

Middle Bronze Age Enclosures in the Norfolk Broads: a Case Study at Ormesby St Michael, England

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Remnant field systems and enclosures are key indicators of social change during the 2nd millennium BC – their study has considerable significance in terms of interpreting the Bronze Age in the eastern region. Despite widespread current interest in the topic, little if any evidence for Middle Bronze Age settlement and land division had been found in Norfolk prior to the investigations at Ormesby St Michael which form the focus of this paper. Here, archaeological excavations uncovered evidence for strip field systems, succeeded by a large and well dated enclosure containing at least two structures. These results are supplemented by cropmark evidence for other elements of the enclosure produced by the National Mapping Programme. When combined, the findings are of great significance since they indicate a Middle Bronze Age date for numerous comparable cropmarks recorded across the region as part of the National Mapping Programme, emphasising the crucial value of such work. It can now be suggested that the apparent dearth of Bronze Age field systems in Norfolk is not 'real', but the combined effect of limited excavation of such sites and misinterpretation of those that have been investigated.

Keywords: Middle Bronze Age, field systems, enclosures, post-built structures, National Mapping Programme

A significant enclosure at Main Road, Ormesby St Michael, Norfolk (NHER 30626; Fig. 1) was first identified in 1994 as cropmarks visible on an Ordnance Survey vertical aerial photograph taken in 1982: the relevant cropmarks are illustrated alongside the subsequent excavated evidence in Figure 2. At that time it was interpreted as a possible moat. Later analysis of aerial photographs as part of the Norfolk phase of the English Heritage National Mapping Programme (NMP), undertaken by Norfolk County Council, allowed a detailed plan of the site and surrounding features to be compiled. While it became clear that the enclosure was unlikely to represent a moat, it was still thought to be of possible medieval to post-medieval date, having survived as an earthwork as late as the 1960s (a rarity in Norfolk) and sharing the orientation of a post-medieval

field boundary. The site occupies low-lying ground (at c. 5 m OD), close to the edge of Ormesby Broad and on what was formerly part of Ormesby Common. It overlies sands and gravels of the Bacton Green Till Member, and sits in a marginal position between the fen peat soils of the valley bottom (now occupied by the Broad and its fringes) and the free-draining loamy soils of the Flegg upland. The latter are particularly conducive to the formation of cropmarks, while the former common was almost certainly fundamental to the late survival of earthworks at the site.

Archaeological investigations of the monument were carried out in 2009 and 2010 by Oxford Archaeology East in advance of the construction of several temporary silt lagoons for the Broads Authority. The works covered an area of c. 2.3 ha. Evaluation was instigated due to the presence of the cropmarks detailed above: the work demonstrated that the remains were of Middle Bronze Age date (Gilmour 2009). Subsequent excavation revealed evidence ranging from the Early Neolithic to the Iron Age, the latter including various round-houses with others being identified from the cropmark evidence. Remains pre-dating the Middle

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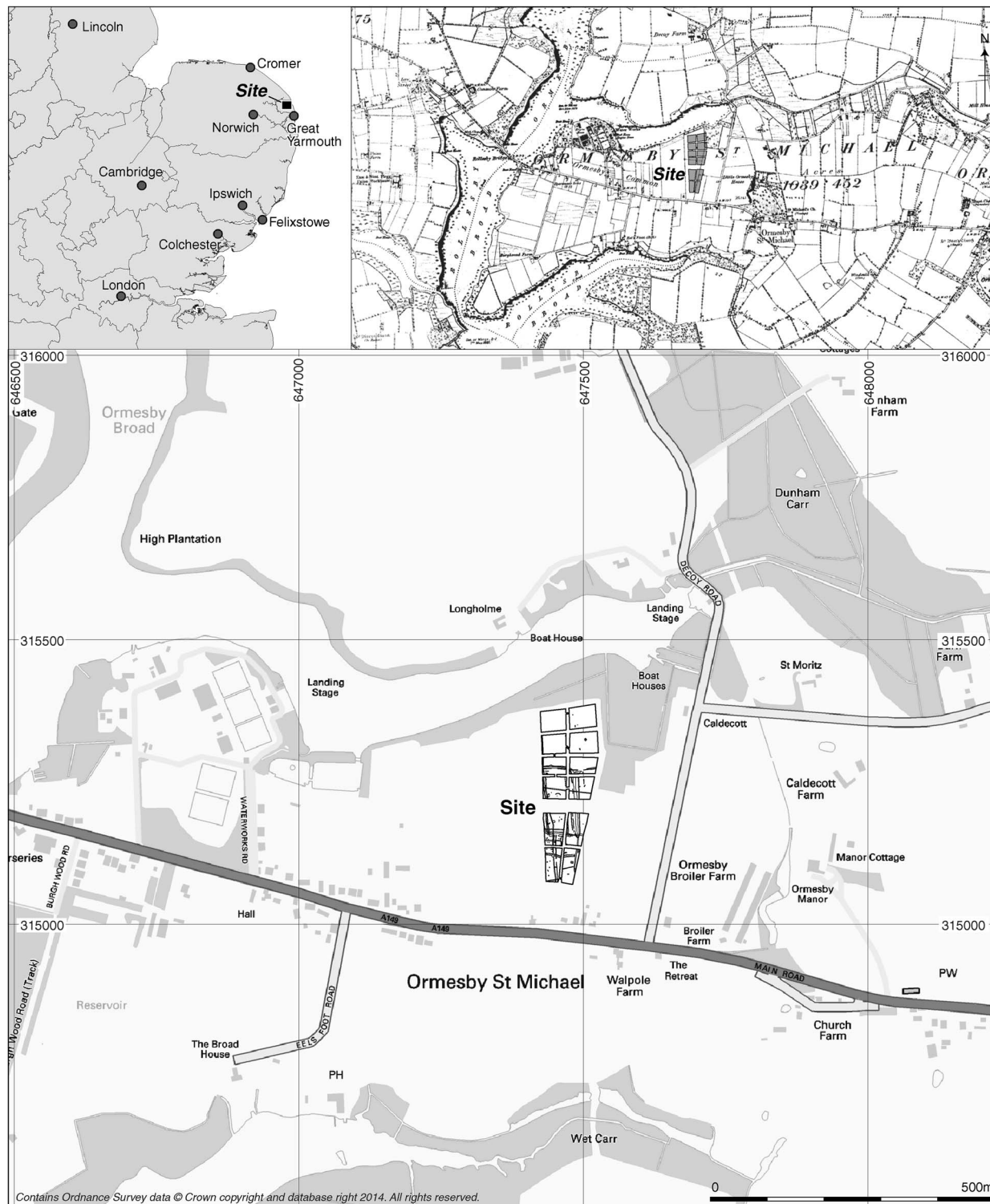


Fig. 1.
Location map with excavation area shown, in relation to the 1st edition Ordnance Survey map (1883)

