The Roots of the Common Fields: Linking Prehistoric and Medieval Field Systems in West Cambridgeshire

Susan Oosthuizen

Abstract

In the Bourn Valley, west Cambridgeshire (Figure 1), the fragmentary parts of a pre-existing, possibly prehistoric, regular field layout appear to have been fossilised within the common field furlongs and selions of its medieval landscape, some of which have survived as earthworks into the modern period. This article discusses the evidence for this conclusion. If it has been interpreted correctly, it has a particular importance: it comes from an area which lay well within the planned 'champion' countryside of the Central Province, rather than the zones of 'ancient' countryside in the other two Provinces where so much evidence for co-axial and linear field layouts occurs (Roberts and Wrathmell, 2000). Here, fragments of some apparently prehistoric field boundaries continued to be used until Parliamentary enclosure. This is in direct contradiction to much other work which has demonstrated that the introduction of medieval common field agriculture erased the physical boundaries of pre-medieval field arrangements which survive in other areas only as marks on aerial photographs.

The wider context

There is now a great deal of evidence for ancient field systems in areas of 'ancient' countryside where medieval common fields were never laid out on any large scale. Williamson, for example, has published examples from Scole-Dickleborough and Yaxley, Suffolk, as well as numerous examples from Hertfordshire (1987, 425 and 428–9; 2000, 150–1). A regular Romano-British field layout has, for example, been identified at Asheldham, Essex (Drury and Rodwell, 1978; Rippon, 1991). Most of the 'sinuous and roughly parallel lanes and boundaries' of many these alignments are almost certainly Iron Age in date; occasionally they are considerably older (Williamson, 1987, 429; 2000, 152; Fleming, 1988).

They survive particularly well in marginal areas, where the boundaries of
these earlier fields were often re-used to delimit the extent of medieval ridge and furrow. Taylor has noted that 'in Wessex, there are, and were, vast areas of these [prehistoric] fields, overlain by later, short-lived, medieval ridge and furrow. Though the ridge and furrow is or was only temporary and not part of a fully-developed open or common field system, it does show well how pre-existing field systems often controlled the layout of the later ridge and furrow ... even though many of their boundaries are ploughed away' (C. Taylor, personal communication). This evidence is generally interpreted as the furthest reaches of medieval cultivation 'moving on to land furthest from the main settlements and presumably at a late date' (Taylor and Fowler, 1978, 161). They are not therefore examples of the integration of prehistoric or Romano-British field boundaries into medieval cultivation, though there is evidence for the short-lived attempts by medieval farmers to expand cultivation onto marginal soils between about 1100 and 1300. The recently published examples at central and southern Overton, Wiltshire illustrate this perfectly (Fowler, 2000, Map 6.11). In other places, like south-east Essex, regular middle or late Anglo-Saxon field layouts obliterated Roman roads (although it is possible that fragmentary Romano-British enclosures may have survived to influence the alignment of medieval field boundaries) (Rippon, 1991, 54, 55);
similarly, the West Fields of Cambridge, which have a striking regularity, are almost certainly post-Roman for the same reason: they overlie and ignore the line of the Roman road between Barton and Cambridge (the northern continuation of the present A603) (Hall and Ravensdale, 1974). In these examples it is clear that there was little survival of pre-medieval field boundaries into those of medieval cultivation.

There have, however, been more examples of continuity of pre-medieval field boundaries into common field boundaries from areas of ‘Midland’ England than has previously been realised, although the evidence appeared initially to be limited to areas enclosed before Parliamentary enclosure and not therefore at the heart of the common field arrangements. They include such influential studies as those of the rectilinear field layouts, transected by Roman roads, at Lichfield, Staffordshire, and Goltho, Lincolnshire. (Bassett, 1980–81; 1985). ‘Sinuous linear features’ originating in the Iron Age and underlying under more modern land divisions survive at Horsley and Harlow Hill, across Hadrian’s Wall, 14 km west of Newcastle upon Tyne (Tolan-Smith, 1997). At Catholme, Staffs., an Anglo-Saxon settlement of the early sixth to early tenth centuries was ‘sited on the northern end of a parcel of Romano-British farmland, which perhaps passed entire into Anglo-Saxon hands’; a Romano-British ditch continued to form the eastern boundary of the Anglo-Saxon settlement (Losco-Bradley and Wheeler, 1984, 102, 100). Similar re-use of Romano-British ditches within the medieval settlement has been demonstrated at Wharram Percy (Yorkshire) (Beresford and Hurst, 1979, 79). Hooke has gone so far as to suggest that in south and central England, on the edges of the Midland region, common field layouts may ‘represent a process of adaptation to an earlier field system’ (Hooke, 1988, 123).

Evidence of undated ditches underlying medieval headlands at Teversham, Cambridgeshire, and of three of four consecutive medieval headlands at Duxford, underlain by ditches containing Romano-British pottery take the argument into the heartland of common field England, where medieval fields continued in use until Parliamentary enclosure (Taylor and Fowler, 1978, 159). Romano-British field layouts have since been shown to have influenced the orientation of medieval furlongs on Lambourn Down, Berkshire, while over large stretches of north Buckinghamshire the ‘overall impression is that the topography of the common field village is adapted from an earlier system and retains much of its former shape and form’ (Ford et al., 1988, 405; Bull, 1993, 16).

The question of whether or not a pre-medieval co-axial or linear field layout may have been fossilised within the furlong boundaries and headlands of the Bourn Valley is not therefore as outlandish as may first appear.

Sources

While many reconstructions of such early landscapes have been based on tithe maps or First Edition Ordnance Survey maps, the survival of pre-Parliamentary enclosure maps for five of the eight parishes in the study area, meant that these
sources became supplementary (Williamson, 1987; Tolan-Smith, 1997). They provide a good example of the effects of differential creation and survival of documents for different parts of Britain. This evidence was supplemented by enclosure maps and awards, estate maps and Ordnance Survey maps of different periods as well as by documentary sources, in particular terriers, and aerial photographs.

