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# Call for papers: Rural History 2010

## an international conference dedicated to rural economies and societies Brighton, UK, 13–16 September 2010

The British Agricultural History Society invites proposals of single papers or sessions for the first international meeting dedicated to Rural History in all its forms. The conference does not accept that rural history has any single definition, nor does it admit any bounds, and the conference has no intellectual affiliation. It is open to those approaching rural history from any perspective, ranging from those of archaeology, anthropology and ethnography through rural geography, landscape studies and rural sociology to post-modern cultural approaches to the countryside. It will be equally concerned with the countryside as a place of production of foodstuffs as with as the countryside as a place of consumption of leisure and the location of heritage and national memory. Papers will be welcomed on all periods from the prehistoric to the very modern; and there are no geographical limitations on the area of study. Comparative discussions which deal with rural society as a whole will be especially welcome, together with accounts which seek parallels between present day agrarian problems and those of the past.

Proposals for either individual papers, two or three paper sessions or even linked sessions should be submitted before 1 December 2009, and a provisional programme will be announced in February/March 2010. For details of how to make a proposal, and for further details about the conference, see www.ruralhistory2010.org.

# Forthcoming Conferences

## Landscape, enclosure and rural society in post-medieval Britain and Europe

### University of Hertfordshire, 25–26 June 2009

KEYNOTE SPEAKER: PROFESSOR TOM WILLIAMSON

Papers include Ian Whyte, 'Parliamentary enclosure and society in an upland context: Watermillock, Cumbria'; Robert Clark, 'Enclosure and enclosures in *Sense and Sensibility*'; Bill Shannon, 'More than mere stones: the partitioning of early-modern intercommoned wastes'; Alun Howkins, 'The use and abuse of commons and waste 1845–1914'; Nicola Whyte, 'Contested landscapes: piecemeal enclosures, custom and the power of the past'; Ben Cowell, 'The Commons Preservation Society'; Matthew Cragoe, 'John Clare and the landscape of Anglicanism'; Simon White, 'Landscape icons and the rural community in the poetry of John Clare'; Ian Waite, 'Hastening to utter decay: John Clare's Helpston and the destruction of Langley Bush'.

For a full programme and more information see www.landscapeandenclosure.com or contact: s.webster@herts.ac.uk

## British Agricultural History Society: Winter Conference 2009

The Society's Winter Conference will be held on Saturday 5 December at the Institute of Historical Research. The theme will be 'The history of rural housing: new approaches and old problems'. The speakers arranged include Dr Will Brown and Dr Margaret Yates (University of Reading) on 'Houses, history and cybernetics'; Prof. Matthew Johnson (University of Southampton) on 'Traditional buildings, social lives: rural houses from the Reformation to the Georgian Order'; Dr John Broad (London Metropolitan University) on 'The nineteenth-century rural housing crisis: motives and perspectives' and Dr Barbara Linley (Norfolk), 'Rural housing in a recession: affordable housing in the twentieth and twenty-first centuries'. Further details and a registration form will be posted on the Society's website and circulated to members with the next *Rural History Today*.

# Dales, long lands, and the medieval division of land in eastern England*

*by* Mark Gardiner

*Abstract*

The long, parallel fields of the marshlands between the Fens and the Humber estuary in eastern England, which are recorded on nineteenth-century maps, were the result of the division of the wetlands that occurred particularly during the twelfth and early thirteenth centuries. Areas of common fen pasture were partitioned between tenants to provide land for grazing and arable. Similar division also took place on the coastal strip and in the peat fen for land for salt-making and cutting fuel. These long strips, known as dales, are compared to similar areas in open fields in parts of Yorkshire and Northamptonshire, which have been discussed elsewhere. It is argued that the field shape is the result of a type of division in eastern England in which considerable emphasis was placed on ease of partitioning land equitably.

One of the distinctive features of the nineteenth-century landscape of the marshes of the east coast of England – the Fens, the Lindsey marshes, and the Humber wetlands – was blocks of land comprising many long, narrow fields or 'lands' running parallel to one another. Each block was bounded by features, such as drainage channels or roads, and contained numerous lands only 20 or 30 metres in width, but up to a kilometre or more in length (Figure 1). The field-type was common throughout the marshlands of eastern England, as the first-edition six-inch Ordnance Survey maps demonstrate, and indeed traces of the shallow ditches that separated the lands survived in some places until recent decades. The origin and operation of this distinctive field type have barely been discussed, in spite of its widespread distribution. Equally, although the marshland fields have been compared to those with similar dimensions elsewhere in England, there has been little consideration of whether they might have common origins. The present paper seeks, first, to explain how the marshland came to be divided in this manner; second, to compare it with a similar form of land division in Yorkshire and Northamptonshire; and, finally, to consider whether the process of land division can be related to the social character of medieval agricultural communities.

* I am grateful to Paul Everson and David Stocker for their advice on aspects of the Lincolnshire landscape and to the anonymous referees who commented on an early version of this paper.

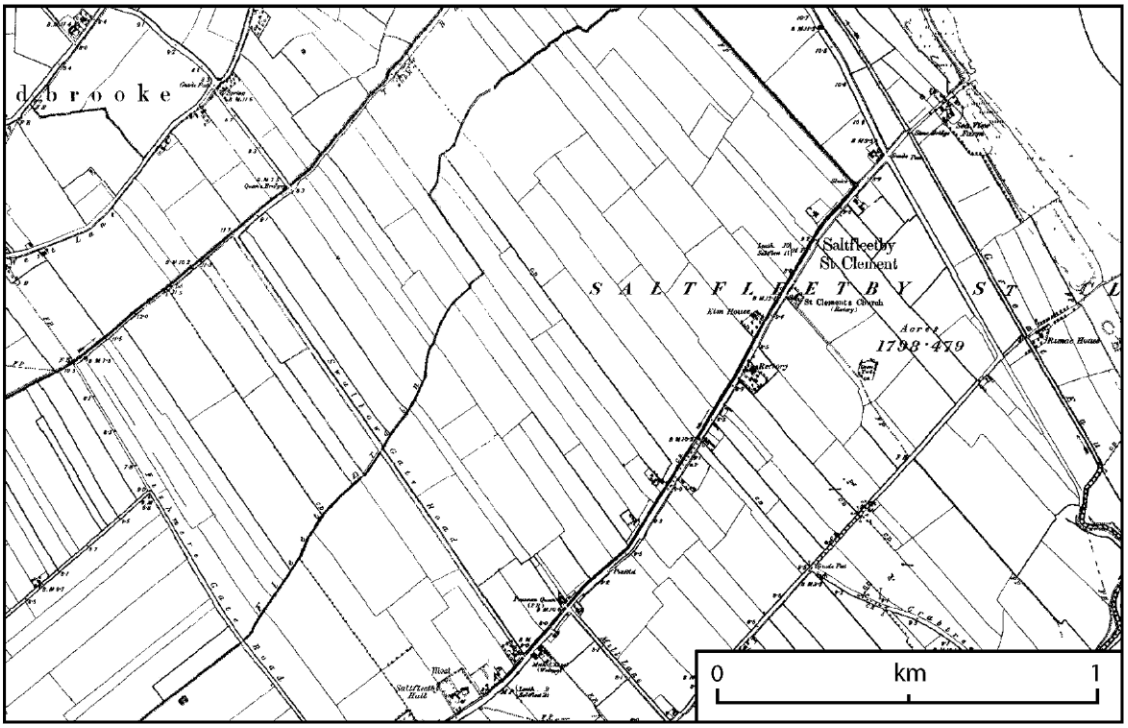



FIGURE 1. The Field Boundaries at Saltfleet by St Clements (Lincs.)

*Source*: First edition six-inch Ordnance Survey map.

## I

The history of the settlement of the Fens and the Lindsey Marshes in the twelfth and thirteenth centuries has been outlined by Hallam and, with the addition of evidence from the subsequent archaeological fieldwork undertaken for the Fenland Survey, it is now possible to suggest the process by which the marshlands were progressively occupied and the wetlands divided. Both historical and archaeological evidence indicate that the earliest medieval settlement in the marshlands was to be found on the highest land lying nearest the sea. These settlements were able to exploit the resources of both the sea – salt could be made on the broad foreshore – and the marsh where animals could be pastured. The value of the grazing on the marshland is already apparent by the early eleventh century, when boundaries were being established, even in the centre of the peat fen. The marsh was progressively divided as it came under greater pressure in the twelfth century, so what had been large tracts open to common grazing by all, were subdivided among lordships and then among individual communities.[1] Only a few areas remained as large commons, such as those at Smeeth and West Fen in Norfolk.

[1] H. E. Hallam, *Settlement and society: a study of the early agrarian history of south Lincolnshire* (1965); David N. Hall and John Coles, *Fenland survey: an essay in landscape and persistence* (1994); Mark Gardiner, 'The transformation of marshlands in Anglo-Norman England', *Anglo-Norman England* 29 (2007), pp. 35–50.

The commoners there agreed to keep the fen at their mutual expense and protect it against encroachments by the men of Wiggenhall who, having divided their own land, were pressing from the east. By the late twelfth century the pressure upon the common land in the Fens was considerable. In 1189 the marshland around Crowland abbey, which had been declared 'in defence' to allow the growth of grass for hay, was 'invaded' by peasants who asserted their rights by setting up temporary houses, grazing animals, cutting alder trees and digging peat. The event led to a well-documented dispute that dragged on for many years.[2]

Once the common marsh had been allocated amongst the vills, it was then further partitioned between tenants. The marsh was divided into strips of meadow which could be cut for hay and was then subject to common grazing. These divisions were known as dales, and there are numerous references to such holdings in the Fens and Lindsey Marshes in deeds from the mid-twelfth century onwards. The character of the dales is made clear in contemporary deeds. They consisted of long pieces of meadow, usually running between major landscape features. A typical example, recorded in a late twelfth-century charter, lay in a meadow called *Westdaile* in Habrough (Lincs.). It measured five perches wide and extended from the middle of the marsh, with a ditch to the south and another to the north. Another grant at Grainthorpe (Lincs.), of a similar date, concerned 10 acres of meadow, 10 perches in breadth and running in length from *Gaterume* to *Sandwad* (evidently near Sandworth Drain). The deed indicates that the meadow must have been a very long and narrow strip. If the land was measured by the eighteen-foot perch used locally, it would have been 54m in width and 880m long. If it was measured using a twenty-foot perch, which was also in use in the Lindsey marsh, then the dimensions were 60m by 980m. The length of this meadow was not exceptional. A further late twelfth-century deed records a grant, at Stickney (Lincs.), of 6 acres, 5 perches wide, which therefore must have been at least 1050m long.[3]

Charters record similar strips of meadow, generally described in terms of their width. Their lengths are rarely recorded and their areas are noted only occasionally. Some of the pieces of the meadowland were of indefinite length. A mid-twelfth century grant records that the meadow in Snelland (Lincs.) ran from a ditch around a croft northwards within the fee as far as the edge of the firm marsh. Another charter mentions, even more vaguely, land and moor 4 perches wide stretching from the Ouse southwards as far as any surrounding land or as the adjoining marsh extends (*tendentes … quantam aliqua terra vel mora circumiacens se longius extendit*).[4]

These strips or dales were commonly bounded by ditches and were so long that they might

[2] J. H. Bullock (ed.), *The Norfolk portion of the chartulary of the priory of St Pancras of Lewes* (Norfolk Record Soc. 12, 1939), no. 213; D. Roffe, 'The historical context', in A. Crowson, T. Land, K. Penn and D. Trimble, *Anglo-Saxon settlement of the siltland of eastern England* (2005), pp. 266–85; D. M. Stenton, *English justice between the Norman Conquest and the Great Charter, 1066–1215* (1965), pp. 154–211.

[3] F. M. Stenton (ed.), *Documents illustrative of the social and economic history of the Danelaw* (1920), nos 279, 170; D. M. Owen, 'Some Revesby charters of the Soke of Bolingbroke', in *A medieval miscellany for Doris Mary Stenton* (Pipe Roll Soc., new ser., 36, 1960), no. 8; the lengths of perches are indicated in R. Ransford (ed.), *The early charters of the Augustinian canons of Waltham Abbey, Essex, 1062–1230* (1989), no. 443.