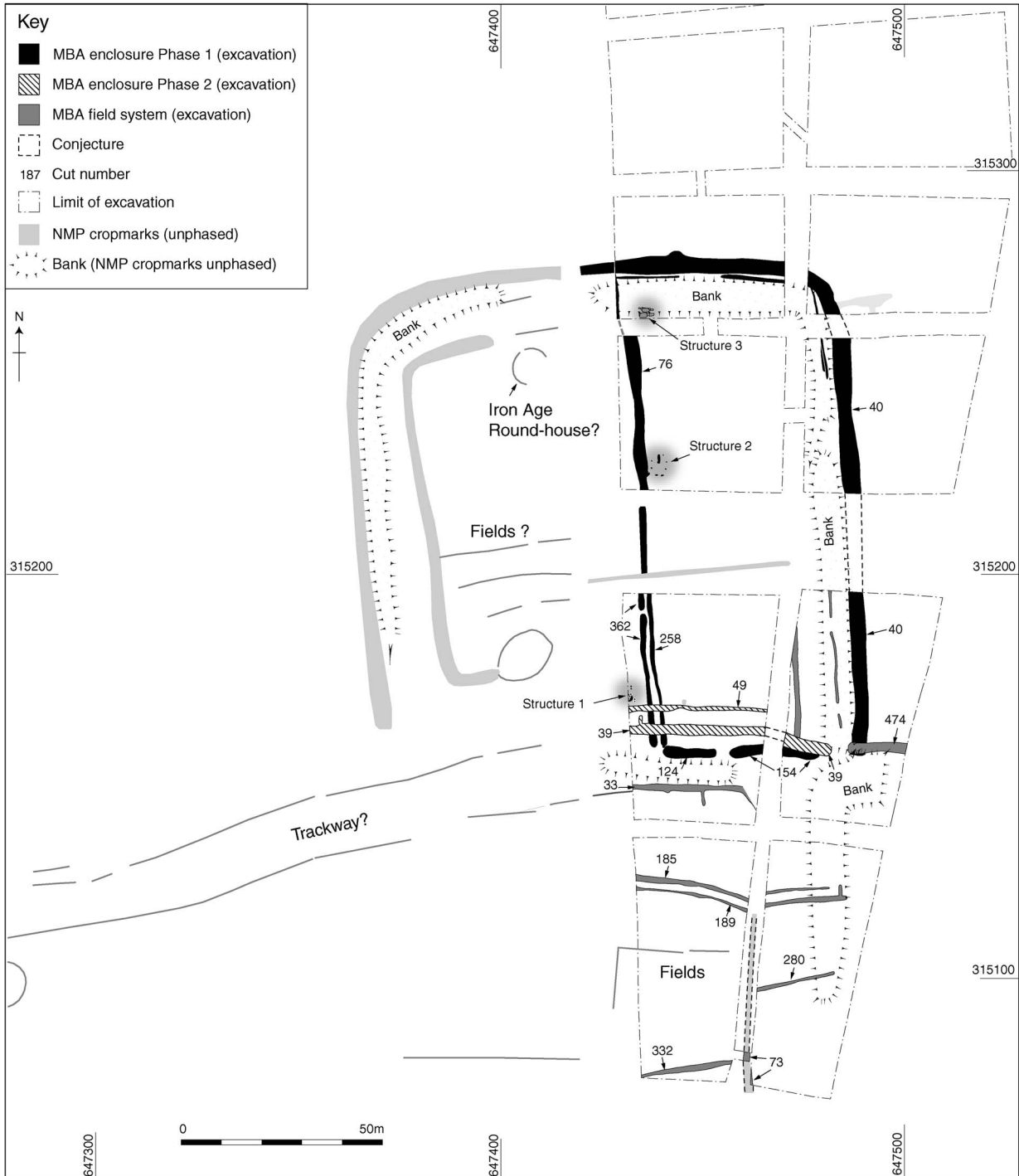


Fig. 2. Middle Bronze Age enclosure and field system, showing detail from the aerial photographs

Bronze Age activities consisted of two Early Neolithic pits, along with evidence for tree clearance at this period and in the Early Bronze Age. This article provides a synthesis of the results and is supplemented by the full excavation report (Gilmour & Mortimer 2012) which is available at <http://library.thehumanjourney.net/1209>.

Since the completion of the Ormesby St Michael excavations, additional NMP-style mapping using Google Earth imagery not available at the time of the original survey has allowed further detail, particularly on the unexcavated western side of the enclosure, to be mapped (transposed onto Fig. 2). Excellent correlation between the excavated features and the cropmark evidence has permitted a considerable degree of phasing of the aerial photographic evidence. Many elements of the Middle Bronze Age field system are evident, and the NMP mapping extends parts of this system to the south-west, from where a continuation to join with other sites mapped in the wider area can be postulated (see below).

Given its rarity value, the Middle Bronze Age evidence forms the main focus of this paper. It adds important detail to our knowledge of prehistoric land division in the region and the excavation results are supplemented by a discussion of cropmark evidence from surrounding sites, recorded by the NMP. These sites were often previously interpreted as of Iron Age, Romano-British, or later date – the new evidence from Ormesby and other developer-funded work undertaken on NMP sites in the last decade (Albone *et al.* 2007) suggests that some might originate in the Middle Bronze Age. This paper does not seek to re-evaluate the large volume of work conducted on the role and significance of Bronze Age land division (eg, Bowen 1961; Bowen & Fowler 1978; Yates 2007). Rather, it seeks to provide details of the newly defined ‘Ormesby-type’ enclosure and to demonstrate that the geographical spread of such systems is almost certainly greater than previously thought. It also highlights the presence of large enclosures of known or potential Middle Bronze Age date in Norfolk and across East Anglia.

THE ORMESBY EVIDENCE

Middle Bronze Age field system

A field system was evidently laid out across the subject site during the Middle Bronze Age. The precise layout of this system was not evident from the excavation, although it is made clearer when combined with the

aerial photographic evidence: the latter suggests the presence of strip fields beneath the western, unexcavated, part of the site, with additional fields to the south, some of which were excavated (Fig. 2). The ditches were generally positioned on a north to south and east to west orientation, apparently forming long, thin, east–west aligned fields, although there is insufficient detail to permit accurate measurement of field sizes. Where excavated, the ditches (73, 185, 189, 280, 332) were generally shallow and had been truncated in places. Further ditched boundaries had probably been lost, along with other ‘archaeologically invisible’ boundaries such as hedges, banks, and fences. Where investigated, the surviving ditches were up to 1.48 m wide and 0.74 m deep. Their fills contained a few struck flints. At least one of the ditches (185) had been re-cut, suggesting it was not a short-lived feature.

In the south-western part of the site, the aerial photographic survey shows two parallel ditches spaced *c.* 15 m apart, which formed a potential trackway, passing through the field system. Parts of both the northern ditch (ditch 39) and southern ditch (ditch 33) of the trackway were excavated. However, the phasing of this trackway is uncertain, as the northern boundary ditch also formed the southern boundary of the second phase of the later enclosure (ditch 39). It is possible that the trackway was set out at the same time as the field system but was not formally defined until a later date. As was probably the case with the Middle Bronze Age field system, there is reasonable evidence to suggest that this route continued to join elements of other sites mapped further to the south-west and east (NHER 27660 and 27261; see wider discussion below).