The uneven survival of early documents meant that most sources were post-medieval and a large percentage were late eighteenth or early nineteenth century in date. There must be some reservations in attempting to reconstruct a medieval and pre-medieval landscape from such late evidence. This work has, however, taken heart from the observation of Lewis, Mitchell-Fox and Dyer (who have used similar evidence for their survey of the history of eleventh and twelfth century settlement in the east Midlands) that 'in general the maps reflect an earlier situation' (1997, 120). David Hall has taken a similar view, commenting that 'a communal field system with complex and seasonally variable access rights has every chance of being unchanged because it is difficult to effect any alteration in a conservative agricultural community, especially where legal rights are involved' (Hall, 1988, 108).

The evidence of property boundaries supports these conclusions. These boundaries seem to be very stable as long as they are in continuous use or remain visible features in the landscape. While most of the evidence for the longevity of property boundaries comes from urban sites such as Norwich and York, where some Anglo-Saxon property boundaries are still in use today, the boundaries of rural tofts and crofts seem to be equally long-lived (Hall, 1984, 49; Roberts, 1977, 141; Oosthuizen, 1997).

There does not seem to be any reason why the selions of the common fields upon which each household's survival depended should not remain equally stable. Aerial photographs of ploughed-out ridge and furrow – where the furrows are visible as soil marks – show remarkable consistency in the placing of the furrow dividing one selion from another, and indeed Beresford's work in Leicestershire found an exact correlation between sixteenth-century strip maps and remains of arable cultivation on the ground (Beresford, 1954, 50; although Rippon has expressed a dissenting view: 'relatively few field boundaries will remain stable after their initial laying out', 1991, 49).

These conclusions were particularly important since the reconstruction of pre-enclosure, and, by inference, medieval furlong boundaries was particularly dependent on early-nineteenth-century pre-enclosure maps which existed for all but three parishes in the valley. The information provided by these maps was remarkably full. For example, the pre-enclosure map of Comberton (1839) clearly delineates and names common field furlongs and balks; that for Caldecote (1854) shows each holding, many still in single strips (CUL Ms Plans r.a.2; CCRO R60/24/2/11). The fullness of detail on many of these sources has meant the reconstruction of the pre-enclosure landscape has been relatively straightforward. The detail of these maps was confirmed by field observation and by aerial photographs of surviving headlands and, sometimes,
traces of ridge and furrow, although it should be noted that these maps simply show land-use within the common fields in the early nineteenth century and therefore do not necessarily show the full extent of arable land in the high middle ages. Aerial photographs, for example, have demonstrated that in many cases land shown as meadow or pasture on the pre-enclosure maps carried the remains of ridge and furrow, and had clearly once been under the plough.

Other sources have generally provided corroboratory evidence, but the limit to their utility was underscored in the three parishes without pre-enclosure maps where the reconstruction of the pre-enclosure landscape in any more than the broadest detail has not been possible (the Eversdens and Kingston). Estate maps were of limited use in reconstructing the medieval furlongs of these parishes since they did not show the detail of the common fields (CUL A15–16; Bendall, 1989); the draft first Ordnance Survey map of 1810 predates enclosure in all eight parishes, but a comparison between this draft and the final map, and between the draft and the parish enclosure maps, raises considerable doubts about its accuracy since neither tracks nor closes on this draft bear much relation to those on the estate and enclosure maps (copy in CCRO); the final published version of the Ordnance Survey map coincides in many points with information shown on the enclosure maps and that of Baker’s map of Cambridgeshire, dating to c. 1820 (David and Charles, 1970; CUL Maps.aa.53(1).82.1); enclosure maps and awards exist for all eight parishes, but do not generally show very much detailed evidence relating to the pre-enclosure landscape of the arable fields, in particular of furlongs, although they do sometimes show the limits of the main pre-enclosure fields.

In the absence of other evidence for the location of open-field furlongs and/or strips in the Eversdens and Kingston, it was hoped that it might be possible to reconstruct the medieval field layouts the parishes from terriers and other documentary evidence, using the methods pioneered by David Hall (1995, Ch. 3). Hall uses terriers (lists of pre-enclosure furlongs, and the number of strips within them) as a sort of verbal jigsaw puzzle. The number and acreage of strips in each furlong is used to calculate the probable dimensions of the furlong, assuming a length of 220 yards (ibid.). Directions about the relationships between strips and/or furlongs and their neighbours are used to infer the relative siting of different furlongs. These, together with observation of the remains of medieval ridge and furrow (the physical manifestation of the strips) and their headlands (which formed the furlong boundaries), can then be used to recreate a map of the pre-enclosure landscape.

Unfortunately, not one of the many terriers or other documents recording the pre-enclosure landscape in any of the three parishes lacking a pre-enclosure map listed more than a few strips in each furlong. Nor was there any indication of the number of strips in each furlong; information about the relationship between furlongs was also sparse and vague. For example, in 1589 one of the more detailed entries for the Eversdens describes ‘one selion in stannards hill furlong ye north head butting on the common pasture’ (CUL QC 15/2). Although it is possible, on the basis of other evidence, to say roughly where
this furlong lay, this record is of little help in identifying the boundaries of
the furlong or the common pasture, as might have been possible if information
about the number of selions in Stannards Hill Furlong and its neighbours
had been available.

Aerial photographs taken by the RAF in 1946–47 showed the remains of
ridge and furrow, particularly in the north and south of each parish where,
presumably, land taken out of arable cultivation in the later middle ages had
not been ploughed again until relatively recently, if at all (RAF air photographs
to6G/UK/1490 and CPE/UK/2024). However, air photographs were not of
very much help in determining the location of the headlands which formed
furlong boundaries. Other photographs in the collection of the Cambridge
University Committee for Aerial Photography (CUCAP) combined with rec-
ords in the CCC SMR and observation in the field have enabled some extension
to this mapping, but it seems that by 1947 much ridge and furrow in the
parishes had already been ploughed out. Finally, those field boundaries shown
on the enclosure maps and/or on the first edition Ordnance Survey six-inch
map (1884) and which appear to fossilise the aratral curves characteristic of
medieval agriculture, have been assumed to have a medieval origin (OS 1886
XLVI, all sheets). They are not always shown on the enclosure maps since
these simply show the allotments to different landowners. It seems likely that,
in creating new fields within these allotments, the landowners sometimes used
pre-existing field divisions so that ancient furlong boundaries were sometimes
preserved under enclosure hedges where they were useful in the creation of
post-enclosure fields. Similar conclusions drawn near Hadrian’s Wall showed
that many eighteenth-century private enclosure boundaries ‘were constructed
on the same lines as the earlier medieval furlong boundaries or their headlands’
(Tolan-Smith, 1997, 72).