[4] Stenton (ed.), *Danelaw*, no. 233; F. M. Stenton (ed.), *Transcripts of charters relating to Gilbertine houses* (Lincoln Record Soc., 18, 1922), Ormsby series, no. 60; Ransford (ed.), *Waltham Abbey*, no. 514; Stenton (ed.), *Danelaw*, p. xlvi, n. 5, nos 220, 224; F. M. Stenton, *The free peasantry of northern Danelaw* (1969), no. 102.

be further divided and parcels sold off or granted to separate tenants. Dales in Wiggenhall St Mary Magdalen (Norfolk) ran from the bank of the River Ouse on the east to Chancellor Dyke on the west, a distance of over 3km. This was inconveniently long and they were subdivided into three or four parts.[5] In this way parts of a single dale might be used for arable, while the rest continued to be used as pasture. They were sometimes referred to as selions, a term more commonly applied to strips of arable within common fields. There is no evidence to support Hallam's suggestion that the selions in the marshlands were under grass only temporarily. It seems more likely that the term was applied imprecisely to any strip of land, whether arable, pasture or, as may often have been the case, a mixture of the two.[6]

The dales in the east coast marshes recorded on nineteenth-century maps were, therefore, medieval in origin and arose through the division of areas of common pasture. Some earthworks of the boundary ditches still remain even now in pasture fields or, where the land has been ploughed, it may be possible to observe the edges of the dales on aerial photographs as soilmarks. The field evidence and photographic evidence confirms that the dales were typically between 12m and 20m broad (equivalent to between 2 and 4 perches), but on occasions up to 50m wide, and they ran for up to 1.5km in length. These dimensions fit reasonably well with the documentary evidence. The land within the dales was sometimes ploughed to form ridge and furrow in order to assist drainage of surface water.[7]

Hall has argued that the field evidence suggests that dales were very probably being created in the early twelfth century and possibly before the Norman Conquest.[8] These dates would be consistent with the deeds discussed previously, which mention dales from the mid-twelfth century. However, the method of dividing land in this manner continued until at least the fifteenth century. An agreement was made in either 1448 or 1449 to divide an area at Upwood in Huntingdonshire into similar narrow bands. The waste was measured up and strips about 250m long were allocated amongst the major free tenants and villagers. The latter received meadow in proportion to their holdings: those with one virgate were granted land measuring two perches in width and cottagers received a piece one perch wide.[9]

The twelfth-century deeds refer to the long narrow pieces of land as *dalae* or *deili* or *deiles*, words that derive from Old English *dál* or the cognate Old Norse *deill*, both meaning a share or portion. A well-known passage in Ine's laws dating to the late eighth or ninth century

[5] Mary Bateson, 'The register of Crabhouse nunnery', *Norfolk Arch*. 11 (1892), nos 123–4; see also R. J. Silvester, *The Fenland project number 3: Marshland and the Nar Valley, Norfolk* (1988), fig. 83.

[6] Hallam, *Settlement and society*, pp. 35, 105, 147; Stenton (ed.), *Gilbertine houses*, Alvingham series no. 16.

[7] Silvester, *Fenland project*, pp. 64–5; Paul Everson, 'Aerial photography and fieldwork in north Lincolnshire', in G. S. Maxwell (ed.), *The impact of aerial reconnaissance on archaeology* (1983), fig. 16; David N. Hall, *The Fenland project, number 10: Cambridgeshire survey, Isle of Ely and Wisbech* (1996), p. 186.

[8] D. N. Hall, 'The changing landscape of the Cambridgeshire silt fens', *Landscape Hist*. 3 (1981), p. 43.

[9] J. A. Raftis, *Tenure and mobility: studies in the social history of the medieval English village* (1964), pp. 29–30, 213–14.

[10] Many of the pieces had names with the suffix *-deile*, for example, Ransford (ed.) *Waltham Abbey*, nos 422, 424, 445–6; Stenton (ed.), *Danelaw*, no. 57; K. Major (ed.), *Registrum Antiquissimum of the cathedral church of Lincoln*, V (Lincoln Record Soc. 34, 1940), nos 1641, 1651–2, 1698, 1718. *Deile* was also used as a noun: Ransford (ed.) *Waltham Abbey*, nos 487–88, 491–2; Stenton (ed.), *Danelaw*, no. 169; Major (ed.), *Registrum Antiquissimum*, V,

refers to 'common meadow or other *gedálland*'.[10] The term survived in the local dialect in Cambridgeshire and Lincolnshire until recent times to describe strips of land that were known variously as darlands, darlings, dielings or dylings.[11] The term was also used in England to refer more generally to holdings within a common meadow, which in the south of the country were generally known as doles. Common meadows in the medieval and early modern periods were typically divided into a series of long plots. The meadow was closed to grazing from early in the year to allow grass to grow. After haymaking, typically around Lammas (1 August), the meadows were thrown open to the commoners' animals to graze.[12]

The practice in the Lindsey marshes was superficially similar. An agreement dated 1208 states that the meadows in Wrangle held in *deiles* should be enclosed from the first Sunday in Lent until the completion of mowing. After that, it should be open for common grazing, unless anyone wished to ditch their meadow. It is this final clause that suggests a distinction from true common meadow, for it allowed individuals to withdraw their land from general usage and enclose it. The consequence was that the marshland dales might be ploughed for arable, creating a pattern where the land was neither entirely open fields or common meadow, nor holdings in severalty, but a mixture of all of these.[13]

A number of deeds suggest that dales represented a proportionate share of land in the vill. The fifteenth-century agreement at Upwood provided for the division of the land in proportion to the size of the existing holding. A similar division seems to have been made at Reedness in Whitgift (West Riding) on the Humber estuary, where by *c*.1200 the moor was held in dales stretching across the width of the marsh, each six or twelve perches wide. A number of charters mention that the meadow, pasture, and common was appurtenant to bovates of arable land. One grant makes the provision that, if the arable land was extended and the bovates increased in size, then the granted land should also be increased by the appropriate amount.[14]

The dales of meadow and arable were only one of the resources divided amongst the tenants of the vill in this manner. Salt marsh adjoining the coast and areas of peat in the fen were parcelled out in a similar way. The salt marshes, like the pasture of the freshwater fen, had initially been held in common by many vills. The marsh was not protected against flooding and was less valuable, as it could not be used for arable, but served for grazing. The proximity of the sea also meant that the marshland was suitable for salt-making. Initially, the coastal marsh was parcelled out into large areas indicated by ditches, plough furrows or simply by stakes. Later, long strips were marked out running from the dunes through the tidal marsh to the sea. Traces of this can be clearly seen on a map of Marshchapel from 1595 and in aerial

*Note 10 continued*
no. 1610. Ine's laws are printed by F. Liebermann (ed.), *Die Gesetze de Angelsachsen* (3 vols, 1898–1916), I, p. 106, no. 42, and in translation in D. Whitelock (ed.), *English historical documents, c.500–1042* (1979), pp. 368–69. For other examples of the usage of the term, see *The dictionary of Old English: fascicles A-G* (CD-ROM, 2008), s.v. *ge·dál-land*.

[11] Hall, *Fenland project*, p. 185; Hallam, *Settlement and society*, pp. 151–2.

[12] A. Brian, 'Lammas meadows', *Landscape Hist.*, 15 (1993), pp. 57–63.

[13] Ransford (ed.), *Waltham Abbey*, no. 486; Hallam, *Settlement and society*, pp. 147–50, 157–8, 168, 171–3.

[14] Stenton (ed.), *Gilbertine houses*, Alvingham series, nos 16–20; Ransford (ed.), *Waltham Abbey*, no. 456; Stenton (ed.), *Gilbertine houses*, Alvingham series, nos 16–49, 51, 55.

photographs.[15] At Fleet (Lincs.) each of the bovates had an appurtenant area of coastal marsh at which salt was made. Areas of peat might also be divided up in this manner and one medieval charter refers to a perch (width) of a turbary in the soft or wet (*molle*) land at Stallingborough (Lincs.). The tenants around Cottenham (Cambs.) who were granted peat-cutting rights may have been allocated strips of different widths. Tenants with a whole customary holding could make a stack of peat 36 feet in length, those with half a holding were allowed stacks 30 feet long, with progressively smaller lengths down to cottagers, who had stacks 10 feet long. These lengths possibly matched the widths of the strips held.[16]

The systematic division of the non-arable resources of the vill has many parallels with open-field systems elsewhere in England. Documents of the early thirteenth century might suggest the emergence or extension of such fields in Lincolnshire. Open fields are later found in the north and west of the Lindsey marsh, but elsewhere on the east coast the pattern seems to have been so flexible, with dales of arable, pasture and meadow so thoroughly intermixed, that Hallam has wondered whether 'the result was scarcely a "system" at all'.[17] We have already noted that a single dale might be used for arable and pasture simultaneously, which implies either that there was no agreed cropping pattern, or that there were many deviations from it. This seems to have been achieved in spite of the problems of fencing long narrow areas, something that would have been necessary if part of a land was used for pasture and the remainder or adjoining lands for arable.

One particular respect in which the marshland dales may have resembled open fields elsewhere in England was the use of the tenurial cycle. This term refers to the allocation of lands in an open field according to a recurring cycle or sequence of tenants. The first land in a furlong was always be held by Tenant A, the second land by Tenant B and so on. The same pattern was repeated in every furlong, so that the land of each tenant was always in the same position in the sequence and consequently the neighbours were always the same too. Field books that list the holders of lands are rare before the sixteenth century. The only way to identify the existence of a tenurial cycle in the late twelfth or thirteenth century is to demonstrate that a tenant had similar neighbours wherever their lands were found. Some examples of this have been noted in Lincolnshire at Wyberton and Beesby in the Marsh, and a further instance may be seen at Grainthorpe, though it remains unclear whether tenurial cycles were used widely in this area.[18]

[15] A. E. B. Owen, 'Beyond the sea bank: sheep on the Huttoft Outmarsh in the early thirteenth century', *Lincolnshire Hist. and Arch.* 28 (1993), pp. 39–41; Ransford (ed.), *Waltham Abbey*, nos 451, 454, 460–1, 475; Major (ed.), *Registrum Antiquissimum*, V, no. 1711. For map, see E. H. Rudkin and D. M. Owen, 'The medieval salt industry in the Lindsey marshland', *Reports and papers of the Lincolnshire Architectural and Archaeological Soc.* 8 (1960), pl. 1; M. W. Beresford and J. K. S. St Joseph, *Medieval England: an aerial survey* (sec. edn, 1979), pp. 262–5.

[16] N. Neilson (ed.), *A terrier of Fleet, Lincolnshire* (1920), pp. lxviii, 7–17; J. T. Fowler (ed.), *The Coucher Book of Selby* (2 vols, Yorkshire Archaeological Soc. Rec. Ser., 10, 12, 1891–3), II, no. 878; F. M. Page, *The estates of Crowland Abbey: a study in manorial organisation* (1934), pp. 25–6, 164–5.

[17] Hallam, *Settlement and society*, pp. 138, 157.

[18] Hallam, *Settlement and society*, p. 149; Stenton (ed.), *Danelaw*, p. xlviii, n. 4; Major (ed.), *Registrum Antiquissimum*, V, no. 1616.

## II

There are clear similarities in the shape of the very long fields in the east coast marshes and lands on the north side of the Humber estuary in the Yorkshire Wolds and Holderness. Comparison has also been made with long selions identified in Northamptonshire. The resemblance to these is less immediately apparent, because in the later middle ages they were divided into shorter lengths and some were reoriented to improve the drainage. However, the fields in all these areas were distinguished by their remarkable length. Beyond noting the similarities of form, there has been little discussion of the reasons for this distinctive field type in eastern England, or examination of the similarities and differences between the three areas of the east coast marshes, Yorkshire and Northamptonshire.[19]

The open fields in south-east Yorkshire, like those of Lincolnshire, were divided into numerous long strips or lands that extended for a thousand metres or more from one side of the field to the other, often to the edge of the township, with a break only where they encountered a significant obstacle, such as a deep valley. Lands of up to 2500 yards (2300m) in length were found at Preston in Holderness. Unlike some of the fields south of the Humber, those in Holderness and the Yorkshire Wolds were proper open fields and had regular rotations. The characteristics of the field systems in south-eastern Yorkshire have been discussed in detail by Harvey and Sheppard, and their principal features can be briefly summarized. The lands were not always of equal length, but had a common width. The lands were generally orientated in the same direction within a single field and there were very few separate furlongs. Townships therefore comprised a few large fields containing strips running parallel to each other.[20]

Studies of many Yorkshire villages have shown that the holdings were arranged in tenurial cycles, but some of the fields, however, were so broad that the cycle of tenants' holdings was repeated two, three or more times before the end was reached. A tenant, thus, held lands at regular intervals across a field. The area of a field containing a single cycle of tenants' holdings was known as a bydale. The vill of Preston in Holderness, for example, was divided into two common fields and each field had seven bydales. The tenants of Preston held a land (or sometimes more) in each bydale and therefore had fourteen separate lands.[21]

The long lands are clearly identifiable in post-medieval records and maps, and may be traced backwards to the earliest surviving charters in the thirteenth century. The origin of this distinctive system of land division remains uncertain. Harvey has speculated on historical grounds that the fields may have been laid out in the early eleventh century; the archaeological

[19] D. N. Hall, 'The origins of open-field agriculture – the archaeological fieldwork evidence', in T. Rowley (ed.), *The origins of open-field agriculture* (1981), pp. 31–2.