Middle Bronze Age enclosure

Set out on the same alignment as the earlier field system and partly overlying it was a substantial enclosure, subdivided into two equal parts by a north–south aligned ditch. The eastern half of the enclosure was excavated, while details of the western half traced from aerial photographs are transposed onto Figure 2, including a possible subdividing ditch running east–west. The cropmark evidence demonstrates that the enclosure was defined for at least parts of its circuit by external and internal ditches lying either side of a substantial bank; the latter was not identified during the excavation but is clearly visible on several of the aerial

TABLE 1: RADIOCARBON DATES FROM ORMESBY ST MICHAEL

Laboratory reference	Feature	Material	Radiocarbon age (BP)	$\delta^{13}\text{C}$ (‰)	Calibrated date range (95% confidence) BC	Calibrated date range (68% confidence) BC
SUERC-29970	Ditch 39	Charcoal	3105 ± 35	-25.2	1450–1290	1430–1310
SUERC-29974	Enclosure 40	Charcoal	3095 ± 35	-24.4	1440–1260	1420–1310
SUERC-29975	Structure 2	Charred grain	3050 ± 35	-25.3	1420–1210	1390–1260
SUERC-29976	?Structure 3	Charcoal	3050 ± 35	-24.8	1420–1210	1390–1260
SUERC-32910	Structure 1	Charred grain	3075 ± 30	-25.0	1420–1260	1400–1310

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (Oxcal3)

Atmospheric data from Reimer et al (2004); OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]

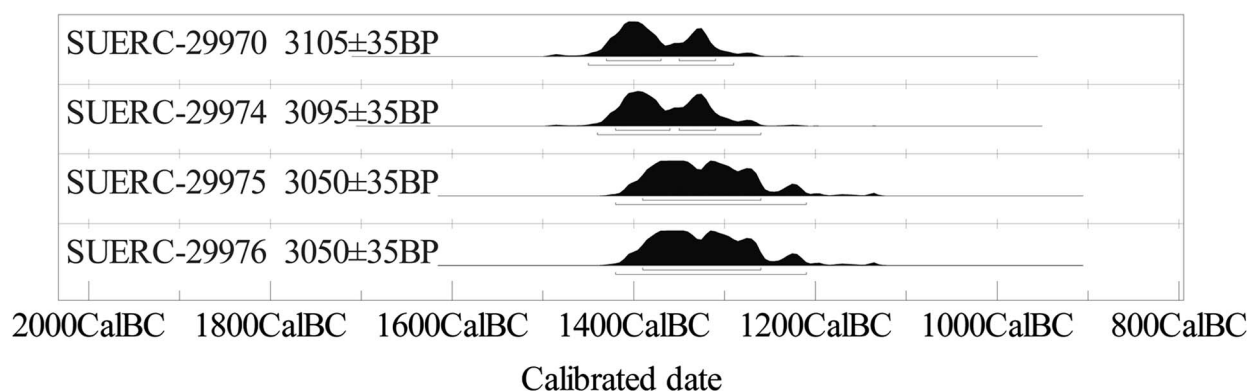


Fig. 3. Probability distribution of radiocarbon dates (see Table 1)

photographs (other possible banks to the south of the enclosure were noted in cropmark evidence, but were not apparent during the excavation). In its entirety the enclosure was sub-square in plan, measuring c. 112 m west to east and c. 118 m north to south. Its western and eastern boundaries are clear, with a possible entrance lying on the northern side and a less well-defined southern boundary. On excavation the southern side of the enclosure showed original multiple, segmented entrance-ways, subsequently replaced by a single boundary. The ditches making up the enclosure were of similar form, with steeply sloping sides and flat or slightly concave bases. They were filled by naturally deposited silty sands, with occasional lenses of charcoal-rich material.

Forming the eastern and northern boundaries of the excavated part of the enclosure was a single continuous ditch (40), measuring up to 3.40 m wide and 1.40 m deep. The character of its fills suggests that a bank once accompanied the ditch on the interior of the enclosure

(reflecting the presence of a bank indicated by cropmarks; see below). A sample of charcoal from just above the basal ditch fill returned a radiocarbon date of 1440–1260 cal BC (SUERC-29974; 3095 ± 35 BP). Three struck flints came from its upper fills (Table 1 & Fig. 3).

The enclosure's southern boundary consisted of two sections of ditch. The easternmost (ditch 154) began 8.20 m from the south-east corner of the enclosure and continued for 22.40 m before terminating; it was up to 2.60 m wide and 0.90 m deep. A single edge-retouched flint flake was recovered from this feature. After a gap of 3.30 m, the second ditch (124) extended westwards for 13.15 m and was up to 2.92 m wide and 0.75 m deep. A small assemblage of struck flint came from its fills; four fragments from the basal fill and eight from the upper layers. A single, large sherd of Deverel-Rimbury pottery (56 g) was retrieved from the basal fill of the eastern terminal of the ditch, while a single sherd of residual Mildenhall pottery came from the secondary fill of the western terminal.

Running eastwards from the south-eastern corner of the enclosure was another ditch (474): unfortunately this area remained unexcavated, due to constant flooding, and the relationship between this ditch and the main enclosure therefore remains uncertain. It is possible, however, that the two were contemporaneous and that ditch 474 formed part of a second enclosure to the east of the excavated area, although this is not visible on the aerial photographs.

The internal ditch which divided the main enclosure into two halves was formed by a single feature in the northern area (ditch 76), which measured up to 2.70 m wide and 0.84 m deep. Mildenhall type pottery (25 g), a loomweight, and four struck flints came from the basal fill of this ditch, adjacent to a building (Structure 2, below). A single large sherd of Deverel-Rimbury pottery (94 g) and six struck flints came from other fills. To its south, the division continued as two ditches (258 & 362) of similar size, with widths up to 1.70 m and depths up to 0.67 m. The only finds were a single sherd of Bronze Age pottery (65 g) and three struck flints from ditch 362. It seems unlikely that these two ditches were contemporaneous, since there was a narrow gap between them. Given that they terminated to the south at the same point, they may well indicate recutting.

In what appears to have been a second phase, the southern boundary of the enclosure was replaced with a continuous ditch (39), which cut across the ends of the internal division. This new ditch continued beyond the excavated area to the west and terminated 5 m from the south-eastern corner of the enclosure, leaving a narrow entrance. The ditch was a maximum of 2.80 m wide and 0.90 m deep. A sample of charcoal from just above the basal fill returned a radiocarbon date of 1450–1290 cal BC (SUERC-29970, 3015 ± 35 BP). Twelve struck flints came from its fills, along with a single small fragment (1 g) of unidentifiable pottery.

Parallel to ditch 39, and 3.5 m to the north, was a less substantial ditch (49), measuring up to 1.23 m wide and 0.43 m deep. The only finds were two residual struck flints. Given their proximity, it seems likely that a bank existed between the two ditches.

Middle Bronze Age structures

Flanking the central subdividing ditch of the enclosure were two post-built structures (Structures 1 & 2), and a third possible example (?Structure 3). Close to the

southern end of the subdivision, on its western side, the seven post-holes which made up Structure 1 did not form any recognisable spatial arrangement, but since they lay adjacent to the edge of excavation it is likely that further post-holes lay to the west. The post-holes were circular or sub-circular in plan, with diameters of up to 0.58 m and depths of up to 0.39 m. Most contained single fills with few finds, although there were two examples (post-holes 156 and 158) with clear post-pipes. Post-hole 156 yielded Deverel-Rimbury pottery (90 g) and four struck flints, along with a large fragment (1.122 kg) of a cylindrical clay loomweight and a probable whetstone. Post-hole 158 produced several sherds of Deverel-Rimbury pottery (269 g) and 15 struck flints. A single charred cereal grain from the fill of its post-pipe returned a date of 1420–1260 cal BC (SUERC-32910; 3075 ± 30 BP).

