasons for the variability in the nature of house construction should be more carefully investigated.

Agriculture

There has been very little published research on later prehistoric agriculture. Conditions for bone survival may not be particularly good in much of the region, but there is still great potential and systematic recovery and analysis should be a part of every field project.

- There is a major need for the recovery and analysis of large assemblages of faunal remains, especially in those areas where soil conditions are likely to favour bone survival, especially the chalk lands of Sussex and east Kent.
- There is a similar need for the recovery and analysis of charred plant remains to document the history of crop husbandry, including tillage methods and intensive versus extensive regimes.
- In order to understand the timing and spread of plant and animal introductions, direct radiocarbon dating of plant material and faunal remains should be applied.

Technology and material culture

Despite the obvious potential of material culture to contribute to our understanding of later prehistoric societies, its significance has been downplayed and there have been few studies of any craft or industry in the region. Much research could be done with material from previous excavations, but other questions will require new fieldwork.

- There is scope to exploit material already excavated to carry out regional reviews of several productive or extractive industries, including
 - Bronze
 - Bone
 - Antler
 - Flint
 - Stone
 - Textiles
- In future, particular attention should be paid to production sites of all crafts and industries.
- The origins of iron production, especially in the Weald, need further investigation, with absolute dating of early production residues.
- The salt industry needs further research, especially for the location of its production sites and the development of its technology, including of the types of fuel used.
- There is a need for regional analysis of the usage, circulation, consumption and deposition of artefacts made of bronze, iron, bone, antler and stone.
- Although the regional sequences of ceramic form and fabric are beginning to be clarified, there is still a need for the detailed analysis and publication to modern standards of large assemblages of pottery, with particular attention to the organisation of production and the range of vessels produced.
- Further research also needs to be devoted to the function of ceramic vessels, either by consideration of size, use-wear and residues or by scientific methods such as lipid analysis.
- The significant increase in the quantity of material items found on most sites in the later Iron Age needs more careful and quantified documentation and explanation.

Coinage

Though the impact of coinage in providing a new means of structuring social relations through the manipulation of wealth is clear, the social context of its original introduction and acceptance needs further research.

- Recording and analysis of coin finds should be systematic throughout the region, to a standard comparable to that achieved in Kent.

Art and decoration

There have been no direct studies of the occurrence or nature of decoration on artefacts, clothing or the body, or the significance of the proliferation of such decoration at specific times. Evidence is inevitably limited to surviving objects, mainly inorganic materials such as pottery and metalwork, and to personal ornaments and artefacts associated with the treatment of the body. Organic materials, such as textiles, basketry or wooden objects, which may have been some of the most visible items in later prehistoric society, have been lost, but there is still scope for detailed research.

- There is a need to clarify the position of the so-called 'post-Deverel-Rimbury decorated phase' of pottery, with quantified analyses of appropriate assemblages, to establish its validity as a distinct chronological phase (or not) and to understand the significance of the production, use and deposition of decorated pottery at this period.
- The increasing frequency of decorated pottery in the middle and late Iron Age needs further documentation through quantified studies of suitable assemblages.
- The significance of these regional styles of ceramic decoration needs further examination.
- The changing regional styles of clothes fastening and bodily adornment, mainly through pins and brooches, needs further examination.
- The occurrence of decorated metalwork in the middle and late Iron Age needs more detailed analysis, especially in view of the increasing number of finds reported through the Portable Antiquities Scheme.

Deposition

Little attention has been paid to the varied processes that have formed the archaeological record. These include a wide range of natural processes and human activities, among which was the deliberate placing of selected materials in preferred locations.

- There is great scope for more detailed research on the landscape context of the deposition of bronze objects in the later Bronze Age.
- There is a need for research to explore the deposition of objects to mark specific events in the life of a site or community or to mark spatial boundaries, especially in the later Bronze Age.
- There is a similar need to explore the deliberate deposition of selected objects in the pits and ditches of Iron Age sites.

Funerary practices

Burial evidence from the later prehistoric period is perhaps not quite as rare as sometimes thought, and the region has a growing body of evidence for cremation burials in the later Bronze Age and the early Iron Age. It also played a significant part in the introduction of new burial rites in the late Iron Age. Kent also has accumulating evidence for a local tradition of inhumation burial in the Iron Age.

- Unurned cremation burials and unaccompanied inhumation burials should be radiocarbon-dated as a matter of routine.
- The tradition of unurned cremation burial in the later Bronze Age and early Iron Age deserves more detailed research.
- The local tradition of inhumation in Kent should be further investigated, and all unaccompanied inhumations should be routinely radiocarbon dated.
- The late Iron Age cremation tradition in Kent needs a modern review.
- Further research, leading to full publication, should be focused on important burials such as those from Harrietsham and Alkham.
- The occurrence of individual human bones in settlement sites needs detailed research, with particular attention to taphonomic processes.

Eating and drinking

Little work has been done in the region, partly because of the limited evidence of animal bones and plant remains, and partly because of the lack of large ceramic assemblages.

- There is great scope for the more detailed study of pottery, focusing on the types and sizes of pots in use, evidence of use-wear, and scientific analysis.
- The major changes visible in the late Iron Age in the serving and consumption of food and drink need further examination, to document how rapid and how far-reaching these changes were in society.

Society, social identity and social change

There have been few attempts to discuss the nature of social organisation, social relations or individual and group identities in the later prehistoric period, with the exception of the major transformations of the late Iron Age. This may be understandable in view of the poor state of the archaeological record for the region until lately, but the recent increase in the quantity and quality of the evidence should make many of the questions more answerable.

- The recent increase in good settlement site evidence will make it possible to investigate questions of household composition and community organisation.
- The increasing number of inhumation burials, especially in east Kent, should be analysed for questions of demography, health, inter-personal violence, diet and migration.
- More theoretical discussion should be devoted to the nature of social structures at different periods, especially the early Iron Age, which remains the most obscure.
- There must be particular efforts to understand the major episodes of social change now increasingly evident in the archaeological record, especially:
 - The causes and chronology of the transformation of the archaeological landscape from one of monumental architecture to one of settlements and fields in the mid-second millennium BC
 - The impact of the collapse of the system for the circulation and deposition of bronze c. 750 BC

- The significance of social and economic transformations starting c. 200 BC, including major developments in the productive economy, settlement expansion and landscape re-organisation, and the introduction of coinage, as well as regional variations in the intensity of these developments.
- The emergence of radically new forms of social and political organisation, especially 'kingship', in the first century BC.

Regionality and wider context

The emergence of marked regional variation in settlement patterns, architecture and material culture is a key feature of later prehistoric society in Britain. At the same time, the south-eastern region is, by virtue of its geographical location, optimally placed for the exploration of wider regional connections with other areas of Britain and with the near continent.

- Further research should be devoted to investigating small-scale regionality within the region of the south-east.
- The external connections of the region require further analysis, especially connections with other areas of southern and eastern England and across the Channel with France, Belgium and the Netherlands.

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