[20] See the articles and papers by M. Harvey, *The morphological and tenurial structure of a Yorkshire township: Preston in Holderness, 1066–1750* (1978); ead., 'Regular field and tenurial arrangements in Holderness, Yorkshire', *J. Historical Geography* 6 (1980), pp. 3–16; ead., 'Regular open-field systems on the Yorkshire Wolds', *Landscape Hist.*, 4 (1982), pp. 29–39; ead., 'The origins of planned field systems in Holderness, Yorkshire', in Rowley (ed.), *Origins*, pp. 184–201; ead., 'Planned field systems in eastern Yorkshire: some thoughts on their origin', *AgHR* 31 (1983), pp. 91–103; ead., 'Open field structure and landholding arrangements in eastern Yorkshire', *Trans. Institute of British Geographers*, new ser., 9 (1984), pp. 60–74; and J. Sheppard, 'Field systems of Yorkshire', in A. R. H. Baker and R. A. Butlin (eds), *Studies of field systems in the British Isles* (1973), pp. 145–87.

[21] Harvey, *Preston in Holderness*, pp. 5–10.

evidence from Wharram Percy in the Yorkshire Wolds points to the village being established in the tenth century and the associated fields laid out either at that time or later, perhaps in the twelfth century. The dating evidence for the organization into bydales is equally unclear. The tenurial cycle could date to the period when the lands were laid out or might have been established subsequently. The only indication of date comes from names of the bydales at Preston in Holderness, which were evidently derived from tenants holding land there in the late thirteenth or mid-fourteenth century. This suggests that the bydales were established by that time and possibly earlier.[22]

The similarities between the Yorkshire fields and those in the marshlands discussed above are obvious, though there were also significant differences that will deserve discussion. The fields in both areas had a similar form and were parcelled out in a like manner, according to a tenurial cycle. The Yorkshire lands were often less straight and deviated to go around features such as valleys, but that was, no doubt, because it was more difficult to lay out straight lands on the rolling ground of the Wolds than on flat marshlands. The term 'bydale' is also notable and bears comparison with the dales in Lincolnshire marshland. Harvey suggests the word was derived from Old West Scandinavian *by* meaning a farmstead or village and Old Norse *deill*, discussed above, meaning a share or portion. The element -dale is found in a number of field-names in Yorkshire, just as it was in Lincolnshire. For example, a 1563 survey of Butterwick in the Yorkshire Wolds mentions Kirkdale, Medeldales, Northdales and Thorpdales, amongst others.[23]

Long lands have also been identified in Northamptonshire but, as has been noted, they were later divided into conventional, shorter furlongs. However, sufficient cartographic and fieldwork evidence has been assembled to show that the open fields were initially laid out in a very similar manner to those in Yorkshire. Hardingstone near Northampton provides a useful example of the method by which the earlier, medieval pattern can be reconstructed (Figure 2). A detailed record of the position of strips is given in a 1660 field book and careful study of this reveals an underlying tenurial cycle of 32 lands. Aerial photographs shows that the orientation of some of the strips has been altered, probably to achieve better drainage. When the earlier pattern is plotted, it is apparent that the furlongs were originally laid out in a north-south direction in one half of the vill and east-west in the other half, with the two separated by a road. The tenurial cycle had long been forgotten when the tenants were recorded in 1660, but the original sequence, which must have been established when the fields were still divided into long lands, can be reconstructed.[24]

Similar patterns have been uncovered in other Northamptonshire vills, suggesting that long lands were once common throughout the county. At Raunds, in North Dale field, lands measuring 1000m in length were later divided into six separate furlongs. Survey work at Doddington has shown the alignment of nine later furlongs, suggesting that they were

[22] Harvey, 'Open field structure', pp. 70–3; ead., 'The development of open fields in the central Vale of York: a reconsideration', *Geografiska Annaler* 67B (1985), pp. 41–3; P. A. Stamper and R. A. Croft, *Wharram: a study of settlement on the Yorkshire Wolds*, VIII, *The South Manor area* (2000), p. 198; M. W. Beresford and J. G. Hurst, *Wharram Percy deserted medieval village* (1990), pp. 78, 95; Harvey, *Preston in Holderness*, pp. 11–13.

[23] D. N. Hall, *Medieval fields* (1982), fig. 32; Beresford and Hurst, *Wharram Percy*, fig. 71; Harvey, *Morphological and tenurial structure*, p. 25; ead., 'Open field structure', fig. 2.

[24] D. N. Hall, 'Hardingstone parish survey 1972', *Northamptonshire Arch.* 15 (1980), pp. 119–32.

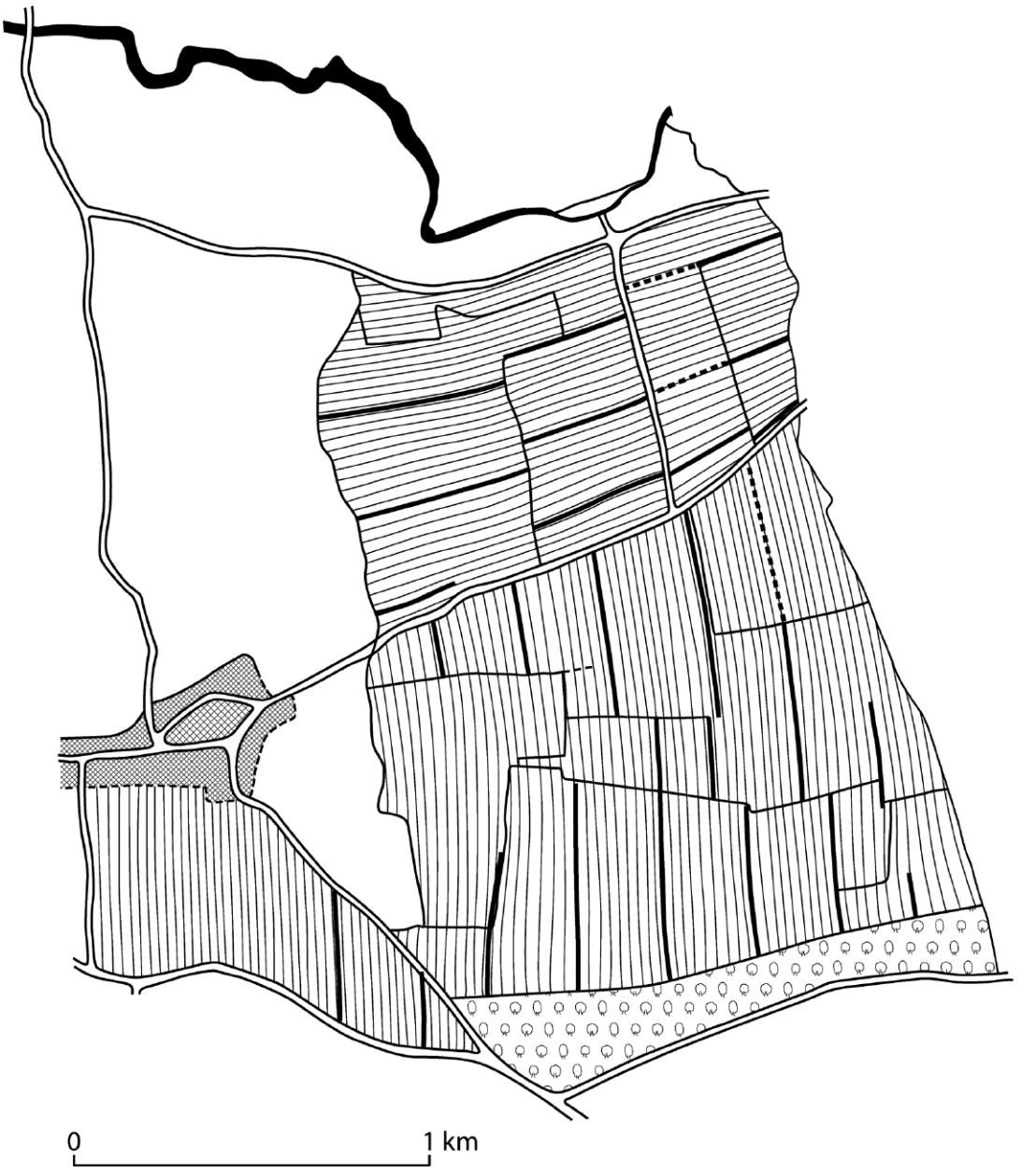



FIGURE 2. Probable form of the open fields at Hardingstone (Northants.)

*Note*: A reconstruction of the field form in the early thirteenth century. The strips of land are too numerous show individually and are depicted schematically. The division of the long strips of land in the two original fields (separated by the road) into shorter furlongs had already begun. The start of the tenurial cycles are marked by a darker line. Adapted from Hall, 'Hardingstone', p. 127 and Hall, *Medieval fields*, p. 54.

originally laid out as continuous long lands, again providing evidence for large-scale planning.[25] 'Dale' names are common here as well, though Hall, who has discussed the Northamptonshire examples, attributes them to Old Norse *dalr* or Old English *dæl*, 'valley'. Neither seems very likely as the source of common field-name element in Northamptonshire, as both elements are generally found where Scandinavia settlement was more extensive. It is more probable that 'dale' names in that county are from OE *dál*, 'share, portion'.[26]

## III

In each of the areas examined – the coastal marshes of Lincolnshire, Cambridgeshire and Norfolk; eastern Yorkshire; and Northamptonshire – a common pattern of early land division has been identified. The cultivated land or pasture was divided into unusually long holdings stretching for a kilometre or more, often extending to the limits of the township. These long lands were aligned in the same direction, occupied a small number of fields, and were subdivided into few furlongs in contrast to open fields elsewhere in England. The order of tenants holding lands can often be shown to have followed a tenurial cycle. Yet, these similar features should not blind us to significant differences. The dales in the Fens and Lindsey marsh were laid out by converting common pasture to holdings of meadow and arable. They did not form conventional open fields, and were treated in some areas almost as holdings in severalty. There are also possible differences in date. The formation of the long lands in Northamptonshire and Yorkshire has been attributed to dates between the ninth and eleventh centuries, though this remains very uncertain. The marsh dales were definitely established by the twelfth century, and in some areas by the mid-eleventh century, though areas of marshland continued to be divided in that manner until at least the fifteenth century.[27] Further differences developed in the centuries after the lands were established. In Northamptonshire the long lands were generally divided into shorter lengths. This also happened, though less commonly, in Yorkshire and the east coast marshes, though in the latter they still were much longer than most open field selions.[28]

In spite of these differences, dales or long lands can now be recognized across a broad swath of eastern England. There are obvious similarities between the long lands in the Yorkshire Wolds

[25] D. N. Hall, 'Fieldwork and field books: studies in early layout', in B. K. Roberts and R. E. Glasscock (eds), *Villages, fields and frontiers: studies in European rural settlement in the medieval and early modern period* (British Arch. Rep., International Ser. 185, 1983), p. 118; Hall, *Medieval fields*, pp. 48–50; id., *The open fields of Northamptonshire* (1995), fig. 12.

[26] M. Gelling and A. Cole, *The landscape of placenames* (2000), p. 110; Hall, *Open fields of Northamptonshire*, p. 124; id., 'Hardingstone', p. 126.

[27] Hall, *Open fields of Northamptonshire*, p. 137, suggests a date of the ninth century for the Northamptonshire fields, but S. Parry, *Raunds area survey: an archaeological study of the landscape of Raunds* (2006), p. 133–4, is more cautious and suggests merely 'a late Saxon origin' but, because the pottery has a date range of 800/850–1100/1150 (p. 136), the fields might have been laid out as late as the early twelfth century. Harvey, 'Regular field and tenurial arrangements', pp. 11–16, initially favoured an eleventh-century date for the Yorkshire fields, but later (ead., 'Planned field systems', p. 97) suggests a date of the late ninth or early tenth century. For the Fens, see Hall, 'Changing landscape', p. 43, 44–5.