Methods of analysis

Topographic and cartographic analysis were used to examine the pattern of
pre-enclosure furlongs and other field divisions in order to explore the extent
to which pre-medieval field patterns could be deciphered within the medieval
landscape. Two independent methodologies were used in order to try to
avoid the possibility that subjective assessments might influence interpretation:
retrogressive analysis and deconstruction of abutting boundaries.

(a) Retrogressive analysis was first explored in print by Flinders Petrie who
suggested that the relationship between Roman roads and other features
might enable the unpicking of the chronological relationship between
features (1878). Petrie’s suggestion that maps of different periods might be
compiled on the basis of this methodology was used and developed by
Smith and others from the 1970s onwards (Rodwell, 1978; Smith, 1978–79;
Rippon, 1991; Tolan-Smith, 1997).
In essence the method consists of:

- reconstructing the pre-Parliamentary enclosure landscape, as far as possible;
- successively removing post-medieval and then medieval features, where their date can be established by documentary or cartographic evidence, field-names or stratigraphic relationships, as well as any boundaries that lie perpendicular to or parallel with these features;
- removing minor boundaries around houses, gardens and farms because of immediately post-medieval mobility away from the church to areas of grazing;
- removing encroachments on common grazing, woodland and waste. These can sometimes be identified by name, but as often by a ‘pattern of irregular infilling which has disturbed the characteristically continuous and often convex outline of the common’ (Williamson, 1987, 424);
- excluding field boundaries (but not roads) ‘which do not conform to the general framework’ (Bassett, 1980–81, 95);
- retaining only those boundaries that continue along at least three fields.

In addition, Rippon’s distinction between ‘regular’ and ‘planned’ landscapes should be taken to heart (Rippon, 1991, 49). His work in south-east Essex has shown that an apparently unified, regular landscape can in fact be divided into distinct ‘morphological zones’, based on changes in the alignment of dominant features in the landscape and relating to contemporary and successive variations in land-use and phases of development.

This methodology is now well-established although it still gave rise to some uncertainties about its objectivity, particularly those of the judgements behind ‘excluding field boundaries (but not roads) which do not conform to the general framework’ (Bassett, 1980–81, 95, my emphasis). There must be doubts about the objectivity of decisions concerning what does or does not ‘conform’, particularly since the method seems to assume that earlier landscape divisions were entirely regular without discontinuities. Nevertheless, Rippon has commented that ‘the regularity of these relict planned landscapes is really self-evident. The existence of such regularity cannot be denied; it is the interpretation placed upon it that remains problematical’ (Rippon, 1991, 46).

(b) The second method takes as its starting point the removal of features ‘likely to have originated after the date of a particular horizon’, and then moves on to the successive removal of boundaries which butt up against these boundaries at right angles (Tolan-Smith, 1997; Langouet, 1998). It is based on the argument that boundaries which butt up against others at right angles are likely to be later than the boundary against which they abut, since their forward direction is blocked by the cross-boundary, which is therefore presumed to be earlier.
It was sometimes difficult to determine whether some boundaries were the relics of longer alignments and should therefore be retained, or whether they were an artefact of later subdivisions of the fields which coincidentally aligned with those in other furlongs.

Neither method illuminates the dating of particular boundaries and each assumes that boundaries of each phase are roughly contemporary. This problem is eased if ‘contemporary’ is taken to mean a period of years, or even centuries, rather than strictly contemporaneous creation.

A further concern in relation to either method must be the realisation that landscape organisation in any period was likely to have been complex, and that the removal and addition of features in each period, where a landscape was in continuous use, is likely to have added to that complexity. What remains from a particular horizon is likely to be fragmentary to a greater or lesser extent, depending on both time elapsed and on the extent of landscape reorganisation during the intervening years.

The results of the two methods coincided reassuringly well but should not be taken to represent more than a few fragments representing earlier land-use. Rippon’s work is a timely warning that a regular landscape could be ‘a complex palimpsest, representing several episodes of planning, reoccupation or reorganisation, with elements preserved from earlier periods’ (1991, 54).

Discussion

The evidence for a general north-easterly/south-westerly alignment of pre-Parliamentary enclosure boundaries, mirroring and including those of the parish boundaries and major routes of the Bourn Valley, is shown in Figure 2. Unlike those of Dartmoor, these alignments routinely demonstrate the curve associated with divisions between medieval cultivation and, if they do have a pre-medieval origin, they have clearly suffered much amendment to their original alignment perhaps, for example, from the demands of ploughteams using them both for turning and as boundaries for ploughing.

These alignments conform to the criteria established principally by Fleming and enlarged upon by Williamson for recognition of co-axial fields (Fleming, 1984, 1987; Williamson, 1987):

- the boundaries and trackways conform to a common axis of orientation, in this case running from south-west to north-east, from ridge to ridge across the valley of the Bourn Brook;

- many boundaries extend for more than one kilometre. ‘Features running continuously for 400m or more are likely to be associated with the original planning horizon than with any subsequent phase of development’ (Williamson, 1987, 425–6);

- they do not necessarily run uninterruptedy from end to end of the system;
• the boundaries run at right-angles to the Bourn Valley. The most important influence on the alignment of this systems appears to be a combination of the topography – which is relatively regular – and the determination to include in each sub-division a representative sample of the principal environmental zones of the valley. (Williamson, 2000, 145);
• in some cases watercourses are also used as boundaries (Fleming, 1988, 105);
• the alignment of those elements which cover considerable distances – such as Crane’s Lane in Kingston, or Deadmansway in Hardwick, appears to be as influenced by regional as by local topographical characteristics (Fleming, 1987, 191).

