'A Mersshy Contree Called Holdernesse'

Excavations on the Route of a National Grid Pipeline in Holderness, East Yorkshire

Rural Life in the Claylands to the East of the Yorkshire Wolds, from the Mesolithic to the Iron Age and Roman Periods, and beyond

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Summary

Twenty archaeological sites, excavated on the route of a pipeline across Holderness, East Yorkshire, included an early Mesolithic flint-working area near Sproatley. *In situ* deposits of this age are nationally rare, and the findings are a significant addition to our understanding of the post-glacial development of the region. Possible Bronze Age round barrows and an Iron Age square barrow were also identified at this site. Elsewhere on the route, diagnostic Mesolithic, Neolithic and Bronze Age flints, as well as Bronze Age pottery, provide evidence of human activity during these periods.

Iron Age remains were found at all of the excavations, fourteen of which had ring gullies, interpreted as evidence for roundhouse structures. The frequency with which these settlements occurred is an indication of population density of this region in the later Iron Age and the large assemblage of hand-made pottery recovered provides a rich resource for future study. Activity at several of these sites persisted at least into the second or early third centuries AD, while the largest excavation site, at Burton Constable, was largely abandoned but then re-occupied in the later third century AD.

The pottery from the ring gullies was all in native hand-made wares, although there were quantities of later wares in other features on many of these sites. Roundhouses therefore seem to have fallen out of use by the later first century AD, when the earliest wheel-thrown wares appear. This would imply that the cultural changes associated with the transition from Iron Age to the Roman period occurred, in this region, at an early date.

Pottery and other artefacts dating from the late first or early second century AD from a site at Scorborough Hill, near Weeton, is of particular interest, as the nature of these finds strongly suggests that the site had an association with the Roman military.

Excavations at a cropmark complex, identified with the manorial site of Lund Garth, near Preston village, confirmed the presence of medieval settlement remains as well as activity in the Anglo-Scandinavian period. Enclosures dated to the early medieval period were also excavated close to the village of Winestead.

Section 1: Introduction

The Easington to Ganstead pipeline was constructed, in the summer of 2008, to supply natural gas from undersea pipelines coming ashore at Easington Terminal on the east coast of England (NGR: 540020 419590) to the National Transmission System, operated by National Grid. The 32km pipeline connects the terminal to a gas valve compound to the north of Ganstead, beyond the north-eastern suburbs of Kingston upon Hull (NGR: 516310 436840). The route lies wholly within the East Riding of Yorkshire (Fig. 1). Construction of the pipeline formed one element of a project to build a trans-Pennine pipeline, spanning almost the whole width of the country, to a compressor station near the village of Nether Kellet, 4.5km inland from the west coast at Carnforth (NGR: 351870 467410). Accounts of the archaeology of the western parts of this route have been published (Casswell and Daniel 2010, Gregory *et al.* 2013), and publication of the remaining section is in preparation (Daniel *et al.*, forthcoming).