[28] W. Matzat, 'Long strip field layouts and their later subdivisions: a comparison of English and German cases', *Geografiska Annaler* 70B (1988), p. 138; Harvey, 'Regular open-field systems', pp. 31–2.

and Holderness, and those on the opposite side of the Humber estuary in the Lincolnshire marshes. Similar fields can be found all the way down the coastal marshes through Lincolnshire as far south as the Wash and in the adjoining areas of the Cambridgeshire and Norfolk Fens. The occurrence of long lands in Northamptonshire is more difficult to interpret. It is not clear from current research whether these represent an isolated extension of the distribution into the East Midlands, or whether further work in adjoining counties might show a wider occurrence of long lands. In those places where long lands were subsequently divided into conventional, shorter selions, they are certainly more difficult to recognize and can only be identified by analysing the tenurial cycles and alignments of furlongs.

A number of interpretations have been offered to explain the distribution of this distinctive field type. Hall suggests that they resemble the Danish practice of *bolskifte* and speculates that they might have been introduced from that country to England by Viking settlers in the tenth century. The arguments in favour of *bolskifte* or a similar Swedish system of *solskifte* rely very largely upon the use in medieval England of the terms *versum solem* and *versum umbram* (towards the sun, towards the shade) to describe the position of land to the south and east, or the north and west. Similar descriptions were used for Swedish *solskifte*, but this hardly seems to prove a common origin, particular as the terms were widely used across England, including areas which were not settled by Scandinavians. Instead, it is more appropriate to consider the particular circumstances in England that might have led to the development of this system of land division.[29]

Central to any discussion must be an explanation of why it was thought useful to adopt such remarkably long strips of land. These strips cannot have been determined by the requirements of agriculture, since they are found on a variety of different soils, both heavy and light. The length cannot, therefore, have been a reflection of the distance that oxen could plough without resting. Furthermore, any benefit gained from the length of the lands, such as the need to turn the plough team at the end of the furrow less frequently, was lost when they were later subdivided into shorter lengths. This took place in a number of areas, particularly Northamptonshire. Long strips of land are also found in meadow and pasture, on marshes and the seashore, so ploughing is unlikely to have been an explanation. The long narrow form of the marshland dales had no particular benefit for the mowers of hay. Indeed, the elongated field shape was particularly difficult for ditching or hedging because of the very long perimeter. There is no agricultural explanation that seems to cover all these circumstances, and instead it is necessary to look for reasons arising from the division of land.

The partition of a large area into a series of long strips greatly simplified the problems of equal or proportionate division of land. No complex surveying was required, nor was it necessary to calculate the total area of land accurately. The area could be divided by measuring along one side and then dividing the length between the number of tenants. This was the method adopted at Upwood and, since the allocated land did not account for the full length of the field, the small area remaining was left as common. Having established the width of the holdings, the parcels could then be laid out by setting out the boundaries as straight lines at right angles, something

[29] Hall, *Open fields of Northamptonshire*, pp. 123, 132; S. Göransson, 'Regular open-field pattern in England and Scandinavian solskifte', *Geografiska Annaler* 43B (1961), pp. 80–2, fig. 9.

that could easily be done by sighting between posts or by measuring off from the adjoining parcel. It was a rather rough-and-ready form of land division since it assumed that the end boundaries of the lands were straight and parallel, which they rarely were. Even so, it had the advantage of reducing the complexities of calculating area to a matter of linear measurement and allowed the work to be carried out, not by an experienced surveyor, but by anyone with a measuring rod. One of the attractions of this explanation is that it applies to all types of land, not only arable.

The corollary of reducing the complexity of partitioning an area to a simpler matter of calculating a linear measure was that the results of land division were obvious. It required no knowledge of geometry or understanding of surveying. All tenants could readily see the proportion of land they had been allotted. However, if that was a purpose, then it implies that the consent and agreement of the tenants to the land division was an important consideration. A conspicuously fair partition of land would hardly have been necessary if it had been imposed upon the community of the vill. It has been shown in Northamptonshire that the allotment did not take place in newly settled lands, but in areas that were already under cultivation, and the same may well have been true in Yorkshire. Certainly, there was settlement on the Wolds, at Wharram Percy, before the fields were laid out, in or after the tenth century. Even in the marshlands, the land divided up had been used for pasture. Tenants gave up their year-round right to common grazing and received instead holdings in severalty and more limited rights of pasture. In all these areas, the process of laying out long lands required that tenants pooled their rights in the vill so that it could be parcelled out anew.[30]

Two other features common to the areas examined might tend to support these explanations. The first is the use of the tenurial cycle. There was no agricultural reason for this mechanistic system of land allotment, except that in its arbitrariness it created a pattern that was fair to all. By systematically allotting lands and spacing out any individual's holdings, everyone stood an equal chance of obtaining a share of the better and the poorer soils. The second feature is the recurrence of the words *dál* and *deill* in the field-names and in local terminology. These names are found in all areas where there were long lands and they served to assert that lands were shares or a portion taken out of a common whole. This was a simple statement of fact in the marshes, where common pasture was divided up amongst tenants, but it may had a greater significance in Yorkshire and Northamptonshire. The settlement system before the ninth or tenth century in both those areas comprised individual farmsteads or hamlets whose occupants appear to have cultivated the immediately surrounding land. The creation of townships and common fields required all the land to be brought together and then divided up. The description of the land as *dálland* was, therefore, a statement about its new character in contrast to the former situation.[31]

[30] G. Milne and J. D. Richards, *Wharram: a study of settlement on the Yorkshire Wolds*, VII: *two Anglo-Saxon buildings and associated finds*, pp. 90–3; Stamper and Croft, *Wharram: South Manor area*, pp. 196–8; Gardiner. 'Transformation of marshlands', pp. 39–42.

[31] Parry, *Raunds area survey*, 92–6; T. Brown and G. Foard, 'The Saxon landscape: a regional perspective', in P. Everson and T. Williamson (eds), *The archaeology of landscape: studies presented to Christopher Taylor* (1998), pp. 80–1.

The interpretation offered here points towards the agricultural community as the initiator of change. Historians have sometimes assumed that any substantial change, especially one that required co-ordinated action, must have been agreed and organized by the lord or his officials. For example, Harvey considered that large-scale land division in Yorkshire was the result of seigneurial action. However, the particular character of eastern England before and immediately after the Conquest throws doubt upon this view. Lincolnshire and Yorkshire were weakly manorialized and were occupied by substantial communities of free sokemen. Domesday Book provides an imperfect record of the situation in Lincolnshire, because the nature of the record required it to force the peculiar form of land tenure into the Procrustean bed of the manor.[32] Nevertheless, strong lordship seems to have been largely absent and decisions about the organization of land were mostly likely to have been made by either the hundred or the community of the vill. The Lincolnshire hundred not only had responsibility for collecting the geld and keeping the peace, but also had interest in agricultural matters. Both Douglas and Stenton have pointed to the agreements made by hundreds, in Lincolnshire, and leets, the equivalent bodies in Norfolk, to divide up or maintain areas of common marsh. However, Hallam has argued that the division of marsh between hundreds was just the first process of the parcelling out of land. The land given to a vill was then divided amongst its tenants, which was the stage at which it would have been divided into dales. Even as late as the first half of the thirteenth century, the community of the vill had a continuing role as the body responsible for the division of marshland.[33] We should perhaps look to similar bodies of sokemen for the creation of long lands in Northamptonshire and Yorkshire.

## IV

Agricultural historians have been reluctant to accept the findings of Hall and Harvey in Northamptonshire and Yorkshire, and their work has largely been set to one side rather than incorporated into a wider understanding of the development of open fields. Large-scale reorganization of landscape did not readily fit with the understanding of agrarian communities in the ninth to eleventh centuries. However, since their studies were published, other evidence has emerged of the ability of communities elsewhere to lay out fields on a very large scale, and the discoveries in Northamptonshire and Yorkshire no longer seem quite so extraordinary.[34] Furthermore, the identification here of similar long lands in the east coast marshes suggests that this field type is not a local peculiarity. The main problem now is to determine the chronology of change, because the arguments for date are largely circumstantial. The dating evidence from the east coast marshes is better than most other areas, partly because the events took place later,

[32] Harvey, 'Planned field systems', p. 96; Roffe, 'The Lincolnshire hundred', *Landscape Hist*. 3 (1981), p. 33; D. Roffe, 'Domesday Book and northern society: a reassessment', *English Hist. Rev*. 105 (1990), pp. 328–9.

[33] D. C. Douglas, *The social structure of medieval East Anglia* (1927), pp. 196–8, 250–2; Stenton; *Danelaw*, pp. lxviii-lxix. For dating of the last to 1229–36, see Hallam, *Settlement and society*, p. 31; ibid, pp. 29, 33–4.

[34] S. Oosthuizen, *Landscapes decoded: the origins and development of Cambridgeshire's medieval fields* (2006), pp. 95–107, 146–8; D. Chatwin and M. Gardiner, 'Rethinking the early medieval settlement of woodlands: evidence from the western Sussex Weald', *Landscape Hist*. 27 (2006), pp. 31–49.

but also because there are many early records and a reasonably well-dated pottery sequence to assist in an interpretation of the archaeology. Yet even in that region it is difficult to date with any precision the construction of embankments and their associated fields established before the twelfth century. The chronological imprecision has also led to uncertainty about the processes by which the long lands might have emerged. In the marshes it is possible, of course, to trace the development from common pasture to divided land, which took place as blocks of wetland were used more intensively. The situation in the Northamptonshire and Yorkshire townships was rather different and there may have been a number of phases as the system developed but, if that was the case, the various stages cannot yet be distinguished. All we see in the pattern of fields is the final result of such changes and, consequently, there is a tendency to assume a single phase of re-planning. Furthermore, archaeologists have tended to link the nucleation of settlement to the formation of these open fields with long lands. It is by no means certain, however, that the two occurred simultaneously and they may have been separated by a century or more.[35]

It has been argued here that the landscapes in the three areas examined, although very different in their mature form, were the result of a common attitude to land division. The practical need to divide up land amongst the community in a fair and transparent manner, but without the use of complex mathematics or surveying, led to a particular approach. Long strips were laid out across areas of the township so that it was manifestly equitable. It is possible that the character of the communities of free peasants in this area of eastern England may have been responsible for this method of parcelling out land. On the other hand, future analysis of field patterns could yet show that long lands were once a widespread feature of early land division.

[35] Brown and Foard, 'Saxon landscape', pp. 80–1.

# The form, function and evolution of irregular field systems in Suffolk, *c.*1300 to *c.*1550*

*by* Mark Bailey

*Abstract*

The evolution of irregular fields deserves more attention than it has yet received in the voluminous literature on British field systems. This article briefly describes the form and function of three different types of irregular system in *c.*1300, and then reconstructs the changes to their layout and organization over the next two and a half centuries. It demonstrates that irregular fields were dynamic systems, and therefore liable to change their form and function over a relatively short period of time. It also provides support for the contention that structural changes to open fields were more likely to occur during periods of demographic decline, when the obstacles to, and risks associated with, such changes were reduced. Finally, it argues that historic landscape classifications, and the conventional distinction between ancient and planned landscapes, do not take sufficient account of the instability of irregular fields and their tendency to be remodelled.

Historians have long recognized the wide regional variety of field systems in Britain, and have gradually developed a greater understanding of the flexibility of such systems and their capacity to change over time.[1] The evolution of the classic common field system of 'Midland' England has attracted particular attention, from its emergence in the late Anglo-Saxon period to its gradual disappearance through parliamentary enclosure in the eighteenth and nineteenth centuries.[2] The historical literature on fields is voluminous, but our knowledge of the layout, the operation and the evolution of irregular field systems is relatively limited. 'Irregular' systems comprised innumerable fields, over which few common regulations applied, in contrast to the two, three or four fields of the 'regular' Midland system, which were subject to strict communal cropping and pasturing arrangements. Our ignorance of irregular systems is especially true for the medieval period, where the difficulties posed by the paucity of surviving documentation

* My thanks to David Dymond and Audrey McLaughlin for allowing me to use their transcripts of court rolls from Norton, and Walsham and South Elmham, respectively, and to the two anonymous referees for their helpful comments.