These ancient field boundaries in the Bourn Valley cover a very large area: 72.5 km$^2$ – twice the size of those previously discovered further east in East Anglia, and larger than many in other parts of Britain (Williamson, 1987, 430). They conform to a common alignment, running from south-west to north-east, from ridge to ridge across the valley of the Bourn Brook. Many extend for...
more than one kilometre. Where they are found closest together, they appear to lie about 200m apart. The most important influence on the alignment of this systems appears to be a combination of the topography of the valley (which is relatively regular) and the determination to include in each sub-division a representative sample of the principal environmental – and therefore agricultural – zones of the valley.

It was originally thought that these alignments conformed to criteria for recognition of co-axial fields but there are, however, some important differences between the alignments of the Bourn Valley and those of Bronze Age Dartmoor (Fleming, 1984, 1987; Williamson, 1987). Many reave systems on

**Susan Oosthuizen**

<table>
<thead>
<tr>
<th>Caxton</th>
<th>u the High Street/Broadway in Toft;</th>
</tr>
</thead>
<tbody>
<tr>
<td>a St Peter Street, and its extension towards Gransden (moved slightly eastwards at enclosure); the alignment of this route may be picked up again in the north-east by the boundary between Maddeden and Breach Furlongs;</td>
<td>v an ancient lane linking the Bourn Brook with the St Neots ridgeway;</td>
</tr>
<tr>
<td>b Church Way and the field boundaries lying to its east;</td>
<td>w furlong boundary continuing the alignment of a footpath from Great Eversden;</td>
</tr>
<tr>
<td>c Part of the boundary between Caxton and Bourn from Ermine Street northwards as far as the northern end of Long Furlong; the northern part of this parish boundary, near the St Neots ridgeway, may also be on the same alignment;</td>
<td>x furlong boundary continuing the alignment of a footpath from Great Eversden;</td>
</tr>
<tr>
<td>D Long Bellon Way, a furlong boundary in Harborough Field;</td>
<td></td>
</tr>
<tr>
<td>Furlong boundaries in North Field</td>
<td>E–K un-named furlong boundaries in West Field and Stallow Field;</td>
</tr>
<tr>
<td>E un-named furlong boundaries in West Field and Stallow Field;</td>
<td></td>
</tr>
<tr>
<td>Caldecote</td>
<td>Harlton</td>
</tr>
<tr>
<td></td>
<td>L–P Un-named furlong boundaries</td>
</tr>
<tr>
<td>j the northern part of the parish boundary with Caldecote, and furlong boundary between Over and Nether Metwell furlongs;</td>
<td></td>
</tr>
<tr>
<td>l Strympole Way, the main village street, which is the northern continuation of Crane’s Lane in Kingston;</td>
<td></td>
</tr>
<tr>
<td>m the eastern parish boundary;</td>
<td></td>
</tr>
<tr>
<td>Hardwick</td>
<td>Eversdens</td>
</tr>
<tr>
<td>n Furlong boundary along Hatcher Dean in Hardwick;</td>
<td>Q Royston Way, linking the Mare Way with Comberton;</td>
</tr>
<tr>
<td>o Furlong boundary along The Joint;</td>
<td>R Broadfield Way;</td>
</tr>
<tr>
<td>p Furlong boundary along The Dams;</td>
<td>S Stony Green Way;</td>
</tr>
<tr>
<td>q Deadmanway, which links the St Neots ridgeway with u below;</td>
<td>T Wimpole Way/Road, continuing running south into Wimpole;</td>
</tr>
<tr>
<td>r an un-named furlong boundary west of Deadmanway leading from Portway southwards along Mortle Dean;</td>
<td>V Un-named furlong boundary which may link with w in Toft;</td>
</tr>
<tr>
<td>s the eastern parish boundary;</td>
<td>W Parish boundary between Kingston and Eversden along Armshold Lane;</td>
</tr>
<tr>
<td>Toft</td>
<td>Kingston</td>
</tr>
<tr>
<td>t furlong boundaries west of Short Dean aligned with a lane along Puttockdean in Kingston;</td>
<td>X a footpath along Puttockdean and which continues into Toft;</td>
</tr>
<tr>
<td>v an ancient lane linking the Bourn Brook with the St Neots ridgeway;</td>
<td>Y Crane’s Lane, the continuation of a regional route from Wimpole;</td>
</tr>
<tr>
<td>w furlong boundary continuing the alignment of a footpath from Great Eversden;</td>
<td>Z furlong boundary called Church Way;</td>
</tr>
</tbody>
</table>
Dartmoor came to an end against ‘terminal’ reaves, which seem to have demarcated a boundary between the reaves on the lower slopes and areas of common pasture on the upper slopes, on which many ritual monuments were also found (Fleming, 1988, 37, 105). The terminal reaves therefore marked more than a physical limit to the reave systems: they also seem to have functioned as cultural markers between areas of different land-use. They were not generally associated with watersheds. No terminal reaves appear to have survived in the Bourn Valley, nor is there any evidence to confirm or contradict their earlier existence.

The fact that the alignments in the Bourn Valley are not ‘terrain oblivious’ like the Dartmoor reaves may not be particularly significant: there are many examples of co-axial systems whose alignment is closely related to the terrain. Because the topography of the Bourn Valley is quite regular, the opportunity to demonstrate that the system was laid out with no regard to the underlying topography is denied.

Those seeking a comparison with the co-axial landscapes of Dartmoor and other upland areas of Britain may also be disappointed by the ‘quality’ of these remains. Unlike their comparators on Dartmoor, the tracks and field boundaries of the Bourn Valley lack the straightness and single-mindedness with which the Bronze Age reaves march across the Dartmoor uplands. Instead, they are often sinuous and, in some cases, appear to have wandered somewhat from their original alignments. In this they are more like field layouts in Hertfordshire which have been interpreted as co-axial and which lie on ‘parallel but slightly sinuous axes’ (Williamson, 2000, 149).