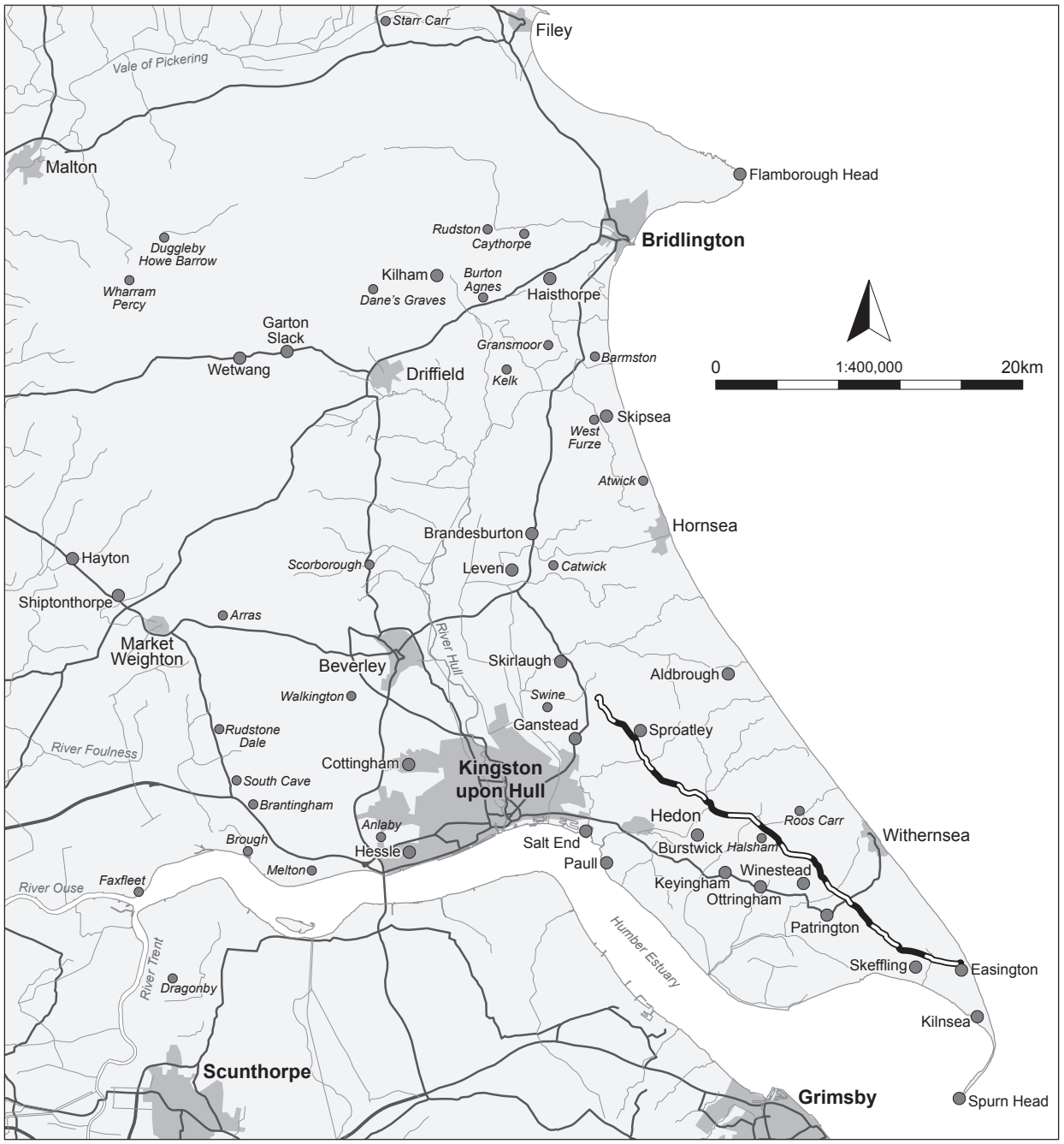

Fig. 1: The route of the Easington to Ganstead pipeline, in relation to other sites mentioned in the text

The impact on the archaeology of the area was considered by National Grid throughout the design and construction of the pipeline. At an early stage, archaeological information from readily available sources was used in the selection of a broad corridor between the two end-points of the pipeline that was considered to be environmentally and archaeologically least damaging. A full archaeological desk-based assessment (DBA) of the proposed corridor was then carried out (Holgate and Ralph 2006). The results of the DBA were incorporated into the cultural heritage section of an environmental impact assessment and were taken into account in the detailed planning of the final route.

Archaeological field surveys were carried out while the detailed route was being finalised: fieldwalking in all of the arable fields along the route and a reconnaissance survey noting visible indications of archaeological remains (Wilson 2006, 2007; Flintoft 2008). Datable finds were mainly post-medieval and modern, but included small but significant amounts of Iron Age, Roman and medieval material. Geophysical surveys of the whole pipeline route were also undertaken: fluxgate gradiometry of contiguous 30m-square grids along the proposed pipe centreline, and paired magnetic susceptibility readings taken at 20m intervals (Bunn 2007, 2008). These highlighted four areas of extensive magnetic anomalies, thought to indicate former settlement areas, as well as ten other areas of potential archaeological significance.