Further north, in the eastern half of the enclosure, Structure 2 consisted of seven post-holes arranged in a horseshoe-shape around a shallow trough or pit (Fig. 4). At least one further post-hole had probably been lost to truncation. Internally, the structure was 3.25 m wide and 4.75 m long. The post-holes were of similar form, being circular in plan with U-shaped profiles. They had maximum diameters of 0.30 m and maximum depths of 0.33 m. The majority were filled with charcoal-rich deposits, containing burnt flint and no other finds. The exception was a larger post-hole (210), measuring 0.70 m in diameter, which contained six fills surrounding a clear central post-pipe. This post-hole, together with another example (241, recut as post-hole 239) had been replaced, perhaps indicating repair to the structure. A single charred grain from post-hole 239 returned a radiocarbon date of 1420–1210 cal BC (SUERC-29975, 3050 ± 35 BP). Positioned centrally, at the northern end of the structure, was the shallow pit or trough (250): sub-rectangular in plan with steeply sloping sides and a flat base, it was 2.25 m long, 0.7 m wide, and 0.06 m deep. It contained a similar fill to the post-holes.

Lying to the north, close to the limit of the enclosure, was a third possible structure (?Structure 3). It consisted of a trough-like feature similar to that in Structure 2, along with a further pit, two possible beam-slots and a post-hole. The only find was a single sherd (22 g) of Deverel-Rimbury pottery from one of the beam-slots. Charcoal from the fill of the trough-like feature returned a radiocarbon date of 1420–1210 cal BC (SUERC-29976, 3050 ± 35 BP).

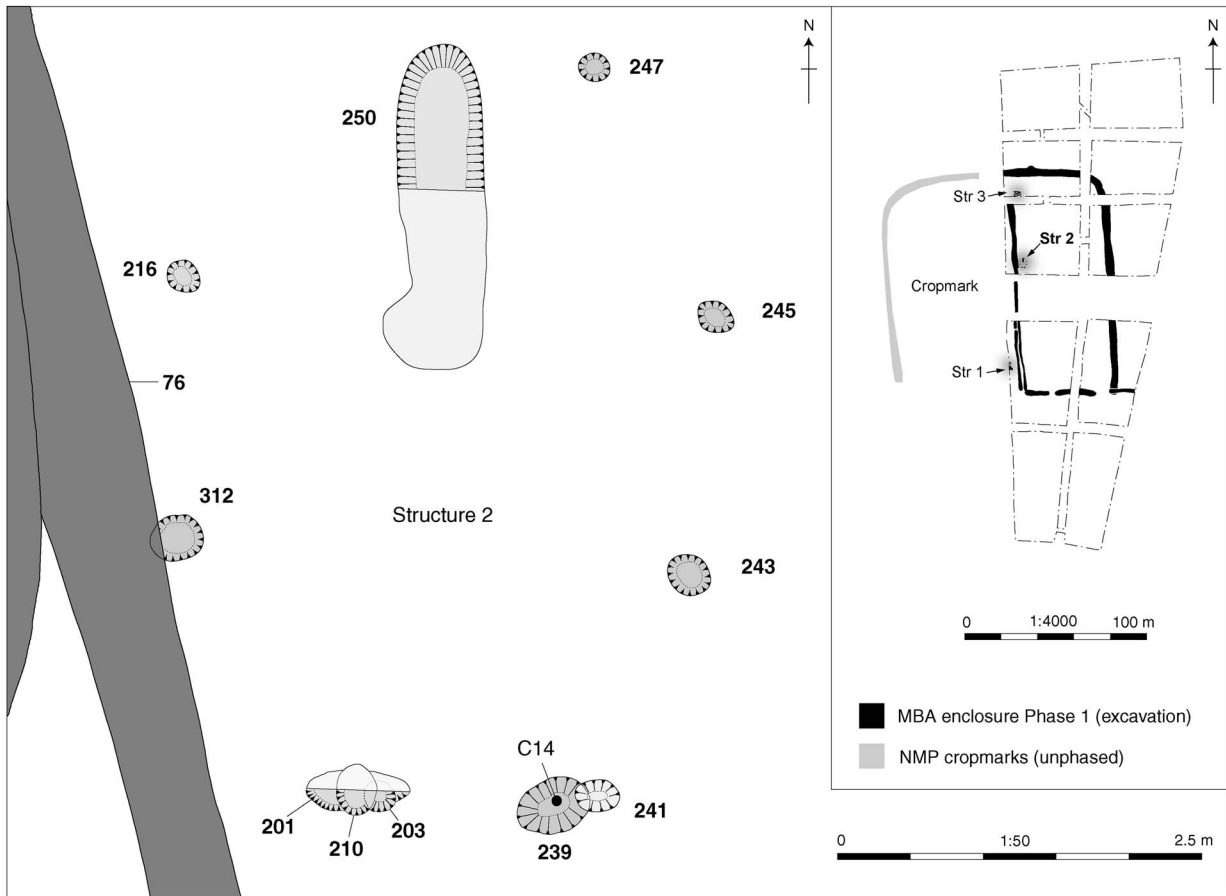


Fig. 4.
Detail of Structure 2

CROPMARK EVIDENCE FOR BRONZE AGE SITES IN NORFOLK

The scarcity of reliable dating evidence from the vast wealth of archaeological sites visible on aerial photographs is one of the continuing frustrations of archaeology in Norfolk, a county where aerial reconnaissance has made an overwhelmingly important contribution to the discovery of archaeological sites, if not always (given the limitations of the evidence) their interpretation. It has been a significant factor behind the persistent difficulty in recognising non-ceremonial/funerary Bronze Age sites in the county (eg, Ashwin 2005a; 2005b; Yates 2007), with the settlement evidence that was recognised usually being characterised as ‘open’ (Ashwin 2005b). In recent years, however, a number of excavations, including Ormesby St Michael, have confirmed the existence of Bronze Age enclosures and enclosed landscapes comparable with those already

well-known from elsewhere in the eastern counties; these were often first identified on aerial photographs, but not securely or precisely dated (Albone *et al.* 2007).