It was thought that the reason for these differences was that the co-axial fields on Dartmoor were in use for a single period only, and quite a short one at that – they seem to have been created during the late Bronze Age and abandoned 300 or 400 years later (Fleming, 1988, 110). By contrast, the Bourn Valley – like much of Hertfordshire and East Anglia – has been continuously occupied and farmed for millennia. Where ancient boundaries were retained in the creation of later field layouts, it is likely that the seasonal action of farmers of ‘pushing’ and ‘pulling’ at these lines with the plough will have produced change in small increments over many years. Specific examples of this process can be seen on the ground in the aratral curves of the A603 between its junction with the Eversdens valley route and Fox’s Bridge Way: here the Roman road remained roughly on its original alignment, while being nudged a little to fit the alignments of medieval ridge and furrow. Similarly, many of the minor tributaries of the Bourn Brook show the same characteristics: for example, New Ditch in Kingston and Granditch in Great Eversden are tributaries of the Brook. At some time in the Middle Ages (perhaps continuing a process begun centuries before) their courses were straightened to fit the aratral curves of the medieval strips which lay along their banks. ‘Centuries of piecemeal alteration have preserved the essential orientation of field layout but not in every case the original boundaries themselves’ (Williamson, 1987, 425).

However, the publication of recent work on the landscape of Salisbury Plain
Susan Oosthuizen

has caused a complete rethinking of this conclusion. There it has been suggested that completely new rural land divisions were laid out in the Iron Age, which paid no regard to the co-axial field layouts of the Bronze Age (McOmish et al., 2002, 51–66). This complete remodelling of the landscape in the Iron Age was unsuspected, and when assimilated by landscape historians, may have a profound impact on our understanding of the sequence of field arrangements.

In essence, it has been proposed that this ‘linear’ Iron Age pattern of land division can be recognised through two elements: ‘spinal linears’ and ‘subsidiary linears’. Spinal linears form the major division of relatively large areas, and can extend up to 15 km. They generally run along the contours, following watersheds, false crests or spurs, and may demarcate the territories of communities. Subsidiary linears run at right angles to the topography, subdividing these territories into ‘small parcels of land centred on valleys’, perhaps among family groups (ibid., 56). These subdivisions run from valley floors to the tops of the downland, and define strips of land between 200m and 500m wide. Their sinuous courses respond to the terrain and to ancient features, in a way quite unlike the relative straightness of the Dartmoor reaves. Many linears seem to have been substantial earthworks, created as a ditch between two substantial banks.

It seems very likely that this work will cause a reinterpretation of landscapes which have previously been classified as co-axial. In Hertfordshire, for example, ancient rideways along the watersheds have been interpreted as terminal reaves, but they and their subdivisions might more appropriately be reclassified as spinal and subsidiary linears, particularly since archaeological excavation has assigned an Iron Age date to them (Williamson, 2000, 144–52 and pers. comm.).

The pre-common field land divisions of the Bourn Valley certainly seem more like the Iron Age landscapes of Salisbury Plain than like the co-axial layouts of Dartmoor. The township boundaries running along the Mare Way and St Neots rideways which form the watersheds for the valley could easily be interpreted as spinal linears, while the cross-valley alignments are very similar to the subsidiary linears: they are slightly sinuous in character, they lie about 200m apart, and they divide the landscape up into strips which incorporate all the environmental differences of the valley bottom, slopes and downs. As in Suffolk ‘it is as if a net were lowered gently over the landscape so that where it fell on flat ground the linear pattern of the net remains more or less unchanged, but where it fell on uneven ground the pattern of the net became deformed or distorted by the topography’ (Warner, 1996, 49–52). It is not possible to explore the original character of these land divisions without excavation. Their occasional survival as substantial hollow-ways (as along Strympole Way in Caldecote or Royston Way in Little Eversden) can as easily be explained as the result of scouring through long use as trackways, or by the results of soil creep along the slopes of a hill, as by the deliberate creation of monumental features of double banks separated by ditches, and recut more than once (cf. McOmish et al., 2002, 61–4; Figure 3).

It has been suggested in discussion that these land divisions in the Bourn
Valley might be the remains of Roman centuriation, the ‘large-scale delimitation of areas of land within a standard grid, inside which the fields were laid out’, but this seems extremely unlikely (Taylor, 2000, 57). Wacher concluded in 1974 that ‘no satisfactory evidence seems to have survived for the existence of centuriation outside any of the British coloniae (large towns) and this view is still accepted today despite a rigorous re-examination of the evidence (Wacher, 1974, 41; Taylor, 2000, 57–8).

There is an additional question about the apparent unity of this layout which, as has been noted, covers a considerable area. The landscape around Orsett, south-east Essex, which was at first considered to have been laid out in a single event has since been shown to have been the result of landuse over several periods, such as the open land between Kingston and Eversden Woods (Rippon, 1991, 55). The underlying regular framework of pre-common field boundaries in the Bourn Valley does not display the variety of different characteristics which would indicate such an origin, and does seem more likely to contain the fossilised remains of a unitary system of land division. Such differences as do exist between parts of the valley can be explained by differential land-use in the centuries after the alignments were laid out.

The age of these linear alignments

There is little direct evidence to indicate the age of these alignments. That they are pre-medieval is suggested by other work which has shown that they
are absent in wooded areas which are likely to have been brought into cultivation during the middle ages. The continuity of their alignments across the valley, with occasional gaps only in areas of ancient woodland, suggests that they predate these woods and that their alignments were lost within the woods but survived in use in arable or pasture as hedges, ditches or banks. This seems to be confirmed by the distribution of field-names which show that these alignments survive best in areas of pasture.

The orientation of parish boundaries appears to support this conclusion. On the middle and upper slopes of the valley, these boundaries run along the alignments, on slightly sinuous lines from south-west to north-east without interruption by furlongs or furrows. On the lower slopes, the boundaries work their way along the furrows of common field selions. This suggests that the alignments pre-dated both parish boundaries and common field divisions. This conclusion is confirmed further north by the relationship between the eastern parish boundary of Comberton and the stepped eastern ends of strips which abut it, also suggest that the boundary pre-dates the creation of these strips, since the latter appear to respect the former rather than the other way around (CUL Ms Plans r. a. 2) (Figure 4).