Collated evidence from these earlier stages of work was used to inform decisions on further mitigation, which included minor modification to the pipeline route and targeted evaluation trenching. Evaluation trenching was carried out in thirty-nine of the fields crossed by the pipeline route: a total of 187 trenches, generally 30m long and 2m wide. Where access to the land was available, this was carried out in the spring and summer of 2007, but elsewhere trenching was not possible until early 2008, immediately prior to construction (Savage 2011). Twelve of the evaluation areas proved to be of sufficient archaeological significance to justify further investigation. In each case, a larger area was opened, generally covering the whole of the width that would be affected by construction work and encompassing the extent of the exposed archaeological features along the length of the pipeline. A further eight areas with significant remains were identified as a result of continuous monitoring of ground-disturbing construction work, and open-area excavation was also carried out at these sites.

Section 1 of this volume provides a brief introduction to the pipeline and its physical, environmental and archaeological setting in southern Holderness. Section 2 introduces and describes the findings from each one, concentrating on the features that help to elucidate the form, function and chronological development of the site.

Specialist analyses of the artefacts and of the environmental evidence recovered in the course of the fieldwork are provided in Sections 3 and 4. To keep the volume to a manageable size, the specialist reports have been edited, to varying degrees: the guiding principle has been to include the specialist discussions and conclusions along with sufficient weight of supporting data to allow judgements about the basis of those conclusions. Excisions include the full primary data sets and details of findings which were negative or of little significance. These are included in the site archive, deposited with East Riding of Yorkshire Museums Service (Accession no. ERYMS 2006/48).

The broad themes that have emerged from analysis of the results are discussed in Section 5, while Section 6 briefly summarises the overall conclusions.

The landscape of Holderness

Holderness is flat or gently rolling, and rarely exceeds 20m above Ordnance Datum (OD). The region is bounded on two sides by saltwater: the rapidly eroding North Sea coast forming its eastern boundary and a wide meander of the Humber estuary defining its southern limit, with the thin crooked finger of Spurn Point separating the two. The floodplain of the Hull valley marks the western limit of Holderness, although the low, flat countryside thereabouts provides little indication of where one starts and the other begins. The northern edge of the Holderness is more clearly discernible, marked as it is by the chalk uplands of the Yorkshire Wolds.

The region is overwhelmingly rural and agricultural, the landscape mostly made up of large fields bounded by hedgerows and deep, steep-sided drainage ditches. Tree cover is sparse, so that the land feels open and exposed. Settlement is mostly confined to small dispersed villages and scattered farms, linked by minor roads. The few large modern developments are largely limited to windfarms and gas distribution works.

Geology

The region is underlain by Upper Cretaceous chalk of the Flamborough Chalk formation. The chalk rises to the west and north to form the sweeping ridge of the Yorkshire Wolds, which reach elevations of around 200m OD. The Wolds separate the Holderness plain from the Vale of Pickering to the north and the Vale of York to the west (Fig. 2). Beneath the base of the east-facing dip slope of the Wolds, the top of the chalk drops abruptly, forming a buried cliff along a line from the Humber at Hessle and passing to the west of Cottingham, Beverley and Driffield (Kent *et al.* 1980, 122). This cliff marks the

