Proceedings of the Cambridge Antiquarian Society

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Volume LXXXVII
for 1998

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(incorporating the Cambs and Hunts Archaeological Society)

Volume LXXXVII for 1998

Editor Alison Taylor

Published by the Cambridge Antiquarian Society 1999
ISSN 0309-3606

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Introduction

In 1998, while clearing out the accumulated rubbish of a lifetime, the writer unearthed a detailed plan of the remarkable 17th-century Civil War fort at Earith (Fig. 2). The survey on which the plan was based was carried out in the late 1960s by the writer, with students attending a course on archaeological field survey run jointly by the then Cambridge University Board of Extra Mural Studies and London University Extra Mural Department.

The fort at Earith, traditionally known as The Bulwark, is one of the largest and best preserved of all the surviving 17th-century Civil War fortifications in Britain. Further, its position on a flat site, apparently unencumbered by any other works and devoid of any topographical or physical constraints, makes it an almost perfect and certainly rare example of the art of the 17th-century military engineer. The plan made of it by the Royal Commission in the 1920s and its depiction on large-scale Ordnance Survey plans are incomplete, and do not do justice to the site (RCHME 1926, Bluntisham cum Earith (3); VCH 1926, 310–12; OS), and, despite the long interest both in field survey in Cambridgeshire and in Civil War fortifications in general, there has never been an attempt to fully examine this important site (Brown and Taylor 1980, 113–15; Harrington 1992, 42–3; O'Neil 1960, 108; RCHME 1964; Saunders 1967, 22–3; Osborne 1990). It thus seemed to the writer that, instead of consigning the newly discovered plan to the dustbin, together with the rest of his life's work, or depositing it in local or national Sites and Monuments Records with much the same result, it was perhaps worth publishing in these *Proceedings*. The publication of the plan also required a description of the more notable features of the site, as well as an attempt to place it in its historical context.

Setting (Fig. 1)

The Bulwark is situated at the east end of Earith village, immediately north of the Huntingdon to Ely road (A 1123), at the extreme south-western end of the Bedford Washes, on gravel at 2.5m above OD. It is set between the artificial channels of the Old Bedford River to the north-west and the New Bedford River to the south-east. Its position within the regularly and deliberately flooded Washes has led to its preservation when others of its period and type have succumbed to agricultural and urban pressures. However, although now technically within the fens, its actual siting is more subtle. It is set on the edge of a low promontory of gravel which projects south-eastwards from the similar deposits to the west on which Earith village lies. The boundary of this promontory extends eastwards, just to the south of the fort, from the junction of the Old Bedford River with the River Ouse, along the line of the low scarp there, and then curves north and north-east along the south-eastern edge of the fort. It then swings back north-west towards the Old Bedford River. This promontory shows well on an aerial photograph taken in April 1978 when it stood clear above the surrounding flooded land (CUCAP CFT 37). It is also indicated by the arrangement of field boundaries depicted on the Enclosure Map of 1814 (HRO P17). The flooded land is largely made up of alluvial deposits and marks the start of the prehistoric fenland course of the Ouse which, probably until the 12th century, flowed north from here to the Nene (Hall and Coles 1994, 136 and fig. 52). The promontory was cut through when the Old Bedford River was constructed. The fact that it once lay on the edge of the fens rather than within them is borne out by the existence of very slight medieval ridge and furrow, aligned north-west to south-east and cut by the New Bedford River, visible on aerial photographs in the area to the north-west of the fort and overlain by its north-western hornwork (CUCAP CCH 9). Presumably the main part of the fort itself overlies this ridge and furrow although it must have been abandoned by the time the fort was constructed.