**Figure 4:** The relationship between the eastern parish boundary and common field selions in Comberton.
If the strips had been created before the boundary, the latter would have been indented around the ends of the furlongs, for which there are many precedents (e.g. Taylor, 2000, 76).

Only one parish boundary, that between Comberton and Hardwick/Toft, can be dated with any degree of certainty, since it is also a hundred boundary and probably dates to the early tenth century (Hart, 1974). This suggests that these alignments are probably earlier than the tenth century, but there is little direct evidence to suggest a more refined date for these alignments.

The boundaries and enclosures of three Romano-British farmsteads, one in Caldecote and two in Hardwick, on the high ground in the north of the valley lay under and on exactly the same alignment as ridge and furrow, suggesting that the latter may already have been in use at the time that the farmstead was occupied (Oakey, 1996, 28; CCC SMR; Figure 5). A late Iron Age coin of Cunobelinus was found at the junction of Strympole Way with the St Neots ridgeway (CCC SMR). It is just possible, therefore, that the cross-valley alignments were in use in or by the Roman period.

However, the stratigraphic relationship between two Roman roads, Ermine...
Street and the present A603 between Wimpole and Cambridge, at the western and eastern ends of the valley respectively, and these linear land divisions offers the opportunity to date the system (Figure 6).

Furlong boundaries at Caxton form rough squares or rectangles bisected into triangles by Ermine Street, and have already been analysed in detail (Oosthuizen, 1998). Other property and field boundaries further to the west or east share this alignment, creating what appears to be a generally rectilinear pattern lying on a roughly south-westerly/north-easterly axis on the lower north and south slopes of the Bourn Brook, indicating that the road was probably built after these land divisions had been created (ibid.).

There are good grounds for suggesting that these small rectangular fields may have been fairly continuously cultivated since their creation in the pre-Roman period, since they lie along the Bourn Brook on some of the more tractable land in the parish. Field-names in this part of Caxton carry no suggestion of woodland clearance, and the VCH has underlined this point by commenting that ‘arable farming predominated in Caxton from an early date’ (VCH, 5, 31). It seems possible therefore that these elements of a potentially early field layout may have been converted directly from pre-common field to common field agriculture without any break in cultivation, other than that necessitated by the imposition of a new agricultural and tenurial framework.

There is a similar relationship between the Roman road between Wimpole and Cambridge, the present A603, at Harlton at the eastern end of this system. There, pre-enclosure furlong boundaries – which lie on the same alignments as surviving headlands observed on aerial photographs and on the ground – demonstrate the same relationship with the road.

The northern part of Harlton parish lies in the wide, flat valley bottom of the Bourn Brook, which falls very gradually from 20m above OD just below the settlement of Harlton to 15m above OD along the Bourn Brook, up to 1.5km further north (OS Explorer 209). The geology is heavy, poorly-drained gault clay, and the spring line lies just above the 20m contour. It is categorised as Grade 3 agricultural land, and surviving ridge and furrow in this area is still consistently waterlogged whenever there is heavy rain. This poorly-drained area was still pasture at the time of enclosure and may be identified with Harlton Offil (A. Legge, pers. comm.). Parts were referred to as ‘brach’ as late as 1349 (VCH, 5, 221). Nevertheless, land hunger during the high middle ages saw the colonisation of much of this area for arable, even if this land reverted to pasture in the late medieval and early modern periods (RAF, 1946 106G/UK/1490 and CPE/UK/2024).

As the Roman road approaches Bourn Brook along this flat, poorly-drained valley, it divides the furlongs on either side of the road into triangular halves of a larger rectangle. The western boundary of the western triangle can still be seen as a significant earthwork in the modern fields, running as a headland towards its junction with the A603. Other furlong boundaries to west and east lie on the same alignment. These relationships seems to indicate that in this area, as at Caxton, land divisions first laid out in the prehistoric period
survived either in use or as earthworks long enough to be re-used as furlong boundaries in the medieval period.

If these complexes of fields had been laid out after the Roman roads were constructed, they would have been more likely to have been aligned on the Roman roads. Instead, the way in which each road appears to bisect those elements of the system which lie near the Brook into triangles which together make rectangles is also suggestive. While it is possible that early farmers may have preferred to align their fields on the Brook even if it meant the creation of a triangular field, the coincidence of two pairs of triangles, each pair of which fits together to create a rectangle, is more difficult to explain. This evidence echoes Williamson’s conclusions at Scole-Dickleburgh, Suffolk: ‘Although the presence of the road has … strongly influenced the development of those boundaries which lie in its immediate vicinity, the general organization of the landscape over wider area, and of the major landscape elements in particular, in non-conformable and evidently earlier’ (Williamson, 1987, 425).

The relationship between the Roman roads and these boundaries is analogous to the relationships between Roman roads and earlier fields as, for example, at Dickleburgh and Yaxley, both Suffolk, where the way in which the Roman road cut across rectangular fields, reducing them to triangles, suggested that the fields predated the construction of the Roman road (Wade-Martins, 1987, 12–13; Williamson, 1987, 24–8). There is a similar example of the same process at Bullocks Haste, Cottenham, Cambs., where the first century AD Car Dyke transects an earlier rural settlement also laid out on regular principles.
(Oosthuizen, 1996, 18). In both cases, the relationship between road and field boundaries implies that the latter were already in existence before the roads were built.

The relationship between the cross-valley linear alignments in the Bourn Valley and the Roman roads in the east and west of the valley therefore suggests that these alignments are almost certainly pre-Roman in date, a conclusion which conforms with the previous analysis of their physical character and which suggested that they might be linear land divisions of Iron Age date. It is this that undermines a possible counter-hypothesis that these boundaries reflect large-scale landscape planning at the time that the common fields were laid out, as happened in Northamptonshire (Hall, 1982; 1995).