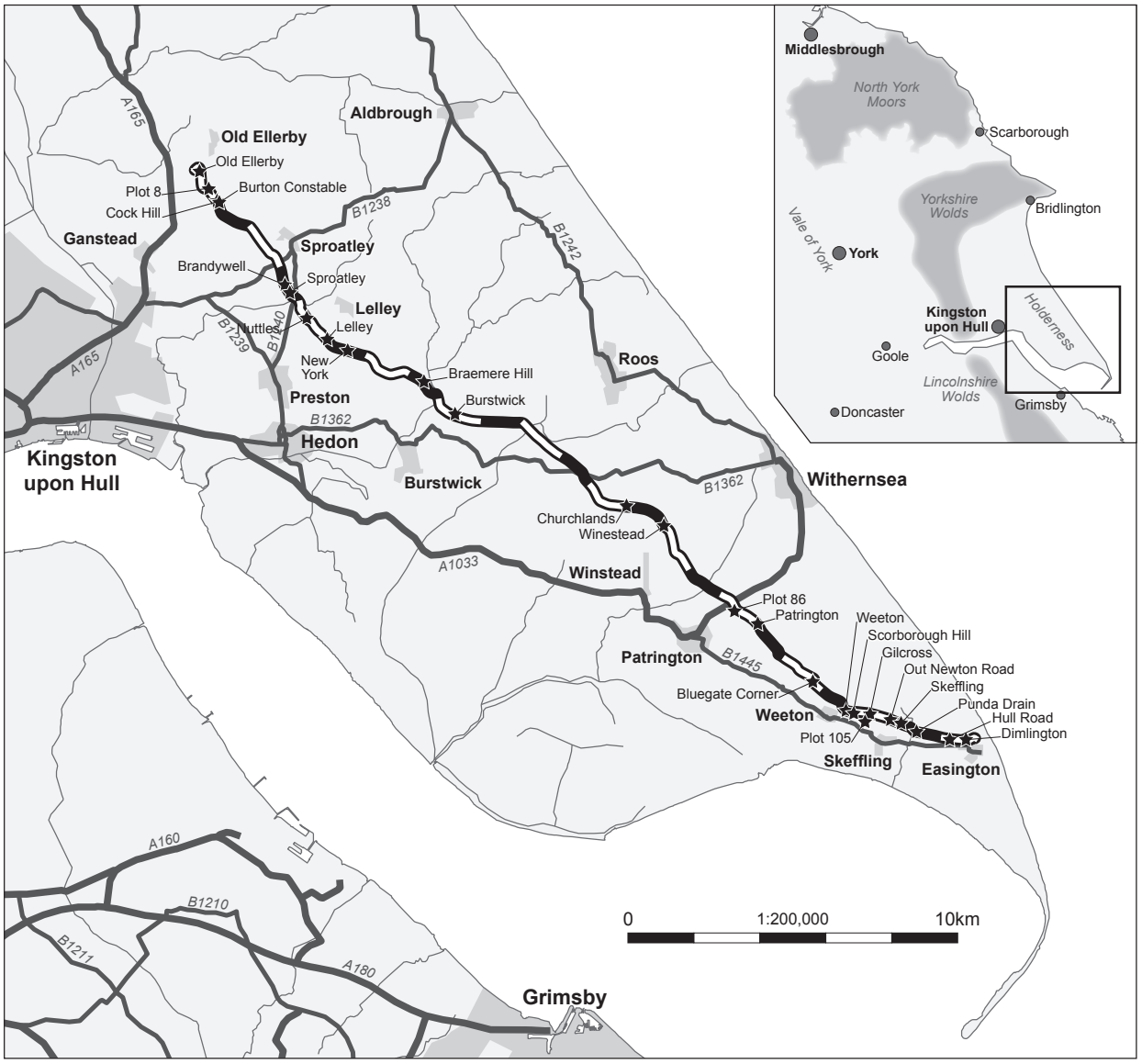

Fig. 2: The pipeline route in its south Holderness setting

position of the coastline at a time before the Devensian ice age, around 120,000 years ago, when the greater part of Holderness lay beneath the North Sea.

The Devensian glaciation saw ice sheets extend from Scotland and North Wales to completely cover the region, reaching their maximum extent around 18,500 years ago, the period of the Dimlington Stadial. As the ice retreated, around 13,000 years ago, a dramatically altered landscape was left, the ice and subsequent meltwaters having deposited an average of 20 to 30m of sediment, burying the pre-glacial cliff line and covering the chalk with tills or boulder clays, interspersed with localised deposits of sands and gravels.