The Huntingdon to Ely road crosses both of the Bedford Rivers on modern bridges and between them runs on a low causeway. The existence of this causeway, the alignment of the main street of Earith, as well as the position of the roads east of the New Bedford River, indicate that the main east to west route has been in its present position for many centuries and was probably there in the 17th century when the fort

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Figure 1. *The Bulwark, Earith, viewed from the north-west on 30 December 1966. The Ouse, and its original continuation, now the Old West River, lies on the right of the picture. In the foreground is the Old Bedford River cut in 1637. In the background is the New Bedford River of 1651. The main road between Huntingdon and Ely runs parallel to and left of the Ouse, crossing both the Bedford Rivers on bridges. The position of the fort on slightly higher and drier ground is clearly visible. (Copyright Cambridge University Collection of Aerial Photographs)*

was constructed. Just to the south of this road is the broad channel of the Great Ouse. Before the 1630s the Ouse flowed eastwards along what is now the Old West River towards Ely. But in 1637, as part of Vermuyden's first period of work on the draining of the southern fens, the [Old] Bedford River was constructed. The waters of the Ouse were then diverted north along this new cut, rejoining the Ouse at Denver in Norfolk. The old course of the Ouse to the east was blocked by a sluice (Darby 1940, 41–3). This was the situation during the Civil War when the fort was constructed. After the war, in 1651, as part of Vermuyden's second period of drainage work, the New Bedford River was cut, roughly parallel to the older one (Darby 1940, 69–73) isolating the fort and ensuring its preservation. Thus the fort was constructed to control the main route into the fens from Huntingdon and the south-west, as well as the Ouse navigation. As such it mirrors the other surviving Civil War fort in the county, that at Horsey Hill on the Peterborough to Whittlesea road (A 605) which was built to control the principal north-western route into the fens as well as the navigation on the Old Nene channel and the King's Dike. The Horsey Hill fort, although also of considerable interest, is not so well preserved as The Bulwark, its interior being occupied by a farmstead (RCHME 1926, Stanground (3)). Both forts must have been erected by the Parliamentary side during the Civil War to protect the margins of and access to their East Anglian power-base.

Description (Fig. 2)
(Terms in *italics* are those normally used in 17th-century military manuals)

Earith *fort*, or detached stronghold, is a square earthwork enclosing an area of about 0.73ha (1.7 acres), with a surrounding ditch and complex outworks. On each corner is an arrow-shaped *bastion* designed to provide cover along the adjacent sides. Beyond, on two sides and linked to the main fort, are further outworks, perhaps both originally *hornworks*. The fact that the *flanks* of the bastions, that is the short sides linking them to the *curtain* or main sides of the fort, are at right angles to the curtain and that the salient angles of the bastions appear to be just over 60 degrees, indicate that the fort is based on 'old Dutch' models (Ross 1887, 10–13). This Dutch method of military engineering was almost always used by the Royalist engineers during the Civil War, and the Parliamentary forces appear to have adopted it only towards the latter stages of the conflict (RCHME 1964, 47; O'Neil 1960, 111).

The main *enceinte* or enclosure is square and the corner bastions are linked by a continuous rampart or curtain, now between 0.5m and 1.0m high. All the bastions are hollow. Beyond is a broad ditch up to 3.0m deep which entirely surrounds the main enclosure. Outside this ditch, mirroring the form of the main fort, is a continuous flat narrow walk, protected by an outer rampart which is now nowhere more than 1.0m high. This walkway and rampart is a *covered-way* or