**Function**

It seems that the point of these alignments, at the time that they were laid out, was most likely to be functional. This argument is based on an analogy with the linear boundaries of Salisbury Plain, where it was concluded that ‘the sheer scale of construction of the linears and their distribution suggests
that the primary function was a form of socially determined land division’ making ‘important statements about land ownership’ (McOmish et al., 2002, 64). Many were used as trackways or roads, perhaps as a secondary purpose, and this can also be seen in the Bourn Valley.

By contrast, the similar field arrangements in Hertfordshire have been suggested to have a different origin. There, they are found in ‘outlying area[s] of woodland and pasture on higher ground and heavier soils’ and have been interpreted as trackways leading from valleys to uplands, perhaps even the result of seasonal transhumance in the late prehistoric period (Williamson, 2000, 147).

It seems most unlikely that the pre-common field boundaries of the Bourn Valley resulted from the effects of seasonal transhumance. The distance from the valley floor to the top of the ridgeway is nowhere more than a few kilometres, and the rises in height above sea-level between the two are not significant enough to justify such an effect on the local economy, although it is likely that these alignments were often used as local and regional access ways for men and animals. If transhumance had been a pattern of land-use in the Bourn Valley it would have been more likely to have created a pattern of trackways fanning out on a roughly east-west axis from the flat valley floor in the east of the valley in Haslingfield to the wooded claylands in the west, where Longstowe and Caxton lay on the watershed between the Ouse and Cam river systems, and there is no trace of such a layout in the valley. It seems more likely that the parallel boundaries here are related to some form of land division similar to that employed on Salisbury Plain.

This analysis of the pre-Parliamentary enclosure field patterns of the parishes of the Bourn Valley has demonstrated that there is considerable survival of boundaries and tracks on the same south-westerly/north-easterly alignment as the parish boundaries and trackways that prompted this study in the first place. The broad framework suggested by these modern relics may just be just part of a more extensive system of which parts have been highlighted and fossilised by their usefulness as administrative boundaries or access ways over the centuries.

They appear to have survived best in areas which were used for grazing or arable before the introduction of the common fields, and least well in areas which were covered by woodland in the later Anglo-Saxon period and, perhaps, before.

Conclusion

Although there has been some evidence for such continuity both from areas of classic common field arrangements, like Cambridgeshire and Berkshire, and from areas towards the periphery of the Central Province like Staffordshire and Lincolnshire, where early enclosure was common, the consensus of scholarly opinion – supported by the weight of archaeological evidence – is that the introduction of medieval common field arrangements into the landscape of central, southern England was accompanied by the wholesale destruction of earlier landscapes.
However, the evidence summarised above has shown that there was considerable re-use of earlier field boundaries in the common field layouts of the Bourn Valley, as the fragmentary remains of prehistoric, perhaps late Iron Age, linear land-divisions – presumably preserved in hedges, ditches or earthworks existing at the time of the introduction of common field farming – appear to have been re-used in some of the boundaries of common field furlongs.

The possibility that such continuity might occur depends, of course, on the extent to which the fields of Roman Britain survived into and through the early and middle Anglo-Saxon periods. That such continuity did occur seems to be generally accepted. There is no evidence that new field layouts relating to arable farming were introduced between about 400 and 600 AD, and as long ago as 1978 Christopher Taylor and Peter Fowler suggested that ‘it seems possible that some late Roman ditched fields were . . . taken over as going concerns by Saxon settlers’ and that ‘Britons [continued] to farm their ‘ancient fields’ well into the so-called Anglo-Saxon period’ (Taylor and Fowler, 1978, 160–1). Three years later, Taylor commented that ‘any discussions of the origins of common fields has to take into account the fact that, whenever or however the Saxons developed common fields, these had to be based on a prehistoric system of agriculture and field shapes and did not evolve in an empty countryside devoid of any remains of earlier farming’ (Taylor, 1981, 20).

These points are as pertinent today as when they were written, although they are rarely discussed. It is taken as a premise in this argument that there was no major reorganisation of arable fields between the withdrawal of Roman administration in 410 AD and the introduction of common fields. The landscape of the Bourn Valley was probably fully utilised from an early date, both in its managed pasture and wood and in its arable. There seem to have been no substantial areas of ‘wild’ land which were unused by the farmers of the valley, and the hedges and ditches of existing field arrangements were almost certainly still visible as features in use or as earthworks when the hedges, ditches and furrows of the new common field boundaries were planted or dug. The landscape in which the boundaries and internal divisions of the common fields were laid out was not therefore a landscape in which the development of furlongs and selions implied colonisation.

The areas of the Bourn Valley in which these linear alignments have survived best are also those in which furlong and other names relating to arable, herding or pasture are also predominant, or in areas which seem to have been under arable cultivation for a long time (Oosthuizen, 2002). This suggests that the alignments might have been visible as earthworks, hedges or ditches in intensive or rough grazing, or as field boundaries in areas which continued to be ploughed, before the introduction of common field farming. This is consistent with Williamson’s conclusion about similar systems in East Anglia, that while there was ‘abandonment of Romano-British farms in some clay-land areas . . . intensive grazing of large areas must have continued throughout the post-Roman centuries’ (Williamson, 1988, 171 ).
This indicates, but does not positively confirm, answers to questions about the degree to which these land divisions were in continuous use from the prehistoric into the Anglo-Saxon period. ‘Use’ has many shades of meaning, from arable to pasture to fallow and wood; and it is difficult to know, without further evidence, how the land contained within these linear alignments was divided between arable and pasture. Land that may appear archaeologically to have been abandoned, may nevertheless have had a use which is not visible to later generations. The ‘exploitation’ of land may sometimes be invisible, as land that is ‘set aside’ in the modern period often demonstrates.

If there were an hiatus in the ‘use’ of this land, it is unlikely to have occurred in the late Saxon period when common field farming was introduced, since this was a period when arable was being expanded (Lewis et al., 1997, 175–7). Such a break may have occurred in the sixth and seventh centuries when pastoral farming was more important than arable, but the evidence of furlong names indicates that any abandonment of arable farming was generally succeeded by more or less intensive use of different areas for grazing, thus preserving these alignments in the landscape and preventing the re-growth of scrub over large areas (cf. Murphy, 1994, 37). Such an interpretation is supported by the analysis of faunal remains from early Anglo-Saxon sites, which showed relatively few deer and was considered to be consistent with extensive sheep grazing in this period (Crabtree, 1994, 43).