In south-east Holderness, the sands and gravels can reach a thickness of up to 30m (Ellis 1995, 9) and various deposits have been commercially quarried, especially the Kelsey Hill Gravels, near Keyingham and Paull, and Hornsea Gravels occurring further north, notably around Brandseburton, Leven and Sproatley (Catt 2007, 191). Alluvial lake deposits form a further widespread element of the drift geology, occurring in numerous extinct meres that formed in undulations in the post-glacial surface of the till. These silty deposits are often interleaved with layers of peat. The wide tract of flat land along the north shore of the Humber, much of it reclaimed marshland, is covered by varying thicknesses of estuarine alluvium.

Soils overlying areas of till are generally clay-rich, and suffer, in the absence of artificial drainage, at least seasonal waterlogging (SSEW 1983). Peaty soils are present in small pockets along valley floors, while coarse loamy soils overlying the patches glacial sands and gravels in valley bottoms are affected by ground-water but are freer draining than the surrounding clay-rich

areas. More than eighty per cent of the agricultural land in Holderness is arable, with grassland accounting for a further twelve per cent (Middleton 1995, 25), mostly in more poorly drained areas. Woodland covers a very small part of the total area. Stretches of open water are limited to Hornsea Mere and a small number of disused gravel pits, particularly around Brandesburton, Burstwick and Keyingham.

The post-glacial landscape

Holderness is today a coastal region, but has not always been so; the retreating Devensian ice sheets exposed a very different landscape. Sufficient water remained locked in the diminishing ice to reduce sea level to as much as 100m below modern levels leaving the bed of the southern North Sea exposed as dry land. Archaeological evidence for this was first explored by Clement Reid in his seminal 1913 publication *Submerged Forests*. Bone from terrestrial animals and occasional man-made artefacts were recovered from time to time during dredging, fishing or mineral prospection; the most celebrated was a bone 'harpoon' or notched point brought to the surface by the trawler *Colinda* in 1931. But in recent years, the realisation that high-quality remote sensing data, collected in the course of petroleum exploration, offered an opportunity to explore the landscape of this huge area has ignited great interest. Analysis of this data, coupled with systematic logging of finds from trawlers and dredgers, is revealing a complex and archaeologically diverse landscape (Gaffney *et al.* 2007).

No longer seen as merely a low-lying land-bridge, connecting Britain to the Continent, a picture is emerging of a wide plain, dubbed Doggerland after the Dogger Bank fishing grounds, by Bryony Coles. This would have encompassed the whole of the North Sea basin south of a line from Shetland to the Jutland peninsula, supporting a high level of exploitation and habitation (Coles 1998, 59). The area now constituting Holderness would have formed the foothills of highlands fringing the western edge of this plain. The Humber, at this time, would have been a fast-flowing river, in a deeper valley, part of a river system draining a prominent ridge extending eastwards from Flamborough Head, and the region extending to the north-east from the present-day area of the Wash (Gaffney *et al.* 2009, 98). The streams flowing southwards into the Humber would have been energetic enough to rapidly erode the glacial till, creating a valley relief far more pronounced than that today.

As sea levels rose, the North Sea gradually extended southwards, reaching the latitude of southern Holderness some time after 10,000 BC (Jelgersma 1979). The flow of the Humber and its tributaries gradually slowed, allowing alluvial silts to accumulate in valleys which had hitherto been actively eroding. This slowing of the natural drainage led to the formation of numerous meres in the valley bottoms and between the irregular low hills and ridges of the till landscape (Dinnin 1995, 9-16).