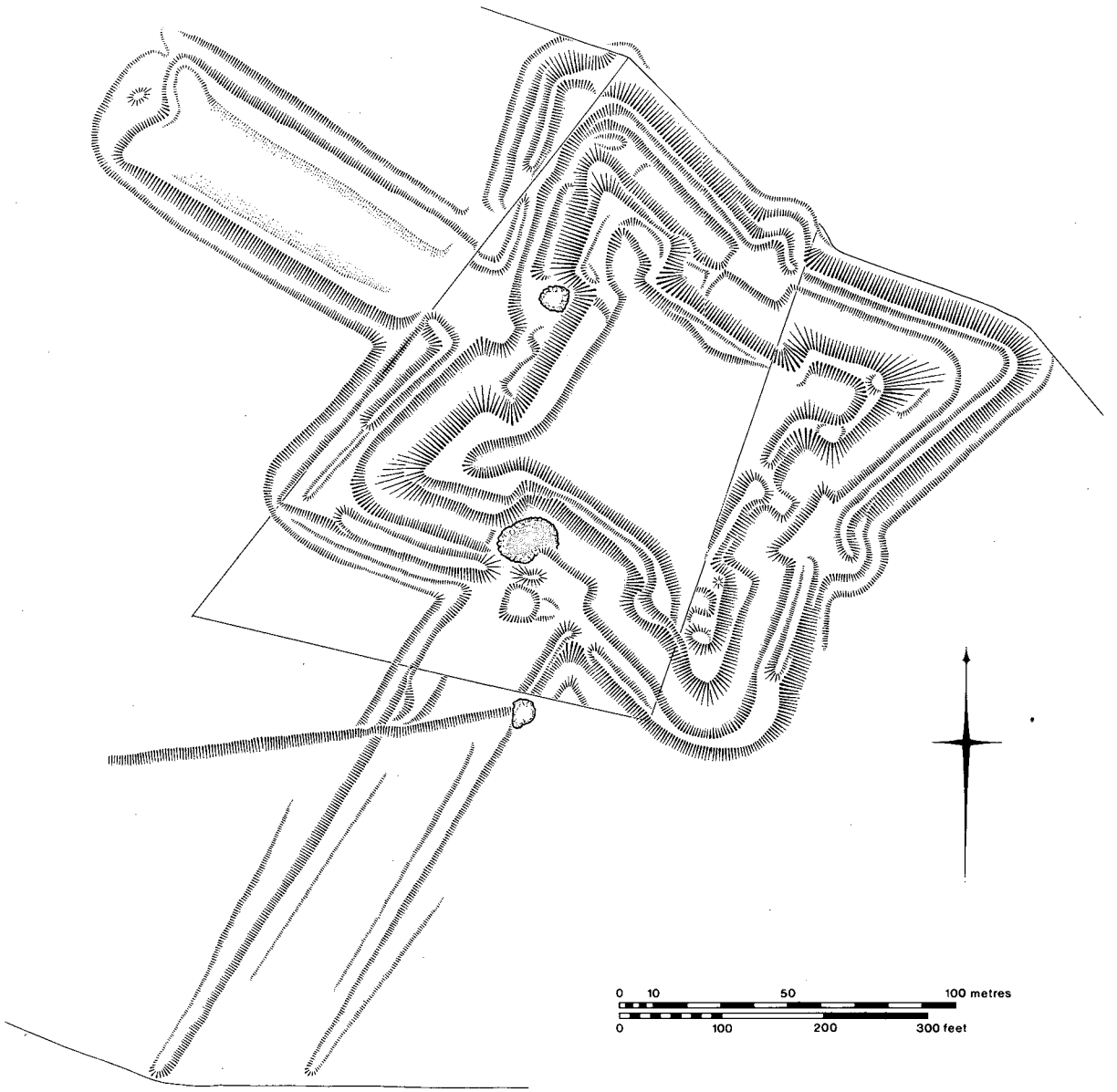

Figure 2. *The Bulwark, Earith.*

communication route, although it probably also functioned as a firing platform for musketeers. The outer scarps of both the rampart of the covered way and of the curtain could have been revetted in timber, in a similar way to that at Colonel Gray's Sconce at Newark on Trent, Nottinghamshire (Manning 1958, 36–42, 62; RCHME 1964, 37–9). This is, however, unlikely as revetting was never used on contemporary Dutch works. The outer side of the covered way here was part of a *glacis* or a slope on which attackers were exposed to the fire of the defenders. Thus it could not have been revetted. There would probably have been much use of wooden palisades on the rampart. In the centre of each side the covered way opens out to form rectangular platforms which project into the ditch. These are *places-of-arms* or assembly points for troops on the outer defences. On the north and east sides these places are protected by small *redans*, or angular projections, now eroded to arcs. The ramparts or parapets of these redans are continuous with those of the covered way. However, on the south and west sides the covered way parapets turn outwards and become the long sides of the extended hornworks. These sides are now low banks less than 1.0m high with shallow outer ditches.