The extent of Romano-British woods may have increased in the same period, but such evidence as exists indicates that they were unlikely to have been more than about twice their medieval size in the middle Anglo-Saxon period, and therefore quite restricted in their impact on the landscape. This confirms Oliver Rackham’s conclusion that it is ‘very probable that the place of woodland in Anglo-Saxon England was more like that of medieval England . . . than of aboriginal England’ (1994, 8). This makes it more likely that these alignments were still in use as boundaries or tracks when common fields were created in the parishes of the Bourn Valley in the late Anglo-Saxon period, and that they had been preserved in areas of open pasture in the intervening centuries.

The Bourn Valley may not be as isolated an example of continuity between these two types of field layout as it may at first appear to be. It is possible that pre-existing field layouts may well have been more widely incorporated into common field agriculture than has previously been realised, only to be destroyed in the industrialisation of the landscape that followed the Agricultural Revolution. Recognition of this continuity in other places may have been hampered by the poor survival of evidence of common field layouts, since many common fields parishes lack the early and/or pre-enclosure maps which have allowed reconstructions at places like Dickleburgh, and the effects of ploughing may in many places have obliterated such evidence on the ground. Perhaps the more frequent survival of co-axial and linear field layouts outside the Central Province may be as much because, without common field arrangements, these areas were spared the destruction of the late eighteenth/early
nineteenth-century Parliamentary enclosure movement which finally swept away these ancient relics. It is possible that Parliamentary enclosure was just as responsible for the loss of evidence of continuity of boundaries from pre-common field to common field layouts as the introduction of the common fields themselves a millennium earlier.

This was recognised implicitly in Dorset by the Royal Commission on Historic Monuments (England) which noted that ‘the most important factor governing [the surviving distribution] of ‘Celtic’ fields is differential post-Roman cultivation’ (RCHME, 1975, 117). The preservation of elements of the linear land divisions of the Bourn Valley in medieval furlong boundaries is an example to which this conclusion might easily be applied. It would be interesting to test this finding in other areas of the Central Province to see the extent to which the process of transition from dispersed to common field farming in the Bourn Valley was anomalous or orthodox.

The importance of the Bourn Valley to a debate in which most examples have been drawn from areas outside the Central Province, or from areas within the Central Province which suffered late-medieval or early-modern common field enclosure is that the alignment of many of these boundaries was preserved by continuity of cultivation throughout the medieval and post-medieval periods, and into the early- to middle-nineteenth century. For the first time, the argument for continuity of use of some field boundaries in the Central Province is supported by physical as well as documentary evidence in an area in which, crucially, medieval and post-medieval common field farming followed the classic three-field system until Parliamentary enclosure.

Here, where the process of transition from one form of arable organisation to another is briefly and incompletely illuminated, it seems that it was patterns of farming and tenure rather than the pattern of fields which were substantially changed by the introduction of the Midland system. ‘It is essentially a systems change in which the agrarian landscape is reorganised and farmers redistributed and relocated’ (Austin et al., 1989, 21). Other work still in preparation explores explanations and models which try to elucidate why local farmers decided to continue to use at least some of their existing boundaries in the new field arrangements rather than begin from scratch as they seem to have done so often elsewhere in the Central Province (Oosthuizen, in preparation).

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC SMR</td>
<td>Cambridgeshire County Council Sites and Monuments Record</td>
</tr>
<tr>
<td>CCRO</td>
<td>Cambridge County Record Office</td>
</tr>
<tr>
<td>CUCAP</td>
<td>University of Cambridge Committee for Aerial Photography</td>
</tr>
<tr>
<td>CUL</td>
<td>Cambridge University Library</td>
</tr>
<tr>
<td>OS</td>
<td>Ordnance Survey</td>
</tr>
<tr>
<td>RAF</td>
<td>Royal Air Force</td>
</tr>
<tr>
<td>RCHME</td>
<td>Royal Commission on Historic Monuments (England)</td>
</tr>
<tr>
<td>VCH</td>
<td>Victoria County History of Cambridgeshire and the Isle of Ely</td>
</tr>
</tbody>
</table>
Acknowledgements

I am most grateful to Christopher Taylor, Professor Peter Fowler, Professor Mary Hesse, Dr Nicholas James, Professor Tony Legge, Professor Brian Roberts and Dr Tom Williamson for discussions on the argument presented above, and to participants in the English Heritage Seminar on Ancient Fields held at Swindon on 12th June 2002 for their helpful comments and questions. Phillip Judge kindly drew the maps. Mistakes and infelicities are my own.

Bibliography


Susan Oosthuizen


Notes

1. The eight parishes were: Bourn, Caldecote, Caxton, Comberton, Eversden (Great and Little), Hardwick, Kingston and Toft. There were pre-Parliamentary enclosure maps for all except the Eversdens and Kingston. Since there was relatively little enclosure before that carried out by Parliamentary Acts and Awards in the early to middle nineteenth century, pre-enclosure landscapes relate to those in existence before Parliamentary enclosure, unless otherwise stated.


3. There is some controversy about whether the discrete bundles of open-fieldstrips, known as furlongs, into which the medieval common fields were divided, were actually 220 yards long – that is, a furlong in length. At Raunds, for example, there are furlongs up to 1000 metres long and D. Hall comments that the term furlong ‘should not be confused with the modern meaning: it referred to an area, not a length’ (D. Hall, 1982, 48, 6). On the other hand, Professor Hesse, in her reconstructions of the medieval fields of parishes in Suffolk and Cambridgeshire has concluded from similar empirical evidence that many furlongs were indeed 220 yards long (M. Hesse, pers comm).

4. It is difficult to make sense of this. It might simply be because 220m is approximately the same distance as the 220 yards which was a common length of selions in common fields and therefore reflects the retention of those boundaries useful in the creation of common field furlongs. On the other hand, the droves which divided Bronze Age farms at Fengate, Cambs., from each other were also 220m apart (Pryor, 1982, 11).