[1] The landmark studies in this regard are H. L. Gray, *English field systems* (1915); A. R. H. Baker and R. A. Butlin (eds), *Studies of field systems in the British Isles* (1973); and R. A. Dodgshon, *The origins of British field systems. An interpretation* (1980).

[2] C. S. and C. S. Orwin, *The open fields* (1938); J. Thirsk, 'The common fields', *Past and Present* 29 (1964), pp. 3–25; ead., 'The origin of the common fields', *Past and Present* 33 (1966), pp. 142–7; T. Rowley (ed.), *The origins of open-field agriculture* (1981); D. Hall, *The open fields of Northamptonshire* (1995); and, for a recent survey, see S. Oosthuizen, 'The Anglo-Saxon kingdom of Mercia and the origins and distribution of common fields', *AgHR* 55 (2007), pp. 153–80.

are compounded by the tendency for such systems to undergo post-medieval changes to their layout and function.[3]

Despite these difficulties and the disproportionate historical attention lavished upon the regular Midland system, the irregular field systems of medieval England are worthy of detailed study. First, before *c.*1700 the majority of arable land in England lay within an irregular system of some sort, and even large tracts of central and southern England – the stronghold of the regular Midland system – contained irregular fields.[4] Second, irregular systems are arguably the most interesting and revealing categories of field system, because of their capacity for varying subtly in both form and function over short distances, and also because they were characteristic of some of the most enterprising and agriculturally productive regions of medieval England.[5] Finally, they tended to be the most flexible, and therefore least stable, form of field system, liable to change form and function over time: there is clear evidence of significant adaptation and change between *c.*1400 and *c.*1700 in a variety of irregular systems, often involving creeping, piecemeal, enclosures.[6] Studies of such dynamic systems are likely to be more revealing about the causal forces behind the evolution of fields than are those of more stable (i.e. regular) systems, which were less prone to change.[7]

The purpose of this article is to reconstruct and compare the evolution of three different types of irregular field systems, situated in close geographical proximity, in the two and a half centuries after 1300. The dramatic shift in the demographic context – from a very high-pressure regime in the early fourteenth century, which collapsed suddenly in the Black Death of 1348–9 and then remained at that lower level for another century and a half – makes this a particularly interesting period for such a study. The demographic collapse reduced the profitability of grain cultivation markedly, although pastoral activities fared better. The swing from grain to livestock created pressure to convert arable land to pasture, and placed a premium on controlling the movement of animals with the minimum of human supervision.

Agrarian conditions in the fifteenth century differed greatly from those that had prevailed in *c.*1300 and, according to Bruce Campbell, they were more conducive to structural changes to fields. He contends that major changes to the layout and operation of open fields were most likely to occur during periods of demographic decline or stagnation, when the risks of,

[3] Baker and Butlin (eds), *Field systems*, p. 627.

[4] See R. A. Donkin, 'Changes in the early Middle Ages', in H. C. Darby (ed.), *New historical geography of England before 1600* (1973), p. 82 for the broad geographical distribution of the Midland system in *c.*1300. The evidence for irregular systems within the 'Midland zone' is documented in Baker and Butlin (eds), *Field systems*, pp. 145–279.

[5] A. R. H. Baker, 'Field systems of south-east England', in Baker and Butlin (eds), *Field systems*, p. 383; B. M. S. Campbell, 'Commonfield origins: the regional dimension', in Rowley (ed.), *Origins*, pp. 112–3, 121–3; B. M. S. Campbell and K. Bartley, *England on the eve of the Black Death. An atlas of lay lordship, land and wealth, 1300–49* (2006), p. 343.

[6] For some examples of changes to irregular systems in this period, see B. K. Roberts, 'Field systems of the west Midlands', in Baker and Butlin (eds), *Field systems*, pp. 211–21; Baker, 'South-east England', pp. 391, 403; H. S. A. Fox, 'The chronology of enclosure and economic development in medieval Devon', *EcHR* 28 (1975), pp. 192–8; M. Reed, 'Enclosure in north Buckinghamshire, 1500–1750', *AgHR* 32 (1984), pp. 133–44; M. Bailey, 'Sand into gold: the evolution of the foldcourse system in west Suffolk, 1200–1600', *AgHR* 38 (1990), pp. 40–57.

[7] For helpful summaries of the forces influencing the development of field systems, see Baker and Butlin (eds), *Field Systems*, pp. 629–35; R. Dodgson, 'The interpretation of subdivided fields: a study in private or communal interest?' in Rowley (ed.), *Origins*, pp. 137–43; and T. Williamson, *Shaping medieval landscapes. Settlement, society, environment* (2003), pp. 5–27.

and obstacles to, change were diminished: in contrast, periods of high demographic pressure were more likely to result in technical innovation in the choice of crops or the extent of soil preparation.[8] This important contention has not received the attention it deserves, not least because it challenges an assumption implicit in some treatments of the subject that population growth was the main force behind the restructuring of irregular fields into regular systems.[9] The time frame selected for this study enables Campbell's hypothesis to be tested. Suffolk represents a good choice for a comparative study, because in *c.*1300 it contained three different categories of irregular field system within its boundaries.[10]

A study focusing upon documenting and describing the changes to three different field systems, rather than explaining them, is justified on the grounds that detailed historical reconstructions of such changes over time are rare, and that the comparative approach adopted here is even rarer. It embraces Baker and Butlin's call for a disciplined 'systems' approach to the subject, which recognizes the primary importance of form, function and evolution over time in categorizing and assessing field systems.[11] As we shall demonstrate, the capacity for irregular field systems to change their form and function dramatically over relatively short periods of time was considerable.

## I

In *c.*1300 perhaps one half of the land surface of Suffolk was under the plough, and this arable land was organized into a mixture of irregular open and enclosed fields: the classic Midland system did not exist here. The presence of open fields is revealed by the record of field names containing prefixes such as *campus, precinct* and *quarentena*, and suffixes such as *-furlong*, *-wong*, *-shott*, *-flatt*, *-lond* and *-feld*, in conjunction with evidence for communal regulations operating over the arable land, organized folding arrangements for sheep, and regular reports of damage to standing field crops by wandering livestock.[12] Such evidence is widely distributed

[8] Campbell, 'Commonfield origins', pp. 119–24.

[9] See, for example, Thirsk, 'Common fields', pp. 7–11; Baker and Butlin (eds), *Field systems*, pp. 648–9, 653–5.

[10] Our understanding of East Anglian fields in general, and those of Suffolk in particular, has improved greatly since Barbara Dodwell's pioneering study of over forty years ago: B. Dodwell, 'Holdings and inheritance in medieval East Anglia', *EcHR* 20 (1967), pp. 53–66; B. M. S. Campbell, 'Population change and the genesis of commonfields on a Norfolk manor' *EcHR*, 33 (1980), pp. 174–92; B. M. S. Campbell, 'The regional uniqueness of English field systems? Some evidence from eastern Norfolk', *AgHR* 29 (1981), pp. 1–18; Bailey, 'Sand into gold', pp. 40–57; M. Bailey, *Medieval Suffolk. An economic and social history, 1200 to 1500* (2007), pp. 102–14; E. Martin and M. Satchell, *'Wheare most inclosures be'. East Anglian fields: history, morphology and management* (East Anglian Archaeology, 124, 2008).

[11] Baker and Butlin (eds), *Field systems*, pp. 627–8.

[12] The link between open fields and these field names is rehearsed in, for example, D. C. Douglas, *The social structure of medieval East Anglia* (1927), pp. 18–9; Baker and Butlin (eds), *Field systems*, p. 623; J. Field, *English field names* (1989), pp. xii, xxi; Fox, 'Chronology of enclosure', p. 186; A. H. Denney (ed.), *The estates of Sibton abbey* (Suffolk Records Soc., 2, 1960), p. 14; H. S. A. Fox, 'Approaches to the adoption of the Midland system', in Rowley (ed.), *Origins*, pp. 65, 89–90. Hence at Ixworth Thorpe the description of 'one *pecia* of land in the *quarentena* called Passe*wong*', and the existence of a '*campus*' called Stonhaugh in Laxfield, indicate the presence of open fields: S. D. Church (ed.), *The Pakenham cartulary for the manor of Ixworth Thorpe, Suffolk, c.1250 to c.1320* (Suffolk Charter Ser. 17, 2001), pp. 48, 97; Cambridge University Library (hereafter CUL), Vanneck Ms, box 7, court held October 1436. Such references do not, however, indicate how those open fields worked.

throughout Suffolk.[13] All open fields were subdivided into manifold individual parcels in separate ownership, each called *pecia*, which were comparable to the Midland 'selion'. However, the size of *peciae* could vary markedly: although many were around half an acre, some were significantly larger, especially those belonging to a manorial demesne. For example, a single parcel of arable land (called Karledon, and described as a *campus*), belonging to the demesne of Fornham All Saints, comprised 106 acres. The widely varied size of the basic land parcel contributed to the irregularity of these open fields, a characteristic that was exacerbated by the variety in the size and number of fields within a single vill, which might contain anything from 1 to 40 fields.[14]

Alongside the irregular open fields, and often interspersed within them, were large tracts of enclosures surrounded by hedges, ditches and (occasionally) fences, which are identifiable from the use of nouns such as *clausum* and *pightle*, and suffixes such as *-croft* and *-close*. Enclosures held by peasants, or those lying interspersed among predominantly open fields, were usually the smallest, often comprising a couple of acres.[15] Common rights over the arable are unusual, communal folding of sheep over the fallows was unknown, and damage to corn by wandering animals was exceptional in enclosed field systems. Some enclosures were subject to joint ownership, such as the two tenants who in 1304 held five acres of arable called 'Longcroft' in Hadleigh. Other enclosures were split internally into identifiable sub-divisions or separate strips of land: for example, different tenants held at least three individual parcels in 'Peletecroft' in Holbrook, one of two roods, one of four roods and another of two roods called 'le Shortwente'.[16]

Hence the layout of fields in Suffolk on the eve of the Black Death was highly complex and irregular. In many places, both subdivided open fields and arable enclosures co-existed in close proximity, and were intimately intermingled. This was the case in fields that were predominantly open, as well as in those that were predominantly enclosed: an area of open field at Culford was known as 'the *quarentena* lying under the Croft called Wodecroft'; in Gislingham a 20-acre 'close with ditching and hedges' was situated within the open 'Rushfeld'; and a single strip of land containing one acre in 'Coulesfeld' in Cookley lay alongside another called 'Deysecroft'.[17] The existence of large, unenclosed, blocks of demesne land under single ownership challenges the conventional understanding of an open field, just as the existence of enclosures with distinct sub-divisions within them, or held in joint ownership and therefore containing land segregated within them, challenges the conventional notion of an enclosed field.

[13] Campbell and Bartley, *England on the eve of the Black Death*, maps 5.2 and 5.3.

[14] M. Bailey, *A marginal economy? East Anglian Breckland in the later Middle Ages* (1989), pp. 44–5; BL, Add. Ms 34689, fo. 6.

[15] Bailey, *Medieval Suffolk*, pp. 108–9, 112–3; N. R. Amor, 'Late medieval enclosure: a study of Thorney, near Stowmarket, Suffolk', *Proc. Suffolk Institute of Archaeology and History* 41 (2006), p. 178.

[16] J. Hervey (ed.), 'Extent of Hadleigh manor, 1305,' *Proc. Suffolk Institute of Archaeology and History* 11 (1903), p. 158; Suffolk Record Office, Ipswich Branch (hereafter SROI), S1/10/9.1 (Holbrook). For other evidence of subdivided closes, see M. R. Postgate, 'The field systems of East Anglia' in Baker and Butlin (eds), *Field systems*, p. 287; D. Stone, 'Medieval farm management and technological mentalities: Hinderclay before the Black Death', *EcHR* 54 (2001), p. 619; Gray, *English Field Systems*, p. 310; D. P. Dymond, 'The parish of Walsham-le-Willows: two Elizabethan surveys and their medieval background', *Proc. of the Suffolk Institute of Archaeology and History* 33 (1974), p. 206.

[17] BL, Add. Ms 42055, fo. 29 (Culford); SROI, HD1538/237/9 (Gislingham); SROI, HA30/314/8 (Yoxford).