Given its location on low-lying land, formerly Ormesby Common, next to Ormesby Broad, the site’s position would have provided access to areas of fresh-water fen and marshland environment during the Bronze Age (Williamson 1997). To the east and south-west, further evidence for fields and enclosures suggests a continuation of the system found at Ormesby St Michael (NHER 27660 & 27621; Fig. 5). The Ormesby site lies on the margins of the Flegg ‘upland’, an area of prime agricultural land whose soils are particularly conducive to cropmark formation (the Flegg upland soils are largely loams, but Ormesby itself lies on the sands and gravels of the Bacton Green Till Member). Here, the NMP has revealed extensive swathes of field systems, enclosures and settlements, often representing

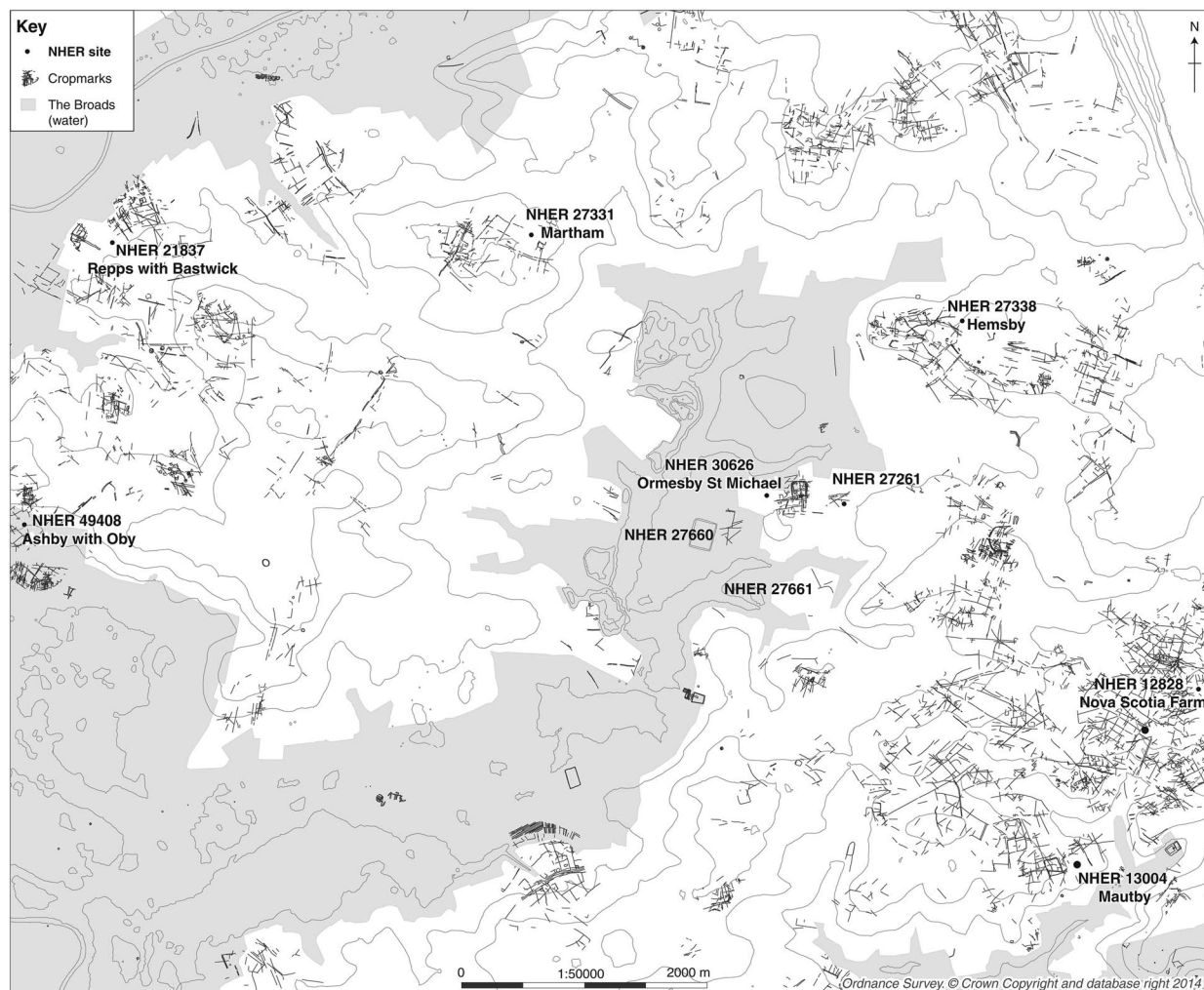


Fig. 5.
Ormesby St Michael in its landscape setting

several phases of land division (Fig. 5). While the vast majority of such sites have previously been suggested as being broadly later prehistoric and/or Romano-British in date on the grounds of their morphology (Albone *et al.* 2007), pipeline excavations between Bacton and Great Yarmouth (Bates forthcoming) have demonstrated the Bronze Age origins of several other complex field systems in the vicinity of Ormesby St Michael, including NHER 27338 at Hemsby and NHER 12828 at Nova Scotia Farm, Ormesby St Margaret, along with two further probable sites at Martham (NHER 27331) and Repps with Bastwick (NHER 21837). Together these sites appear to indicate a complex landscape comprising areas of settlement, fields, and grazing.

The greatest complexity is evident at Nova Scotia Farm (NHER 12828 & 12996), 3 km south-east of the Ormesby St Michael site, where an extensive coaxial field system and enclosure complex is visible, at least part of which is of Middle Bronze Age date (Bates forthcoming). While, without further excavation, it is not possible to ascertain how much of the coaxial field system post-dates the Bronze Age, it is clear that at the very least the early elements played an important role in structuring the later landscape and appear to have continued in use for a significant period. The dominant alignment expressed by the fields continues over several kilometres, with many elements representing relatively long-distance boundaries. This, along with

limited evidence from the other Bronze Age sites on the Bacton–Great Yarmouth pipeline (*ibid.*), suggests a significant marking out and renegotiation of land in the vicinity of the Ormesby St Michael site during the Bronze Age. While the current dating evidence cannot confirm an exclusively Middle Bronze Age date for this process, the dating of such features elsewhere suggests this.

A major re-evaluation of Bronze Age Norfolk is required as a result of these excavations and the important questions raised by the NMP findings. In particular, the well-dated results at Ormesby St Michael have defined a range of morphological characteristics, combined with a particular landscape setting, that can be used to identify other possible examples of this type of Middle Bronze Age enclosure within the NMP dataset and Norfolk's archaeological record more broadly (Fig. 6). At Gorleston-on-Sea, two possible examples of such enclosures mapped by the NMP (NHER 57396) have links – admittedly indirect – with excavated evidence suggesting a Bronze Age date. Both, like Ormesby St Michael, lay on former common, both are associated with a series of narrow, irregular banks defining fields or enclosures, and both are also in an area identified by David Yates as a prime location for Bronze Age field systems (2007, 81). The archaeology is complex and the dating sequence fragmentary, but recent developer-funded work dated two parallel ditches within a complex area of field boundaries (NHER 45158 & 43494) and banked enclosures (NHER 45056) to the Middle Bronze Age (Adams *et al.* 2011); one contained a Middle Bronze Age hoard. Following the same alignment as the parallel ditches and approximately 150 m to their north, lay a potentially contemporary banked enclosure and an associated series of banks (NHER 57396, Fig. 6). This enclosure (Site 57396A on Fig. 6), and another similar enclosure (Site 57396B on Fig. 6) approximately 1 km further to the north, are of broadly similar size to Ormesby, measuring 140–150 m across, and square or rectilinear in shape. The southern enclosure (Site A) and its associated boundaries are located within an area of numerous Middle or Late Bronze Age worked and burnt flint scatters (Gibson 1998) and excavations revealed numerous Bronze Age pits (NHER 11788; Hutcheson 1998; Timms & Ashwin 1999; Trimble 1999). The northern enclosure (Site B) has no associated finds or excavation results to support a Bronze Age date, but its similarity in size, shape, and construction methods, and its position on former

common, suggest that it could represent another Ormesby-type enclosure.