The north-western hornwork terminates some 35m short of the Old Bedford River in the form of two projecting rounded and much eroded features linked by a short length of rampart. These features may have been, were perhaps intended to be, or should have been, small *demi-bastions* or half bastions with one forward face and one flank covering the adjacent curtain (RCHME 1964, fig. 18a). Their original form is no longer clear. The hornwork on the south-west side was presumably identical, but it is now cut obliquely by the scarp of a later field boundary and the

demi-bastions, if they ever existed, have been destroyed, perhaps as a consequence of their proximity to the main road.

The interior of the fort is featureless. Unlike the Horsey Hill fort, which has a well marked entrance gap on its south side, the Earith fort, at first sight, has no obvious way in. However, in the centre of the south-east side, just beyond a diagonal cut through the curtain, is a small rectangular platform projecting into the ditch directly opposite the re-entrant platform of the place of arms there. On the outer side of the latter there is a gap in the parapet from whence a narrow ramp leads down to the ground outside. It is possible that there was an original entrance here via this ramp and the place of arms, with a timber (draw)bridge across the ditch to the projecting platform. If this interpretation is correct it is an interesting addition to the overall plan of the fort.

There is considerable, if relatively minor, later damage to the fort and its outworks. These include the erosion and mutilation in places of the parapets of the covered way and the redans, as well as of the outer edges of three of the corners. There is also much damage to both of the hornworks. In addition there are pits in the centre of the southern place of arms and two ponds in the main ditch. There are also some slight parallel drainage ditches visible in the field north-west of the fort. These cut through the medieval ridge and furrow and one of them also cuts the hornwork of the fort (CUCAP CCH 9).

A curious feature, which may well be either contemporary with or later than the use of the fort, is the existence of two narrow flat-topped banks or walkways across the main ditch which appear to link the north-eastern place of arms to the main curtain and to the corner of the northern bastion. It is possible that these walkways are original, or at least a mid 17th-century addition, to give access to the outer defences from the centre. Otherwise they have no function, and they are not explicable in terms of later alterations. One small archaeological excavation has been carried out on the site (Keynes and Evelyn White 1908, 257–61). This included a section cut through the northern bastion. Little of note was found, although the fact that no masonry or brickwork were discovered confirms the supposition that the whole fort was of earthen construction. Given the date of the excavation it is not surprising that no details of timber palisades were noted.

The Earith fort is thus a remarkably well preserved example of a mid 17th-century temporary fortification, constructed to the most advanced designs by an accomplished military engineer. But it also illustrates other aspects of the 17th-century Civil War. First, the basic design of a detached fort has been adapted to take account of the needs of the site and, in particular, to improve its tactical strength by the addition of the two hornworks. These features enhance the value of the site. Second, it has also been changed to meet perhaps purely local military needs by the construction of an unusual entrance way and possibly by the addition of the linking walkways on the north-east. Thirdly, despite the high quality of the overall design, there is evidence of hurried or incomplete construction work which may be the result of the way in which and by whom it was actually built, perhaps in the face of rapidly developing military threats. One example of this is the apparently ill-matched nature of the curtain and the main ditch below it in the centre of the south-west side which has produced a ledge or berm. This is possibly for an unfinished *fausse-braye*, a secondary enceinte outside, parallel to and below the main rampart. This is another feature which is typical of Dutch fortifications. A second possible example of hurried construction is the excessively wide curtain or rampart on the north-western side of the enceinte. There are also indications that the main ditch is incomplete with what appear to be undug sections within it, again in the centre of the north-western side and at the base of the eastern bastion. This feature is similar in form to the equally unfinished ditch at the mid 12th-century castle at Burwell, Cambridgeshire (RCHME 1972, Burwell (132)). The parapet of the place-of-arms in the extreme western corner also appears to be incomplete. The fort also contains a relic of another much later conflict. Set in the southern bastion is an Allan Williams steel turret of 1940 which does not appear to have been recorded before (Wills 1985, 22).