While these physical characteristics of fields were evident to some degree across the whole county in the early fourteenth century, three distinct categories of field system are identifiable: an irregular common field system with partially regulated cropping, which dominated the light soils on the western and eastern extremities of the county; an irregular common field system with non-regulated cropping, which ranged across the western, central and some southern areas; and a predominantly enclosed field system in the north-east and parts of south Suffolk (Map 1).[18] The form and function of each of these three categories in *c.*1300 are described, followed by an assessment of the ways in which each system changed during the next two centuries.

## II

### *Irregular common field system with partially regulated cropping*
### *a) Form and function in* c.*1300*

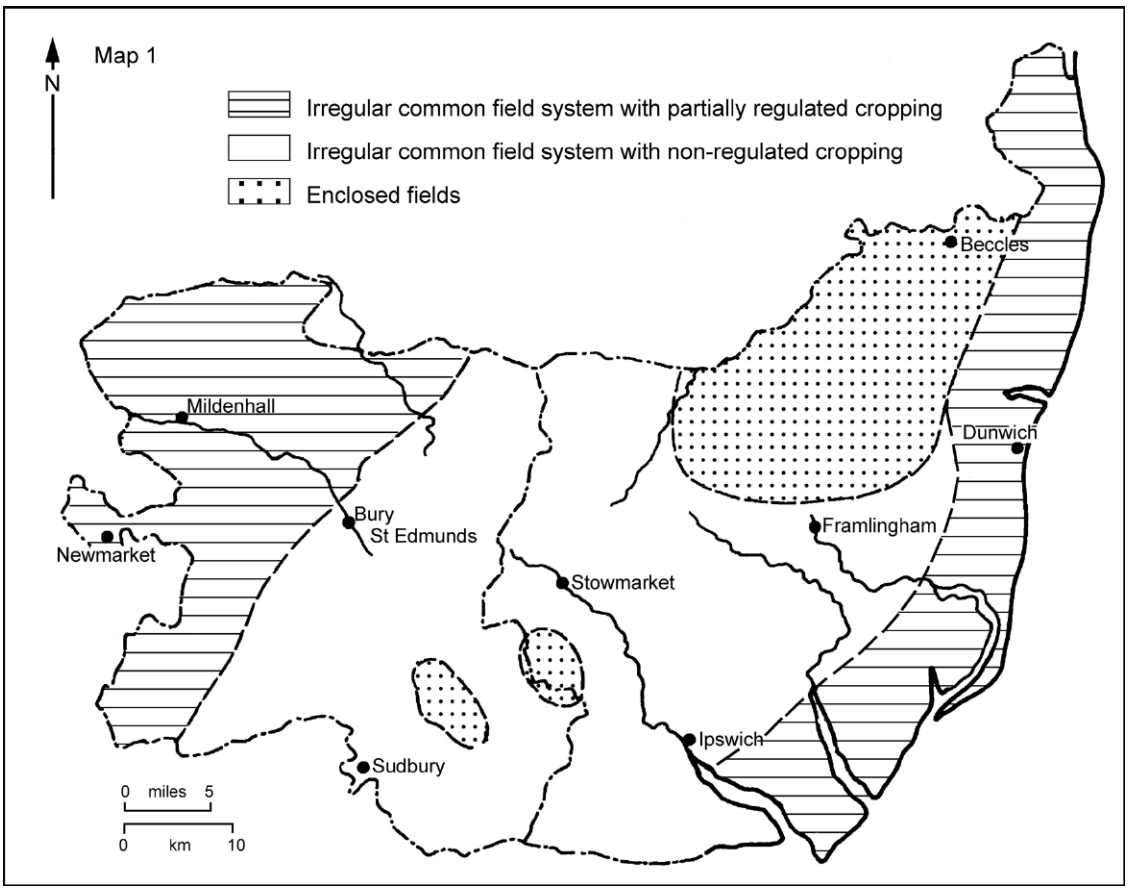
The irregular common field system with partially regulated cropping was found on the poorest and lightest soils on the fringes of the county, particularly in the Breckland, on the chalk clays of the southwest, and in the Sandlings on the coastal fringe (Map 1). In *c.*1300 the main crops in these areas were barley, rye and oats, and sheep were the predominant livestock, cultivated to a high level of intensity by the standards of light soil regions elsewhere in medieval England.[19] The overwhelming majority of arable land lay in open fields, with enclosures comprising less than 10 per cent of the arable; the size of an individual parcel averaged around half an acre; the arable holding of each tenant, and of the demesne, tended to be scattered; and fields themselves tended to be enumerated more formally. Communal rights to graze animals over the fallow arable usually extended for the whole year, while some partial communal control was exercised over cropping patterns to ensure that the fallows were organized into compact blocks.

Each year, all tenants possessed the right to pasture their animals over the stubble in the immediate aftermath of the harvest (known as the 'shack'), and they also enjoyed daytime access to any arable that remained fallow until 2 February.[20] However, night-time access to the fallow arable after the shack was more carefully regulated, so that all sheep had to be placed within

[18] Campbell, 'Commonfield origins', pp. 113–15. The following summary draws on Bailey, *Marginal economy?* pp. 57–63; Bailey, 'Sand into gold'; Bailey, *Medieval Suffolk*, pp. 102–114; and Martin and Satchell, *East Anglian fields*, pp. 22–3, 95–102, 117–23. Campbell, whose lead I have followed, adopts a different system for categorizing fields from Martin and Satchell. Martin and Satchell focus primarily upon the form of fields, and draw heavily upon post-medieval evidence. Campbell's scheme is based primarily upon the function of fields, and I have draw upon exclusively medieval documents, including manor court and account rolls. These differences in approach, perspective and source material explain most of the differences between Maps 1 and 2, and Martin and Satchell, *East Anglian fields*, fig. 35. However, our views on the physical structure and *layout* of fields in medieval Suffolk are broadly similar. The only area of disagreement is the precise extent of enclosures in south Suffolk before 1500.

[19] Campbell and Bartley, *England on the eve of the Black Death*, map 12.2; Bailey, *Medieval Suffolk*, p. 111.

[20] Suffolk Record Office, Bury St Edmunds branch (hereafter SROB), E18/451/6, and see also E18/451/3, court held 6 Sept. 1404 (Mildenhall); SROB, E3/11/1.4 m. 2 (Lidgate); SROB, E3/15.12/1.13, courts held Nov. 1390 and Oct. 1409 (Lackford); SROB, E7/24/5.1 (Herringswell).




MAP 1. Approximate distribution of main categories of field system in Suffolk, *c.*1300.

a small number of authorized private or collective folds, which served to pen them tightly on patches of fallow arable each night. After 2 February all livestock were placed in a communal herd with the exception of sheep, which were required to run within a designated foldcourse. Each fold was gradually moved across allotted areas of fallow during the course of the year to ensure that their manure was targeted effectively.

This foldcourse system was a complex and relatively formal system of organizing and regulating the use of the fallow arable, whose primary purpose was to ensure that the light soils, whose nutrients were very prone to leach during arable cultivation, received as much replenishing manure as possible. This objective was best achieved by the formal folding of all sheep each night on compact areas of fallow arable. This in turn required some formal and communal organization of sowing patterns to ensure that large blocks of fallow were available to the foldcourse. Hence certain parcels within the open fields were grouped together and organized into 'shifts', onto which a communal cropping and fallowing pattern was imposed for perhaps two or three years. A shift was a short-term arrangement, a grouping of land for cropping purposes with no permanence beyond its cycle, whereas regular common field systems – and

the cropping/fallowing patterns imposed upon them – were more regular and permanent. The flexibility of this system enabled sheepfolds to be concentrated upon the better soils lying in the river valleys, which consequently could sustain more demanding crop rotations than the poorer arable on the higher land. Hence the better land was cultivated regularly, and known as 'infield', while the poorer arable was cropped for, say, two or thee years and then left as a ley to recuperate for a number of years ('outfield'). The unploughed outfield soon reverted to scrub pasture.

This type of field system depended upon the close proximity of expanses of permanent pasture, usually heath, where livestock could graze during the day. Sheep were the dominant form of livestock in this system, because they grazed low on the heathland plants and grasses, and were good walkers on the rough pasture. The poor soil meant that half of the arable was usually left unsown each year, although *c.*60 per cent of crops were spring-sown to optimize the time available between the shack and seeding to apply manure to the arable. Manure, supplied either by carts or direct from animals, was highly valued. The foldcourse was a remarkably complex institution, well adapted to local needs, and it enabled the light soils of East Anglia to be cultivated intensively by contemporary standards.

The workings of this system can be usefully illustrated by the example of Brandon. Four of the vill's dozen fields (Drovefeld, Brightfeld, Womanlodefeld, and Fourhowefeld) comprised infield, because they were exploited on a demanding four-course rotation, which required all landholders to follow a communal pattern of cropping. The fallow arable on these fields was deemed 'several to the lord of the manor between 2 February and 1 August each year', meaning that it was reserved for the use of the seigneurial foldcourse. The demesne meadows were also incorporated into this system, unusually for Suffolk where most meadows were held in severalty. The organization of cropping on Brandon's other fields was less fixed and ordered, incorporating rotations that were a good deal less demanding. For example, Oxwickfeld abutted Brandon heath, implying that its soils were very poor, and consequently it was cultivated very infrequently. The cropping sequence on Middlefeld often lasted for two years and was then followed by a recuperative ley of two or three years before the land was cropped again. Significantly, this two-year cropping sequence regularly coincided with the second and third years of the cropping sequence on either Brightfeld or Womanlodefeld, both of which abutted Middlefeld. Hence in some years Middlefeld formed part of a shift that included Brightfeld, and, in other years, part of a different shift based on cropping in Womanlodefeld. By concentrating the sown crops into large and compact areas of land stretching across two fields, the crops could be better cordoned off from folding animals.[21]

*b) Evolution between 1300 and c.1550*

After *c.*1350 the physical layout of these open fields changed little, although there were discernible changes to their function. The contraction in arable farming was marked on these poor soils, although it did not collapse, while the relative importance of sheep rearing increased. The single most important development was the tightening of communal arrangements for the

[21] CUL, EDR G3/27, fo. 189; University of Chicago, Joseph Regenstein Library, Bacon Mss. 645 to 657; TNA, SC6/1304/31 to 35.

grazing of sheep, particularly in villages dominated by a lord with an active interest in flock management. The result was the strengthening and maturation of the foldcourse system in north-west Suffolk.

Before *c.*1350 the main objective of this system had been to raise the area under cultivation by targeting the manure of sheep as effectively as possible upon the arable land, which in turn required complicated but temporary adjustments to local cropping and fallowing arrangements each year. After *c.*1350 sheep became more important for their wool and meat than for their dung, and so the main objective shifted to accommodating seigneurial flocks as cost-efficiently as possible. This shift in emphasis is reflected in the disappearance from manorial court rolls of amercements for the failure of tenants to manure land properly, and in a reduction in the number of tenant applications to erect temporary sheepfolds on their own arable land. Landlords were also less enthusiastic about acceding to such requests, which reflects their determination to increase their own control over sheep rearing. They also gradually absorbed or bought out permanent fold rights attached to peasant holdings, and began to enforce formal stints (the right of 'cullet') on the number of peasant-owned sheep that could be placed in the demesne foldcourses. Consequently, during the fifteenth century the number of folds operating within a single village declined, and the number of peasant-owned sheep dropped significantly in many parts of west Suffolk.[22]

This reduction in the number of operational foldcourses in each vill enabled cropping arrangements to be simplified. Before *c.*1350, cropping shifts had to be highly flexible and ephemeral in order to accommodate the numerous permanent and temporary foldcourses with rights over the fallow, and they were also highly labour-intensive because of the constant supervision of livestock and the carriage of hurdles around the fallow arable each night. After *c.*1350 such labour-intensive practices were unnecessary and undesirable, and a smaller number of larger foldcourses made for a simpler and more predictable system. Consequently, the imposition of communal cropping patterns through shifts became more settled, repetitive and permanent, and all livestock were placed in communally organized and supervised herds.[23] The tighter regulation of both cropping and pasturing arrangements was better suited to the management of large flocks of sheep in single ownership. Hence many of the attributes associated with the classic foldcourse system of the late sixteenth and early seventeenth centuries emerged during the century after the Black Death. By *c.*1550, the system operating in the Breckland is best categorized as an irregular common field system with fully, rather than partially, regulated cropping.[24]

These changes to the management of fields in the Breckland and the furthest extremities of west Suffolk were not as widespread, however, on the light soils of the Sandlings in east Suffolk. The prevalence of extensive open fields in the Sandlings in the fourteenth century

[22] Bailey, 'Sand into gold', pp. 46–7; Bailey, *Marginal economy*, pp. 46–8.