A rapid assessment of the NMP data for east Norfolk was made using the morphological characteristics of the Ormesby St Michael enclosure and, to a lesser extent, the two examples at Gorleston. This identified a further ten sites of possible Ormesby-type enclosures (Fig. 6). All are broadly in the same size range as Ormesby St Michael and are generally square or sub-rectangular in shape. They encompass a variety of construction methods: single and double ditches, bank and ditch, and earthen or turf banks with no accompanying ditch. However, the greater range of Middle Bronze Age enclosures excavated in Cambridgeshire suggests that the morphology of these sites can vary significantly (see Fig. 7 and below); it is notable that a number of the Norfolk sites share similar characteristics with the Middle Bronze Age enclosures at Clay Farm, Cambridge (Phillips & Mortimer 2013). In terms of dating, a significant number have prehistoric flint finds in the vicinity, and one has a Middle Bronze Age hoard in an adjacent field; others lie close to excavated prehistoric or Bronze Age features and finds. Most of the enclosures appear to be associated with field systems and may therefore reflect a landscape context and sequence similar to that demonstrated at Ormesby St Michael. Over half the sites occupy comparable landscape settings on the margins of wet valley floors (eg, Ashby with Oby (NHER 49408) and Mautby (NHER 13004); Fig. 5); others, including the Gorleston enclosures, are still within relative proximity to river valley systems, but are in comparatively more elevated positions. Two of these sites have little in common with Ormesby St Michael, being on the higher ground of the boulder clay plateau to the south of Norwich. It is feasible that these particular examples relate to the apparent expansion onto the heavier clays during the Middle to Late Bronze Age, as indicated by finds distributions (Ashwin 2005c, 21).

A striking feature of the Ormesby St Michael site is its apparent survival as at least a partial earthwork until the 1960s (and perhaps later). An important point to note is that this survival was almost certainly due to its location on what is shown as Ormesby Common on Faden's *Map of Norfolk* (Faden 1797). The extensive area of potentially Bronze Age fields and enclosures identified at Gorleston (NHER 57396) also has a very clear relationship with a former common, with the extent of the features mirroring that of the common. All of the other potential examples of



Fig. 6.
Cropmark plots of comparable enclosures in Norfolk

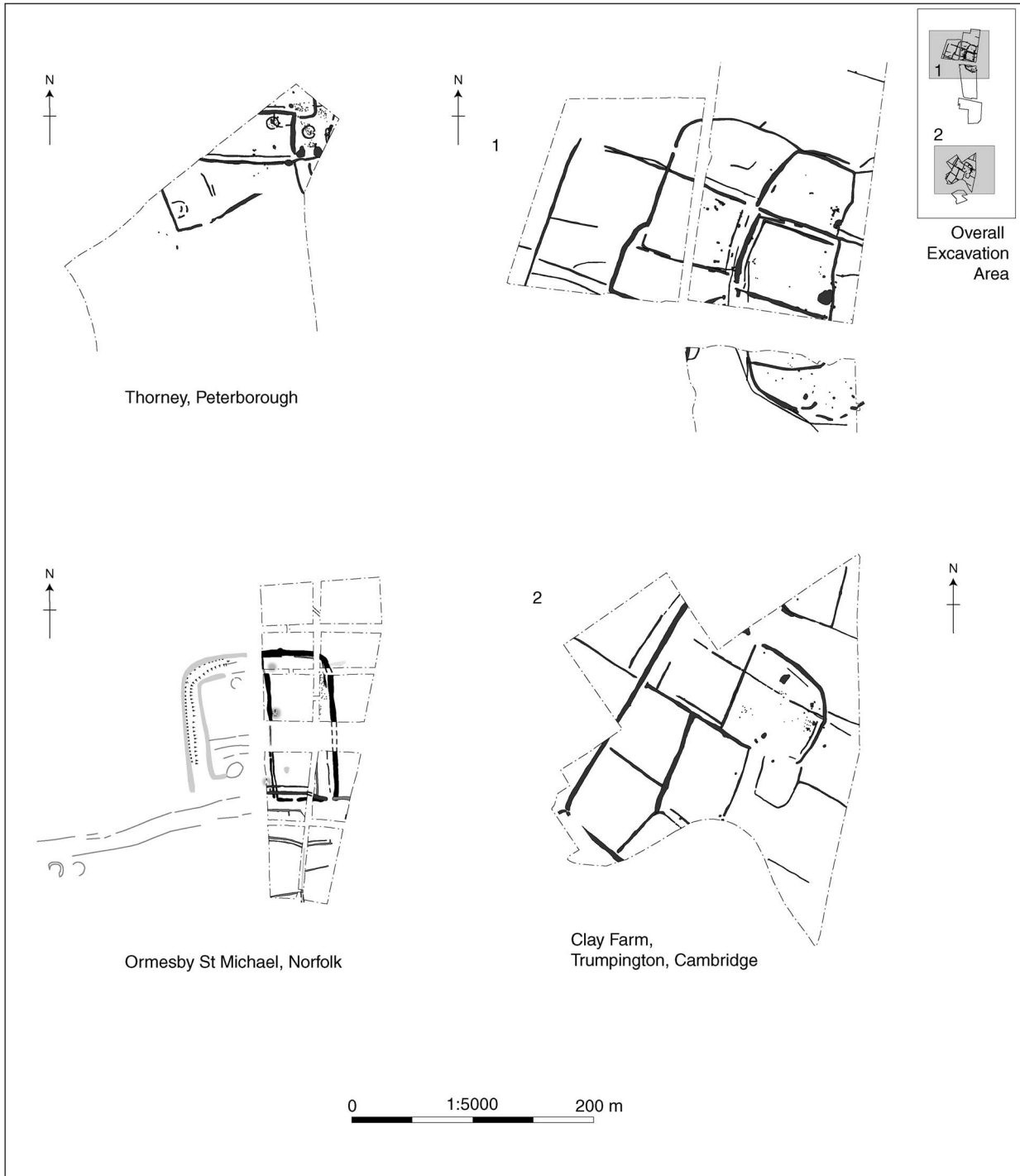


Fig. 7.
Regional comparisons of Middle Bronze Age field systems

Ormesby-type enclosures are also located on previous common and/or alongside areas of common marsh and fen shown on Faden's Map. The results of recent trial-trenching at the enclosure on the former heathland at Poringland (NHER 13732) provisionally support, or at least do not preclude, a Bronze Age date for the site (Clarke 2013). Further phases of archaeological work at the Poringland site are proposed (J. Albone, pers. comm.). It is generally thought that the extents of common land recorded by Faden in the late 18th century reflect those of at least the 16th century landscape, and some are known to have altered little since the early 14th century (Barringer 2005, 84). It has been suggested that many East Anglian heaths resulted from extensive clearance during the Bronze Age and Iron Age and that most have since remained as relatively open landscapes or wood pasture (Williamson 2006, 175–6). Whether these enclosures were deliberately sited on areas already identified as being less productive land, where grazing activity is likely to have taken place from prehistory to relatively recent times, or to what extent their apparent distribution is a product of preferential survival, is not clear. The relationship is, however, striking and warrants further investigation as an increasing number of similar enclosures, and more Middle Bronze Age sites in general, are identified.