History

There is no direct evidence for the date of the construction of the fort at Earith. As already noted, its location, and that of the Horsey Hill fort, shows beyond doubt that both were built by Parliamentary forces. One possible reason for the almost complete lack of documentation is that during the Civil War most of the eastern counties, despite or perhaps because of their strong Parliamentary leanings, lay beyond the main events and crucial engagements. Other contemporary fortifications such as the fort at Cambridge, the gun battery at Sawtry, the sconce at March and even the various works at Huntingdon, are also ill documented for the same reason (RCHME 1959, (77); Brown and Taylor 1980, 113–15; Taylor 1974, 47; Long 1859, 230–1). Further, given the haphazard and often amateur lines along which the Civil War was conducted, especially during its first two years, the construction of many minor and temporary defence works would not have been recorded. Another difficulty, and one which is relevant to defence sites of all periods, is that fortifications are often not built in response to real threats let alone being employed in action. They are more usually erected after the threat has passed on the assumption that they will be able to contain a later one which might materialise. Thus the Earith fort could well have been constructed after the danger which seemed to require its construction had passed. One final difficulty in establishing the date of The Bulwark is that, because of its strategically important position, what remains on the ground may not have been the only defence work at Earith, but merely the last of a number of fortifications on the

site. Thus, even when documentary evidence suggests the existence of fortifications there, they may not have been the surviving fort.

Nevertheless, despite all of these problems and difficulties, it is possible to suggest a number of occasions during the war when the Earith fort could have been built. Some of these occasions, although possible, are inherently unlikely for various reasons. For example, at the very beginning of the war, in August 1642, the strongly Parliamentary eastern counties set armed watches on all of the major bridges and river crossings in Cambridgeshire and elsewhere, and began work on the defences of Cambridge (Cooper 1845, 331–2). By September the Parliamentary forces had overall control of the eastern counties and by the end of the year the Isle of Ely had a permanent garrison. But it is doubtful that a major fort of sophisticated design would have been constructed then.

The first major threat to the eastern counties was in the first half of 1643. These months were a difficult time for Parliament and the Royalists perhaps came closer to winning the war then than they ever did again. By April Lincolnshire was effectively lost and Cromwell, who was in charge of the eastern counties forces, seems to have decided to hold the line of the Ouse as the natural defensive frontier in the west (Holmes 1974, 54–5). All the bridges in Huntingdonshire and Cambridgeshire were put into a state of defence, other places were fortified and troops were assembled at Huntingdon and Wisbech (Tebbutt 1941, 36–8; Cooper 1845, 351–3; Osborne 1990, 15–16; VCH 1932, 18; VCH 1948, 406–8).

It was during this crisis and its aftermath that the only references to possible fortifications at Earith were made. In May 1643 permanent garrisons were established at Wisbech, Ely and Earith (PRO SP28/222). The possibility that the garrison at Earith may have had defensive works is supported by a second mention of Earith in July 1643 when one Jocelyn Tyrell reported that he hoped to be able to hold Hermitage Pass at Earith for a week (Kingston 1897, 115; VCH 1926, 310–12). The name Hermitage was, and indeed still is, used for the Earith crossing and commemorates the existence in medieval times of a bridge hermit there (Tebbutt 1941, 143–4). In the event this threat did not materialise and the overall military position in East Anglia improved. Again though, whether a fort such as that which now exists at Earith could have been constructed at this time may be doubted. The armies of both sides, but particularly that of Parliament, were still run on a very amateur basis at that stage of the war. Indeed it was partly his experiences of ill-disciplined and ill-trained troops with poor officers and negligible organisation in the early summer of 1643 that led Cromwell to recognise the need for the massive improvements that were to lead eventually to the New Model Army (Holmes 1974, 71–3).

A minor local scare occurred in October 1643 when a detachment of Royalists captured Bedford and plundered the surrounding area. But again it is doubtful whether a massive fort, such as that at Earith, would have been constructed. Indeed, in the last months of 1643 the Parliamentary armies were still in a poor state militarily and thus the building of the fort at this time seems unlikely. In early and mid 1644 the eastern counties were again on the defensive and both men and money are recorded as being used to improve the defences of Cambridge and the Isle of Ely. However, neither Earith, nor indeed any other place, is specifically mentioned (VCH 1932, 19; VCH 1948, 407).