The broad pattern of the post-glacial landscape is preserved in the natural drainage of Southern Holderness with watercourses flowing towards the south and west, discharging into the Humber, directly or by way of the River Hull, rather than to the sea. The fine detail of the natural hydrology is lost within the extensive system of agricultural drainage but the original overall pattern is still traceable in the courses of the Burstwick, Keyingham, Patrington and Winestead Drains, each draining a wide basin of very low-lying land. The vulnerability of these shallow valleys to flooding was starkly demonstrated in the summer of 2007, when the first season of the archaeological excavation described in this volume had to be suspended for several weeks while flood waters receded.

Coastal erosion and land reclamation

The North Sea coastline of Holderness is one of the most rapidly eroding in Europe with up to 150m of land lost since the production of the first edition Ordnance Survey maps in the 1850s (Brigham, Buglass and George 2008, 18). Estimates and measurement of the rate of erosion have a long history (summarised in Quinn *et al.* 2009, 170) and show that there is considerable variability over small distances: an average of 2.3m of land lost per year at Easington Dunes compared with 0.91m south of nearby Seaside Road, for instance (ERY 2004). Extrapolation back in time is inherently uncertain as erosion is episodic, influenced by factors such as changing sea level and currents, storms and tidal surges, as well as the construction of coastal defences and changes in land use. Estimates in the archaeological literature include: 10km of land lost eastwards of Easington since the Neolithic period (Evans and Steedman 2001, 69), and as much as 4km (Sheppard 1912, 43), or up to 2km, lost since the Roman period (Brigham, Buglass and George 2008, 23). Thirty or more villages between Bridlington and the Humber have been lost since the medieval period (*ibid*. 19), including Dimlington, Tumarr and Northorp, close to the easten end of the pipeline. Most, if not all of these settlements, were victims of coastal erosion, rather than the factors that led to desertion of many inland villages during the Middle Ages.

A very different picture emerges along the banks of the Humber, where the modern Holderness shoreline is largely a result of land reclamation. Piecemeal embankment in the tenth to twelfth centuries eventually resulted in banked areas linking up to create a wide strip of agricultural land along the foreshore. Although much was temporarily lost in the thirteenth to fifteenth centuries to storms and erosion (Sheppard 1966, 3-6), the overall effect can be seen, for instance, at Ottringham,

once a coastal village but now over 6km inland. The shoreline prior to reclamation would have followed a course not far south of the present day A1033 and B1445 roads between Hedon and Skeffling. The use of waterways through the marshes continued to be more efficient, in many cases, than overland transport and the inclusion of towpaths in dyke-making agreements shows that this was often a major consideration when planning the construction of new channels.

The draining of meres and wetlands in the valley bottoms has also dramatically altered the character of the region. Medieval documents show that fisheries and rights of turbary and wild-fowling were valuable assets and there was considerable litigation over common rights of summer pasturage in marshland areas. Land in valley bottoms was often rated more highly than the higher and drier arable lands, as were villages holding a high proportion of carrland. Meres continued to be fished in twelfth- and thirteenth-century Holderness and historical references and place name evidence show at least seventy meres still survived in the early medieval period (Dinnin 1995, 27, citing Sheppard 1956). Most, however, had been drained for pasture by the end of the medieval period and by the early eighteenth century Hornsea, Skipsea and Pidsea Meres were the only major stretches of open water surviving. Today, only Hornsea Mere is left.

Archaeological and historical background

Interest in the archaeology, ancient history and antiquities of Holderness can be traced back at least as far as the later sixteenth century, with William Camden's efforts 'to restore antiquity to Britaine, and Britaine to its antiquity'. He believed that the Holderness settlements of Patrington and Kilnsea could be identified with Roman settlements of Praetorium and Occellum Promontorium mentioned in Ptolemy's *Geographia* (Camden 1701, 739-742). This interest in finding the locations of places mentioned in Classical texts is echoed by the works of a number of writers, whose accounts and descriptions of Holderness span the eighteenth and nineteenth centuries (Defoe 1727, Oliver 1829, Poulsen 1841 and Knox 1855, for example). These early accounts are discursive and broad ranging, but have value today for details of antiquities uncovered during ploughing, construction work or digging of drains.