DISCUSSION

Middle Bronze Age field systems in north-east Norfolk
Bronze Age field systems have long been studied and their importance in contributing to our understanding of the societies which created them is widely recognised (eg, Bowen 1961; Bowen & Fowler 1978; Yates 2007). Although cropmark evidence for early fields has been recorded across Norfolk and to its north-east for many years (eg, Edwards 1978), the lack of reliable dating has led to the assumption that the majority are Iron Age, Romano-British, or later in date. As has been discussed above, the recent excavations at Ormesby St Michael, along with those along the route of the Bacton–Yarmouth pipeline (Bates forthcoming), demonstrate that at least some of the known cropmarks are, in fact, Bronze Age in origin, as speculated by Yates (2007) in his discussion of the Eastern Seaboard evidence – or apparent lack of it. Thus, while Yates was only able to report two locations of Bronze Age field systems north of the River Yare, at Hemsby and Witton (*ibid.*, 81), the new research suggests that field systems in north-east Norfolk may

have been as dense as those now known to have existed on the Cambridgeshire fen-edge.

There are clear dangers in making over-arching assumptions on the basis of a single type of landscape feature, ie, fields, and of treating the entire Middle Bronze Age, and the peoples that lived through it, as a single, undifferentiated entity. As highlighted by Yates (2007) and others, the wealth of Middle to Late Bronze Age metalwork and artefactual evidence found in Norfolk alone indicates that significant social negotiations were being played out in other aspects of society. Notwithstanding these issues, it is certainly the case that the presence of field systems of this date and type in north-east Norfolk, and the eastern counties more broadly, suggests that some of the social and economic constructs and dynamics active in the region during the Middle Bronze Age may have been broadly similar to those postulated – on the basis of comparable evidence – for much of southern England in the same period. The attribution of a Middle Bronze Age date to key parts of previously undated cropmark landscapes also highlights the fact that the study of Middle Bronze Age field systems is an ongoing process and that the area they are known to have covered is rapidly expanding. Since the first pre-Roman fields were recorded (Blaker 1902) there have been a great many advances, both in dating these systems and documenting their geographical distribution. Arguably it is developer-funded work that will continue to play an important role in this field of research.

Middle Bronze Age enclosures in East Anglia

Middle Bronze Age enclosures are known across southern England, (eg, Barrett *et al.* 1991; Cunliffe 1975, 15), along with more substantial hilltop enclosures (eg, Needham & Ambers 1994), and Late Bronze Age ringworks (eg, Bond 1988). The enclosure at Ormesby St Michael joins a growing corpus of such sites excavated across East Anglia which are similar in form to enclosed settlements found in Wessex. The latter are also generally rectangular in shape and not more than 50 m across (Cunliffe 2004, 70).

Such enclosures in Norfolk that are visible on aerial photographs can be easily distinguished from coaxial field systems, although as yet few examples have been excavated in the county. Across Cambridgeshire, however, several similar examples are known (Fig. 7). At Thorney, Peterborough, parts of various enclosures were recorded, associated with post-hole structures

(Pickstone & Mortimer forthcoming), while at Clay Farm, Trumpington near Cambridge, many conjoined enclosures have recently been excavated (Phillips & Mortimer 2013). As at Ormesby, both of these sites show clear evidence for strip field boundaries being replaced by, or subsumed into, deeper-ditched enclosures. Other examples in Cambridgeshire include those at Fulbourn (Brown & Score 1998), Linton (Clarke & Gilmour forthcoming), Fengate (Evans 2009), and Sawston (Mortimer 2005a). These enclosures were all broadly similar in form, being sub-rectangular or D-shaped and were delimited by large ditches, usually between 2 m and 3 m wide and 1–1.50 m deep.

Where the overall size of the enclosures is known from cropmarks or excavation, they tend to cover just under half a hectare. At Clay Farm, Trumpington, individual enclosures covered 0.35–0.40 ha (Phillips & Mortimer 2013). The enclosures identified on aerial photographs at Sawston (Palmer 2005) encompassed 0.20–0.41 ha. The enclosure at Ormesby St Michael covered a total area of *c.* 1.2 ha, although this was apparently subdivided. The enclosures fit into a pattern of land apportionment and increased division, through field system and enclosure construction, that is seen across southern England during the later 2nd millennium BC. They are frequently situated within, or overlies, coaxial field systems and always respect their alignment. This suggests that the enclosures represent an augmentation of these field systems, rather than a replacement.

Although outside of East Anglia similar enclosures are sometimes referred to as enclosed settlements, their role is far from clear. It is possible that they were initially associated with livestock management, perhaps to keep domesticated cattle safely in and wild cattle and other animals out, as well as to drain the enclosed area. This interpretation appears to be supported by the presence of potential stock management structures at the Fulbourn enclosure (Brown & Score 1998) and one of the Clay Farm, Trumpington, enclosures. The latter site provides extensive environmental evidence for cattle – in the form of large numbers of dung beetle species and parasites – within an area of rich, damp pasture land. The almost complete absence of both finds and environmental evidence from the Ormesby St Michael enclosure makes interpretation difficult, but the surrounding wetlands would have undoubtedly provided ample grazing opportunities.

The role of cattle in Middle Bronze Age Wessex has been discussed elsewhere (Cunliffe 2004), with evidence for the intense corralling of animals within

the hilltop enclosure at Balksbury Camp, Andover, Hampshire (Ellis & Rawlings 2001). The rapid increase in field systems and the construction of elaborate trackways during the Middle Bronze Age has also been attributed to farming intensification and increased animal husbandry (Yates 2007, 121).

It is of note, however, that the size of the ditches making up the East Anglian enclosures may exceed what is required simply to corral livestock. This perhaps reflects a need to protect livestock from exterior threats, be they wild animals or theft and raiding; there is substantial evidence for violence, in the form of weapons and palaeopathological and iconographic evidence during the Bronze Age (Osgood & Monks 2000). There is, however, no evidence that the East Anglian enclosures were highly defended – for example, there are no timber revetments or elaborate gate houses. It may be that these features were more a demonstration of ownership and the ability to marshal manpower, than actual practical defences.

Evidence for the presence of structures within some of the enclosures is detailed below. At Clay Farm, Trumpington such structures occupied parts of the enclosure system on higher ground, with those showing most evidence for the presence of cattle being on the lower ground. While it appears that these Middle Bronze Age enclosures may have served a number of functions, including settlement, craft activities, and livestock management, it is not clear that these functions were exclusive, either at one set period or across their life-span. It is perhaps more likely that their functions changed over time.

Middle Bronze Age structures at Ormesby St Michael

Securely dated Middle Bronze Age structures are not common in East Anglia, although they are being identified in increasing numbers. Elsewhere in southern England, Brück listed 53 sites with Middle Bronze Age occupation across Wessex, Sussex, and the Thames Valley (1999, 146): many are not securely dated.

Although Brück (*ibid.*) shows Middle Bronze Age structures as being primarily round-houses, often with porches, such buildings are unusual in East Anglia. Instead, in common with Structure 1 at Ormesby St Michael, the form of these buildings is often difficult to determine. For example at Thorney, Peterborough (Pickstone & Mortimer forthcoming) and in Cambridgeshire at Clay Farm, Trumpington (Phillips & Mortimer 2013) and the Fordham Bypass site (Mortimer 2005b), the original shape of such buildings is a matter for debate. In some instances, approximate circles, ovals, or arcs can

be discerned within the post-hole arrangements. Similar scatters of post-holes are known in the Thames Valley, as at Heathrow, where groups of post-holes, some containing large quantities of Deverel-Rimbury pottery, also showed no clear form (Lewis *et al.* 2010, 180).