[23] The formal and rigorous organization of communal herds in the fifteenth century is evident at, for example, Icklingham, West Stow and Lackford, SROB, E3/15.12/1.14.

[24] Bailey, *Marginal economy*, pp. 48–9; id. 'Sand into gold', pp. 48–50. The mature foldcourse system is documented in K. J. Allison, 'Sheep-corn husbandry of Norfolk', *AgHR* 5 (1957), pp. 12–31, and M. R. Postgate, 'The field systems of Breckland', *AgHR* 10 (1962), pp. 80–101.

is abundantly evident from field names, fold rights and the management of fields in places such as Dunningworth, Holbrook, Iken, Staverton and Walton.[25] By *c.*1550 open fields and foldcourses continued to exist on the poorest soils within the Sandlings, but in other places they were replaced by piecemeal enclosures (see below, pp. 26–9).[26] For example, in the 1530s around one half of tenant land was now enclosed in Snape, and by *c.*1600 the fields of Trimley, Falkenham and Walton were entirely enclosed.[27] Hence changes to the field systems of the Sandlings in the later Middle Ages were more complex and diverse than in the Breckland, and foldcourses were strengthened in some places but disappeared from others. Foldcourses had been less formally organized in the first place on the Sandlings, partly because the soils composed more outcrops of clay and alluvium, which made them less hungry than those of the Breckland. Furthermore, the structure of lordship was markedly weaker than in the Breckland, which made formal and communal agricultural arrangements more difficult to impose.[28]

Two other, relatively minor, developments during the fourteenth and fifteenth centuries are discernible in the Breckland. First, falling profits and labour shortages reduced the incentive and ability of farmers to maintain the physical divisions between the sown and fallow arable. Court rolls contain a greater number of presentments against farmers for a lack of care over maintaining fences and wattle hurdles in the open fields, thus allowing animals to wander. The incidence of these presentments at Mildenhall was greatest in the mid-fifteenth century, when large numbers of tenants were regularly amerced for not ensuring sufficient closure between pasture, commons and the seeded arable.[29] Second, some tenants sought to consolidate their holdings into more manageable and efficient units by small-scale acts of engrossment and consolidation of holdings in certain areas of the open fields. Some of the small strips within the open fields were engrossed to form larger parcels through piecemeal exchanges between tenants, and farmers sought to acquire parcels of land in localized areas of the open fields to reduce the extent to which they had to shifting their farm equipment around the fields. Hence by the early sixteenth century individual farms still comprised a number of detached land parcels, but some display a greater tendency to be consolidated and concentrated in certain areas of the open fields, which better suited a system operating more repetitive cropping shifts.[30]

[25] Oosthuizen's map of the putative extent of open fields in England does not include the Sandlings, 'Anglo-Saxon Kingdom of Mercia', p. 155, but this is incorrect for the fourteenth century. All the hallmarks of irregular open fields, albeit littered with small enclosures, are evident in, for example, SROI, S1/10/9.1 (Holbrook); HD1538/207/3 and 4 (Dunningworth); HD32/293/395 (Iken); HD1538/357/1 (Staverton); HA119/50/3/17 (Walton).

[26] D. MacCulloch, *Suffolk and the Tudors* (1986), pp. 28–30; M. Bailey (ed.), *The bailiffs' minute book of Dunwich, 1404–1430* (Suffolk Records Soc., 34, 1992), pp. 123–4.

[27] Postgate, 'East Anglia', pp. 289, 309; W. Filmer-Sankey, 'The dissolution survey of Snape priory', *Proc. of the Suffolk Institute of Archaeology and History* 35 (1983), p. 214.

[28] Williamson, *Shaping medieval landscapes*, p. 138; Bailey, *Medieval Suffolk*, p. 29.

[29] SROB, E18/451/5 and 6, see, for example, court held July 1471.

[30] Postgate, 'East Anglia', p. 310.

## III

### *Irregular common field system with non-regulated cropping*
### *a) Form and function in c.1300*

In *c.*1300 an irregular common field system with non-regulated cropping was widespread in Suffolk, dominating arable land on the loams and clays of its western, central and some southern parts. Sheep were less, and cattle more, important than on the lighter soils, and a wider range of crops (especially wheat and legumes) was grown in a more intensive manner.[31] Most arable land lay in highly irregular open fields, which were liberally interspersed with small arable enclosures: between 10 per cent and 50 per cent of the arable was thus enclosed. Individual parcels of land tended to be larger than two roods, while individual holdings were usually clustered within certain areas of the fields rather than widely dispersed. Demesne land, in particular, tended to be organized into large and concentrated blocks of land: at Cretingham, for example, 'one field called Wodefeld' contained 120 acres of demesne.[32] Communal rights were limited, usually confined to pasturing over the fallow for six months after the harvest to 2 February (known as the 'open time'), and there were no communal cropping patterns. The subsequent shortage of large areas of permanent pasture placed a premium on grazing rights over numerous small greens and tyes, whose edges became heavily colonized during the twelfth and thirteenth centuries.

There was no requirement for tenants to leave particular parcels of arable land fallow during the open time, and after 2 February access to remaining fallows was restricted to the tenant of the land. Any winter crops sown during the open time were protected from wandering animals during the day by the close supervision of herds and during the night by penning any animals on the fallows with wattle hurdles. Fold rights were unusual, and sheep were less important than horses and cattle. The absence of any organized pasturing arrangements removed the need for communal cropping patterns, and consequently individuals could sow their land parcels as they pleased.

This system presented individual agriculturalists with considerable freedom and flexibility to vary the nature and intensity of their crops according to personal preference. This flexibility is reflected in the various combinations of crops sown within this field system and also in the relatively small area left fallow (usually around 20 per cent) each year.[33] The disadvantage with the system was its high supervision cost, because the intermingling of livestock and crops – segregated only by flimsy fences or the watchfulness of those tending the herds – increased the risks of trampling and damage. Yet the advantages outweighed the disadvantages before the middle of the fourteenth century, when the price of grain was high relative to labour.

The court rolls of fourteenth-century Aldham provide a glimpse of this category of field system in operation. The demesne land lay in medium-sized parcels scattered across irregular open fields: for example, a six-acre parcel in 'Tespynfeld', a nine-acre parcel in 'Reesfeld', and a further 20 acres 2 roods in two parcels in unnamed locations. Areas of consolidated tenements,

[31] Campbell and Bartley, *England on the eve of the Black Death*, map 12.3; Bailey, *Medieval Suffolk*, pp. 111–2.

[32] SROI, HA10/50/18/5.1 (1).

[33] Bailey, *Medieval Suffolk*, pp. 84, 111–2.

block demense and enclosures also existed, such as one land parcel bounded by hedges called 'le Bromhel', and others in 'Dancroft' and 'Gasdyncroft'. One area of open field, called 'Peryefeld', had a hedge around part of its boundary lined with oak, ash and maple. Tenants enjoyed some communal grazing rights over the fields for an unspecified period after the harvest, as evidenced by the manorial court's enforcement of access to fallows at the 'right' (*congruo*) time of year. The court also regulated the illegal exploitation of fallows by outsiders, amercing John Lyon of Hadleigh for illegally pasturing 60 sheep in 'Danefeld'. Its proceedings are also full of amercements for the damage to corn caused by wandering animals, a consequence of the close proximity of livestock and crops on the open fields and the difficulties of segregating them.[34]

*b) Evolution between 1300 and* c.*1550*

From the late fourteenth century, the irregular common field system with non-regulated cropping underwent dramatic changes in both layout and operation. Thousands of small parcels of open field were informally and gradually enclosed with hedges and sometimes ditches, and the communal rights over them extinguished, and much arable was converted to pasture as the area swung to dairying farming and stock rearing.

Piecemeal enclosure of parcels of open field had certainly occurred before *c.*1350, but its scale was limited. The process of enclosure usually involved a formal agreement between neighbours and it probably also required the support of the main lord in the vill. For example, in 1319, two parties in Ixworth Thorpe agreed to settle a dispute over common rights by enclosing four pieces of land (three of which were arable) to their mutual convenience, and they had the agreement formally recorded.[35] However, such activity was not widespread at this time for two main reasons. First, enclosure would have prevented communal access to the half-year fallows, yet these provided many smallholders with a valuable source of pasture (the 'bite' was important in sustaining sheep throughout the winter) and of manure (for their land) in a period when both were scarce. Secondly, most holdings comprised a number of separate and scattered parcels of land, seldom larger than two roods in size, but the enclosure of such small, detached parcels made little economic or operational sense.

Agrarian change after the Black Death reduced the size of these obstacles in a number of ways. The declining importance of arable farming, the swing to cattle rearing, and the relative abundance of livestock reduced the importance of communal grazing rights over the fallow arable as a system of supplying organic matter for the soil, especially when those rights had not been extensive in the first place. The use of temporary and mobile wattle fences to segregate fallows from sown land, the frequent tethering of larger livestock on verges, and the attentive supervision of livestock by herdsmen and children were now regarded as expensive tasks in a period of labour shortages and low grain prices: they were also less effective than permanent hedging at segregating animals from crops. Finally, the relative shortage of tenants and the sluggish demand for land made it much easier for tenants to acquire contiguous land parcels

[34] CUL, Vanneck Ms, box 1. Martin and Satchell, *East Anglian fields*, pp. 197–8, 225–6, assume that consolidated tenements and block demesnes were enclosed and several. Many undoubtedly were, but some might be subject to communal grazing rights, and others were open along their bounds.

[35] Church, *Pakenham*, p. 103.

within the open fields, which could then be engrossed into a larger, single parcel. A land parcel of two to three acres was more likely to be enclosed than one of half an acre, because it represented a more manageable and viable unit.[36]

The recognition that engrossment was an important precursor to enclosure heightens the significance of numerous exchanges of small parcels of land recorded in some manorial court rolls in the fifteenth century. Over one hundred such exchanges are recorded at Walsham, such as when in 1441 George Hawes and his two brothers exchanged 11 acres, in six strips of land in 'Northfeld', with another tenant, for 11 acres, in nine strips.[37] There is little doubt that these were primarily undertaken with engrossment in mind, and that cumulatively they altered the physical layout of individual holdings. The structure of John Chapman's 25-acre holding in Rickinghall in 1433 was subtly different from the typical tenant holding there a century or so earlier. In the 1280s most holdings were under 10 acres and comprised perhaps two dozen small and scattered parcels, whereas Chapman held 29 parcels of land totalling 25 acres, 15 of which abutted on one another in engrossed parcels of between two and four acres.[38] Engrossing tenants acquired land parcels on the basis of their geographical location and convenience, not necessarily their tenurial status, and consequently these enlarged parcels could contain a mixture of free and customary tenures. Hence in 1474 a single enclosure of ten acres held by a resident of Westhorpe contained seven acres of free land belonging to the manor of Bricett and three acres of villein land belonging to the manor of Walsham.[39]

Enclosing a parcel within the open field was a surprisingly uncomplicated step and, in most cases, a quiet and piecemeal process, which merely required the tacit agreement of neighbours and the absence of any committed opposition. There is no evidence that formal permission had to be sought from the manorial lord, nor that landlords agreed among themselves to allow piecemeal enclosure.[40] Indeed, some landlords were active enclosers of their own demesne land in a piecemeal fashion. In 1450 the lord of Monks Eleigh decided to enclose a large block of open demesne arable called 'Little Highfield', spending £7 on planting 2,400 staked shrubs and digging 1,840 yards of ditching, while in 1406–7 the manor of Walsham used 190 winter labour services to cut thorn and dig ditches around a new close: in the early fourteenth century around 16 per cent of the demesne land in Walsham was enclosed, compared with *c*.34 per cent in 1437–8, and 75 per cent in 1577.[41]

[36] The importance of consolidation prior to enclosure was, in fact, noted by Fitzherbert in the sixteenth century, see Postgate, 'East Anglia', p. 288; Fox, 'Chronology of enclosure', pp. 189–91.

[37] S. West and A. McLaughlin, *Towards a landscape history of Walsham-le-Willows* (East Anglian Archaeology 89, 1998), p. 108; SROB, HA504/1/12.23.

[38] Compare R. M. Smith, 'English peasant life-cycles and socio-economic networks' (Cambridge University PhD thesis, 1974), pp. 181–2 with the evidence in *Victoria County History of Suffolk*, I, p. 656.