George Oliver's history of Beverley provided an account of the excavations of square barrows around the Wolds hamlet of Arras by Rev. E. W. Stillingfleet, in 1815-1817, the cemetery that subsequently became the type site for Iron Age barrow cemeteries in East Yorkshire. While isolated examples of Iron Age square barrows have been identified and investigated in other parts of the country, large cemeteries are found, in Britain, only in and around the Yorkshire Wolds.

Albert Denison Conyngham, later Lord Londesborough and the founding president of the British Archaeological Association, provided considerable impetus to the study of the archaeology of the region in the 1840s (Mortimer 1905, 271-297). This tradition was continued by J. R. Mortimer, who carried out numerous excavations from the 1860s until the early years of the twentieth century, the most celebrated perhaps being Duggleby Howe barrow (Kinnes *et al.* 1983). Mortimer and his rival, Canon Greenwell, and their contemporaries, investigated numerous barrows in the Wolds and on the western fringes of Holderness near Beverley and Driffield, including the Iron Age square barrow cemeteries at Danes Graves and Scorborough (north-west of Beverley, not to be confused with Scorborough Hill of this report). An enduring attraction was the occasional occurance of spectacular chariot burials within square barrow cemeteries, the body accompanied by a rich artefactual assemblage as well as a chariot or cart.

The discovery and recognition of the significance of the Roos Carr figures (Poulson 1841, 99-101) dates from the first half of the nineteenth century. These figurines, carved in yew wood with quartzite eyes, and set within a serpent-headed boat, were remarkably well preserved in waterlogged sediments. Recent radiocarbon determination has provided a date of 770 to 406 cal BC (Osgood 1998).

In the latter part of the nineteenth century, Thomas Boynton, a drainage engineer working in the Skipsea area, excavated a number of wetland sites, with guidance from Reginald Smith of the British Museum. These were originally interpreted as prehistoric lake dwellings (Smith 1911) but small-scale rescue excavations in advance of gravel extraction, by the Continuing Education Department at Leeds University in the 1950s, prompted their re-evaluation (Copley 1953); they are now considered to include a late Neolithic or early Bronze Age trackway at West Furze, a Bronze Age settlement at Barmston, an Iron Age settlement at Gransmoor and Iron Age enclosures at Kelk (Fletcher and Van de Noort 2007).

In southern Holderness, excavations undertaken by H. B. Hewetson in the 1890s investigated the site of a Bronze Age barrow at Easington. This site was re-excavated by Rod Mackey in the 1960s and Rod Mackey and Kate Dennett in 1996-97 because of the imminent threat of coastal erosion (Mackey 1998; Evans and Steedman 2001, 69). Nineteenth-century drainage works in Holderness also produced the most extensive range of Bronze Age artefacts from Yorkshire (Manby 1980, 358-62), the quantity and quality allowing the development of chronologies based on metalwork typologies. Two Bronze Age hoards are recorded from close to the pipeline route, at Sproatley and Skirlaugh (Manby *et al.* 2003, 80).

Chance finds of artefacts by amateur collectors and enthusiasts continued to be the main contributions to archaeological knowledge into the early twentieth century. The Mesolithic notched bone points found at Skipsea Withow, near Hornsea caused considerable academic and popular excitement during the 1920s and 30s and set in motion a prolonged and rather acrimonious debate, entertainingly summarised by Sitch and Jacobi (1999), between archaeologist Leslie Armstrong, who believed them to be genuine, and Thomas Sheppard, director of Hull Museums, who considered them fakes.

Through much of the twentieth century, archaeological interest in East Yorkshire remained firmly focused on the Wolds. The close, though not exact, parallels between the square barrow cemeteries in East Yorkshire and those in the Seine valley and Champagne regions of northern France have been central to debate on the mechanisms of cultural transmission in Iron Age Europe (Stead 1981). The chariot or cart burials of East Yorkshire recall the more numerous examples from the French cemeteries: 140 or more at Somme-Bionne (Cunliffe 2005, 214-215). Though different in detail, the similarities are sufficient to imply cultural affinities between the two regions.