This is not to imply that the classic round-house did not exist in Middle Bronze Age East Anglia. A recent excavation at Fordham Road, Newmarket (Rees in prep.) revealed nine well defined structures, some with porches, along with other scatters of post-holes, inside a series of enclosures. While no radiocarbon dates are yet available, pottery from this site appears to date the structures to the Middle Bronze Age. At Ormesby, Structure 2 is perhaps closer to the traditional round-house in form, with a clear oval shape in plan. It is similar to an example excavated at Chimney Farm, Witton, Norfolk (Bates forthcoming).

The role of such Middle Bronze Age structures has been much discussed (eg, Drewett 1982; Brück 1999; Tapper 2011) and it is beyond the scope of this discussion to reappraise these interpretations in detail. However, it is of some note that Structure 2 was apparently of different character to Structure 1: the material associated with Structure 2 was rich in charcoal and burnt flint, while Structure 1 contained domestic/craft items, including pottery, a loomweight, and a whetstone.

CONCLUSIONS

The excavation of Ormesby St Michael, along with the results of other recent developer-funded excavations, provides the first clear proof of Middle Bronze Age fields and enclosures in east Norfolk and represents an important springboard for further research and investigation into this aspect of prehistory, already well documented for southern England. The presence of a well-established field system, later augmented by a substantial enclosure, located alongside fen and grazing land and on the margins of the uplands, provides us with a much clearer insight into the Middle Bronze Age landscape of Flegg.

The new work has drawn attention to both the limitations and potential inherent in the work of the NMP, radically altering the initial – albeit tentative – interpretation of the Ormesby St Michael site. The additional work undertaken to reassess the interpretation of further possible sites across east Norfolk, although rapid, highlights the enormous potential of the NMP dataset, particularly when allied with archaeological investigation. More broadly, the Ormesby

St Michael site, with its clear Middle Bronze Age signature, has forced a reassessment of the evidence for this period across Norfolk.

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RÉSUMÉ

Enclos de l'âge du bronze moyen dans les marécages du Norfolk: une étude de cas à Ormesby St Michael, Angleterre, de Nick Gilmour, Sarah Horlock, Richard Mortimer, et Sophie Tremlett

Les restes de systèmes de champs et d'enclos sont des indicateurs clés de changements sociaux au cours du II^e millénaire av.J.-C., leur étude a une portée considérable en termes d'interprétation de l'âge du bronze dans la région est. Malgré l'étendue de l'intérêt actuel porté à ce sujet, peu, voire aucun témoignage d'occupation et de division des terres à l'âge du bronze moyen n'a été découvert dans le Norfolk avant les investigations d'Ormesby St Michael qui constituent le point central de cet article. Là les excavations archéologiques ont révélé des témoignages de systèmes de champs en bandes, auxquels a succédé un important enclos bien daté contenant au moins deux structures. Ces résultats sont complétés par des témoignages d'anomalies dans les récoltes pour d'autres éléments de l'enclos produits par le Programme National de Cartographie. Quand on les rapproche, ces découvertes sont extrêmement significatives puisqu'elles indiquent une date de l'âge du bronze moyen pour de nombreuses anomalies comparables enregistrées dans des cultures de toute la région dans le cadre du Programme national de Cartographie, ce qui accentue la valeur cruciale de tels travaux. On peut maintenant suggérer, que l'apparente pénurie de systèmes de champs de l'âge de bronze dans le Norfolk n'est pas 'réelle', mais l'effet combiné du nombre limité de fouilles de ces sites et de l'interprétation erronée de celles qui ont été examinées.

ZUSAMMENFASSUNG

Erdwerke der Mittelbronzezeit in den Norfolk Broads: Eine Fallstudie in Ormesby St Michael, England, von Nick Gilmour, Sarah Horlock, Richard Mortimer, und Sophie Tremlett

Die Überreste von Feldsystemen und Erdwerken sind Schlüsselindikatoren für den sozialen Wandel während des zweiten Jahrtausends v.Chr.; ihre Untersuchung ist von entscheidender Bedeutung für die Interpretation der Bronzezeit im östlichen England. Trotz eines breiten gegenwärtigen Interesses an diesem Thema liegen bislang wenige bis keine Hinweise aus Norfolk für mittelbronzezeitliche Siedlungen und Landaufteilungen vor, bis auf die Untersuchungen in Ormesby St Michael, die den Kern dieses Beitrags bilden. Archäologische Ausgrabungen erbrachten hier Hinweise auf Streifenfeldersysteme, denen ein großes und gut datiertes Erdwerk folgte, das aus mindestens zwei Strukturen bestand. Diese Ergebnisse werden ergänzt durch Bewuchsmerkmale, die vom National Mapping Programme gewonnen wurden, die Hinweise auf weitere Elemente der Anlage liefern. Werden diese Daten kombiniert, erweisen sich die Beobachtungen als sehr bedeutsam, da sie nahe legen, dass auch zahlreiche weitere ähnliche Bewuchsmerkmale, die in der Region im Rahmen des National Mapping Programmes dokumentiert wurden, in die mittlere Bronzezeit datieren; dies zeigt den entscheidenden Wert eines solchen Programms. Es kann jetzt angenommen werden, dass der scheinbare Mangel an Feldsystemen der Bronzezeit in Norfolk nicht „real“ ist, sondern aus der Kombination limitierter Ausgrabungen derartiger Fundplätze und der Fehlinterpretation der bislang untersuchten Plätze resultiert.

RÉSUMEN

Los recintos del Bronce Medio en Norfolk's Broads: un caso de estudio en Ormesby St Michael, Inglaterra, por Nick Gilmour, Sarah Horlock, Richard Mortimer y Sophie Tremlett

Los restos de parcelas y de recintos son los principales indicadores del cambio social acontecido durante el segundo milenio BC – su estudio tiene una importancia considerable en la reinterpretación de la Edad del Bronce en la región oriental. A pesar del extendido interés que se tiene actualmente por el tema, poca o ninguna evidencia de los asentamientos y de la división de la tierra en el Bronce Medio se había documentado en Norfolk antes de las investigaciones de Ormesby St Michael, el cual constituye el objeto de atención de este trabajo. En este caso, las excavaciones arqueológicas han descubierto evidencias de sistemas de parcelas abiertas sucedidas

por un amplio cercado, bien datado, que contenía al menos dos estructuras. Estos resultados se complementan con surcos de arado en otras zonas del recinto, reveladas por el National Mapping Programme. En conjunto, los hallazgos son de gran relevancia puesto que indican una cronología del Bronce Medio para numerosos campos de surcos registrados a lo largo de la región por el National Mapping Programme, destacando la crucial aportación de este trabajo. Se puede sugerir que la aparente desaparición del sistema parcelario de la Edad del Bronce en Norfolk no es “real”, sino resultante de la combinación de una escasa excavación de estos yacimientos y de una mala interpretación de los casos investigados.