In October 1644 there was yet another threat to the eastern counties with further Royalist advances in Lincolnshire as well as a more general danger of an attack on London from the west. Neither threat materialised, but Horsey Hill is specifically mentioned at this time as one of a number of otherwise unnamed places to which troops were sent in the autumn of 1644 (VCH 1932, 19; Kingston 1897, 177). This might indicate that there were some defence works at Horsey Hill by then, perhaps the existing fort there. If so it is hardly likely that the south-western approaches to the fens at Earith were not also fortified. Thus there appears to be circumstantial evidence of some form of defence work at Earith by late 1644.

In June 1645 further fortifications around and on the Isle of Ely were authorised. In addition a serious danger to the southern fens occurred in August when a strong force headed by the king advanced south from Stamford and, after a skirmish at Stilton, captured Huntingdon on 24 August. Once again Cambridgeshire was put into a state of defence and the crucial position of Earith in relation to Huntingdon makes it likely that it was at least garrisoned. It is however doubtful that there would have been time to construct a major fort. In any case the king left Huntingdon on 25 August moving south, and the danger passed (VCH 1932, 19; VCH 1948, 408–9).

There were two other occasions when the Earith fort might have been constructed or at least garrisoned by Parliamentary troops. One was in the autumn of 1646 when rumours of the approach of a Royalist army on its way north resulted in orders for new defence works in Cambridgeshire and Huntingdonshire. These included making all the fords on the Ouse from Eynesbury to Earith impassable and the breaking of the bridges at St Ives, Huntingdon and St Neots. The last occasion was in June 1648 when, after a Royalist rising, troops were sent from Norfolk to Cambridgeshire and the Isle of Ely and 'all passes and avenues' through Huntingdonshire were ordered to be secured (VCH 1932, 20–2). As with so many earlier threats this last passed without incident and, with the defeat of the king at Preston on 17 August, the war came to an end and the fort at Earith passed into history. Only two of the military events between 1642 and 1646, those in the summers of 1643 and 1644, might have led to the construction of the Earith fort. It is impossible to go further than this.

Two other factors need to be taken into account however. The first is that, as has already been noted,

the use of Dutch models for fortifications by Parliamentary forces is usually said to have occurred only in the later stages of the war. This would make the 1644 date more likely than that of 1643. The second factor is the matter of the designer of the Earith fort. Whoever was responsible was an accomplished military engineer and one who was familiar with the design and construction of up-to-date fortifications in both Britain and Europe. Three people have been suggested as possible designers. The first is Richard Clampe who certainly made a plan of the defences of Newark on Trent. He may have been responsible for the laying out of the fortifications there and was a local, King's Lynn, man. He was probably in the army of the Eastern Association and later joined the New Model Army. The Newark plan describes him as 'chief Enginier' (RCHME 1964, 66–7). The other suggested names are Captain John Hopes and a 'Mr Christian'. On precisely what evidence the involvement of any of these people is based is not clear. Neither of the authorities that have put forward these names give any source for their assertions (Harrington 1992, 43; Osborne 1990, 25). Four other Parliamentary engineers who might have been responsible for the Earith Bulwark are known. One is Cornelius van den Boom who signed a plan of the defences of Newport Pagnell laid out in late 1643. Another is Peter Manteau van Dalem, described as 'Engineer-General', while an Eval Tercene – 'Chief Engineer' – and a Dutchman called Dalbiei are also recorded (inf. A. D. Saunders).

Acknowledgements

The writer is indebted to A. D. Saunders for advice and information during the preparation of this paper. The drawing of The Bulwark (Fig. 2) is by N. Hammond.

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Theses: Mortimer, C 1990. *Some Aspects of Early Medieval Copper-Alloy Technology, as illustrated by a Study of the Anglian Cruciform Brooch.* Oxford University D Phil thesis, unpublished.

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The Proceedings were produced for the Society by Sarah Wroot. Printed and bound in Great Britain by Burlington Press (Cambridge) Ltd, Foxton, Cambridge CB2 6SW. T: 01223 870266; F: 01223 8722113.

Proceedings Volume LXXXVI, 1997

Price £10 for members, £12 for non-members

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