Aerial photography added greatly to the number of square barrow cemeteries recorded in the East Riding and well over three hundred are now known (Stoetz 1997, 34). The majority are small, with no more than ten barrows, but there are over twenty examples that have fifty or more, including Arras, Burton Fleming, Wetwang and Garton Slack (Dent 1983), Danes Graves, Rudston and Scorborough (Stead 1986, 1991). These cemeteries are most densely concentrated on the eastern slope of the Wolds, but there are also clusters around Malton, in the Vale of Pickering, and examples to the west of the Wolds, as at Mirebrook Lane, South Cave (Brigham, Buglass and Steedman 2008, 18). In northern Holderness, a small group of square-barrow cemeteries cluster around the area to the south of Bridlington.

The predominantly clay soils of southern Holderness are less conducive to cropmark formation, but some isolated square barrows have been identified from aerial photographs, taken in years when conditions are particularly good (Brigham, Buglass and Steedman 2008). Chariot burials are represented in Holderness only by one example, at Hornsea, described by William Morfitt in 1904 as including spearheads of iron and bronze, iron wheels and horse trappings; it is not, however, well documented. There are continuing difficultes in dating Iron Age sites, but burial in square barrows seems to have first been used in the late fifth or early fourth century BC and to have ceased by the first century BC (Cunliffe 2005, 546-551).

The accumulation of information on the ways of death of the Iron Age population prompted interest and speculation about their less visible ways of life. Excavations in advance of gravel extraction at Wetwang and Garton Slack in the late 1970s revealed both the extent of the cemetery and also the remains of an adjoining settlement of up to eighty roundhouses and other structures (Dent 1983). Subsequently, the Yorkshire Settlements Project (Rigby 2004) undertaken by the British Museum, carried out research excavations at a dozen settlement sites identified by aerial photography. The primary aim of this study was to provide material for refining the dating of the Iron Age, and geophysical surveys were used in order to target large pits likely to be rich in artefacts. Most of the selected sites were on the lower slopes of the northern Wolds. It is still, however, probably true to say that the relationship between the cemeteries and their associated settlements or the wider landscape 'has yet to be seriously addressed' (Mackey 2003).

The last couple of decades of the twentieth century saw archaeological input into development projects becoming routine, encouraged by the strengthening of planning guidance and regulations on environmental impact assessment, and by the desire of large developers to follow best practice. The development of the gas supply industry, together with other infrastructure projects such as the construction of the A165 Leven to Brandesburton bypass (Steedman 1993), have increasingly served to highlight the archaeology of the Holderness claylands. Aside from the pipeline that forms the subject of this volume, other recent developments within the gas and petrochemical industry that have prompted excavations include: BP Teesside to Salt End ethylene pipeline; Salt End to Aldbrough electricity cable and Sproatley to Aldbrough gas pipeline (Savage 2014), Langeled natural gas terminal at Easington (Richardson 2011), Aldbrough gas storage facility (Bradley and Steedman 2014), Ganstead to Asselby gas pipeline (Daniel *et al.*, forthcoming) and Easington to Paull gas pipeline (Rowland and Wegiel 2012).

As a result of such work, the contribution of Holderness has become as integral to the understanding of the archaeology of Yorkshire as that of neighbouring regions, despite the lack of research excavations of the type seen in the Wolds and beyond: at Shiptonthorpe (Millett 2006) and Hayton, at sites in the Foulness Valley (Halkon and Millett 1999), and at Star Carr and elsewhere in the Vale of Pickering. The Holderness area has also been well served by landscape studies: the Humber Wetlands Project (Van de Noort and Ellis 1995), the Rapid Coastal Zone Assessment Survey (Brigham, Buglass and George 2008) and the Resource Assessment of Aggregate-Producing Landscapes (Brigham, Buglass and Steedman 2008).