[39] SROB, HA504/1/15.5, court held July 1474.

[40] J. A. Yelling, *Common field and enclosure in England 1450–1850* (1977), p. 80.

[41] J. B. Weller, 'A fifteenth-century enclosure: the Little Highfield in Monk's Eleigh of 1450', *Suffolk Review* 40 (2003), pp. 30–2 (Monks Eleigh). The Walsham calculations are based on fieldname evidence contained in fourteenth- and fifteenth-century extents, and on the survey of 1577, SROB, HA504/3/5b, HA504/5/1, Dymond, 'Walsham-le-Willows', pp. 204–7. For other examples at Ixworth and Rickinghall, see N. Amor, 'Riding out recession: Ixworth and Woolpit in the late Middle Ages', *Proc. Suffolk Institute of Archaeology and History* 41 (2002), p. 132; and A. Simpson, *The wealth of the gentry. East Anglian studies, 1540–1660* (1961), p. 208.

Yet the overwhelming majority of enclosures were the result of piecemeal initiatives by yeomen and husbandmen. Some of their initiatives are documented unequivocally in manorial court rolls. For example, in 1431 Thomas Smyth 'newly enclosed certain land and pasture [in Norton] … when he ought not to enclose … the same Thomas obstructs certain common land with hedging'; in 1501 John Box was amerced 6*d*. for 'newly enclosing one parcel of land containing three acres in Fitchmerefeld' in Great Barton; and Thomas Knight had acquired four acres in 'Machonsfield' in Walsham, which in 1461 'now lie in two enclosed pightles'.[42] Most references to piecemeal enclosure are, however, more oblique, appearing as presentments against tenants for either the planting of illegal hedges, or the frustration of common rights over the arable, or blockages of pathways. These occur frequently in fifteenth-century court rolls. For example, in 1420 John Monk obstructed 'with plants one footpath leading from Buxhall to Finborough'; in 1457 John Hill of Woolpit 'unjustly raised a hedge on the lord's demesne in Lennellefield'; in 1479 John Bettys of Haughley was reported for planting a hedge at the north end of 'Fourteenacres' in Harleston; in 1505 Robert Brette enclosed land in Fornham St Martin and prevented tenants from exercising their rights over the fallow arable; in 1407 a wooden gate was made for 'a new close' in Walsham, where also in 1446 Thomas Lacy 'obstructed a way with a ditch and a hedge placed upon it'.[43] Likewise, the obstruction of paths and lanes with gates and ditches occurred persistently around 1400 in Walton and Debach.[44] The small amercements levied in such cases served as *de facto* licences to enclose.

A good series of court rolls reveals the cumulative scale of such activity over time. Between 1422 and 1501, 190 cases of enclosure and encroachment are recorded in the courts of Littlehaugh manor in Norton, with activity peaking in the 1430s and 1440s. Similar activity in Thorney peaked in the 1450s and 1460s, and accelerated after the 1440s in Walsham.[45] Much of this activity was petty and piecemeal, although occasionally one detects either an especially energetic or aggressive individual, or coordinated action by a group of tenants. In the mid-fifteenth century, John Collet was actively enclosing his lands in Withersfield, and the Kebbels – upwardly mobile yeomen farmers – were aggressive enclosers in Stowmarket. In the 1520s a spate of small enclosures by various people is evident in just one area of Great Barton. Given the informality of this process, we might reckon that some enclosing activity attracted no comment at all in contemporary sources.[46]

Evidence of attempts to prevent or to destroy new enclosures is rare, indicating that opposition to the process was muted. At Stowmarket in 1471, however, John Markes led an assault on the lessee of the demesne, who was an active encloser, and in 1443 an attempt to

[42] SROB, 553/1, court held Sept. 1431 (Norton); E18/151/3, court held 16 July 1501 (Great Barton); and HA504/1/14.1 (Walsham). See also E3/15.9/1.8 (Fornham), where in 1494 David Humfrey created 'a several enclosure [on land] which used to be common to all the tenants of Fornham St Martin'.

[43] SROB, E3/15.17/1.1, m. 17 (Buxhall); E3/15.17/1.1, mm. 1 and 9 (Woolpit); SROB, E3/15.17/1.1 (Harleston); E3/15.9/1.8 (Fornham); HA504/3/5b and HA504/1/13.8 (Walsham).

[44] SROI, HA119:50/3/17 (Walton); HD230/1/1 (Debach).

[45] D. Dymond and P. Northeast, *A history of Suffolk* (1995) p. 50, using SROB, 553/1 to 553/5 (Norton); N. Scarfe, *The Suffolk landscape* (1972), p. 180; Amor, 'Thorney', pp. 179–81; Dymond, 'Walsham-le-Willows', p. 207.

[46] SROB, E3/15.16/1.2 (Withersfield); Amor, 'Thorney', pp. 179–81; Bailey, 'Sand into gold', p. 52.

enclose the glebe at Sutton resulted in the pulling down of hedges. In general, landlords appear to have been indifferent to enclosure, and, in one remarkable case, the prioress of Flixton provided her local tenants with saplings to encourage and facilitate their efforts.[47] Manorial courts sometimes extended protection to recent acts of piecemeal enclosure, a sure sign of their acquired legitimacy and a lack of opposition. For example, in 1414 the Walsham court had ordered Robert Margery to remove an 'obstruction' creating an enclosure at Cocks Dirt, but then in 1432 his son John Margery was amerced for not maintaining a gate properly there: almost certainly on his father's 'illegal' enclosure.[48] The lack of opposition is partly explicable by the limited range of communal rights that existed over these fields in the first place, and the relative unimportance of foldcourses, which meant that enclosure was not a major step. Yet it also owed something to the growing importance after *c*.1350 of dairying, stock fattening and pig rearing in these districts, activities that benefited from enclosure. In contrast, opposition to any form of piecemeal enclosure appears to have been greater in the arable heartlands of east Norfolk: in the early sixteenth century the modest attempts of two tenants to enclose parcels in the open fields of Heveningham (Norfolk) provoked vehement opposition from local lords and tenants.[49]

Much of this piecemeal activity created enclosed parcels of between one and five acres. At Snape in 1530 the average size of a tenant enclosure was five acres and, in 1474, a recent enclosure in 'Downefeld' in Drinkstone contained 4 acres 1 rood. Enclosures at Ickworth were closer to one acre, and those at Stowmarket were mainly between two and six acres. Dead wood was often employed to create an enclosure quickly, or to plug gaps in a living hedge, but hawthorn and blackthorn (and furze on the lighter soils of the Sandlings) were the most commonly planted species, because of their fast growth and effectiveness in constraining cattle. The botanical evidence from existing hedgerows in Walsham indicates a significant rise in hedge plantation in the fifteenth and sixteenth centuries, which corresponds closely with the documentary evidence for enclosure there.[50] Some enclosures were associated with the conversion of arable to pasture. In 1348 'Calfcroft' in Fornham All Saints was sown with grain, but by 1431 it had been converted to pasture: grain production was widely established in fourteenth-century Walsham but, by 1577, 85 per cent of the parish was down to pasture.[51]

This piecemeal enclosure movement within the irregular open fields was slow and drawn out, and its pace and timing varied from place to place, but its cumulative impact was immense. Between *c*.1400 and *c*.1550 the irregular open fields in many parts of western and central Suffolk, and on the fringes of the Sandlings, effectively disappeared, transforming the local landscape. Open fields in places such as Ickworth, Ixworth, Norton, Trimley, Walsham and Walton were

[47] Amor, 'Thorney', p. 182; V. B. Redstone, 'The Sandlings', *Proc. of the Suffolk Institute of Archaeology and History*, 10 (1900), p. 66; John Ridgard, personal communication drawing upon SROI, Adair Mss.

[48] SROB, HA504/1/11.1 (court held May 1414), HA504/1/12.11 (1432), HA504/1/14.3, and for other examples see HA504/1/15.5, HA504/1/15.6.

[49] J. Whittle, *The development of agrarian capitalism. Land and labour in Norfolk, 1440–1580* (2000), pp. 59–62.

[50] Filmer-Sankey, 'Dissolution survey', p. 214 (Snape); SROB, E7/10/1.4 (Drinkstone); Postgate, 'East Anglia', p. 289; West and McLaughlin, *Towards a landscape history*, p. 14.

[51] BL, Add. Ms 34689, fos 6, 28–9; R. Lock (ed.), *The court rolls of Walsham-le-Willows*, I, *1303–1350* (Suffolk Records Soc., 41, 1998); K. M. Dodds (ed.), *The field book of Walsham-le-Willows, 1577* (Suffolk Records Soc., 17, 1974), pp. 38–9; Dymond, 'Walsham-le-Willows', pp. 204–5.

enclosed during this period. Lawshall had contained some open fields in the 1390s but, by 1612, it was heavily enclosed.[52] In other parishes, the physical contrasts created by these changes became dramatically drawn: by *c.*1600 the northern parts of Barrow and Rougham, which lay on sandy soil on the fringes of the Breckland, were characterized by open fields and foldcourses, while their southern parts – on heavier soils – were entirely enclosed.[53] Over the course of two centuries, large tracts of irregular open fields were slowly, almost silently, enclosed.

## V

### *Enclosed fields*

#### *a) Form and function in* c.*1300*

Enclosed fields of both arable and pasture dominated the landscape of the heavy clay uplands in north-east Suffolk, and parts of the clay interfluves south of the river Gipping were also mainly enclosed. The agrarian regime in these parts was mixed and intensive, based on cattle rearing and dairy farming, and on the production of wheat, oats and some legumes.[54] More than half of the arable land was organized in manifold enclosures, usually surrounded by hedging and ditching rather than fencing or walls. Demesne enclosures often lay in large, consolidated blocks of land around the manorial complex. In contrast, tenant enclosures seldom exceeded ten acres, although their holdings, too, tended to be relatively compact and close to their messuage. Few, if any, common rights existed over these enclosures. A few patches of arable were arranged in irregular open fields in the river valleys, over which basic rights of common pasture pertained: they probably extended no longer than a short period after the harvest. Although some parcels in the open fields were small, around an acre, many were much larger: for example, in 1325 a single block of 'common' arable land in Cookley contained 36 acres.[55]

Extensive greens, often located high on the clay interfluves, and pockets of enclosed woodland, were also prominent in this field system. A communal green on the parish boundary between Henham and Wrentham was more than a mile wide and two miles long, while, in 1325, an arable enclosure in Rendham, called 'Bendmondispittell', contained 21 acres 1 rood, of which three and a half acres were still wooded.[56] The greens were a vital source of pasture for smallholders in a system where communal access to the fallow arable or other pastures and meadows were minimal or non-existent, and they attracted secondary settlement around their edges during the twelfth and thirteenth centuries as resources became increasingly scarce.[57] This

[52] Early piecemeal enclosures of open fields are summarised in Yelling, *Common field and enclosure*, pp. 20–6. These local examples are drawn from Postgate, 'East Anglia', pp. 288–90; Amor, 'Riding out recession', p. 132; Bailey, 'Sand into gold', pp. 51–3; H. W. Saunders, 'Bailiff's roll of the manor of Lawshall', *Proc. Suffolk Institute of Archaeology and History*, 14 (1910), pp. 123, 125.

[53] Postgate, 'East Anglia', p. 309; O. Rackham, *The history of the countryside* (1986), pp. 198–9.

[54] Campbell and Bartley, *England on the eve of the Black Death*, pp. 235–6; Bailey, *Medieval Suffolk*, p. 114.

[55] Denney (ed.), *Sibton abbey*, p. 59.

[56] P. Warner, *Greens, commons and clayland colonisation. The origins and development of greenside settlement in east Suffolk* (University of Leicester Department of English Local History, Occasional Papers, Fourth Ser., 2, 1987), fig. 5; Denney (ed.), *Sibton abbey*, p. 62.

[57] D. P. Dymond and E. Martin (eds), *An historical atlas of Suffolk* (1989), p. 62; Williamson, *Shaping Medieval Landscapes*, pp. 67–8, 94–101; Warner, *Greens, commons and clayland*, p. 6, and ch. 2.

field system provided a good deal of flexibility to individual agriculturalists over the crops and rotations they deployed.

Cratfield and South Elmham All Saints provide good examples of vills operating within a predominantly enclosed field system. Their court rolls imply the existence of odd patches of open fields (e.g. '*in campo vocatur Stubbyng*' at Cratfield, and perhaps one tenth of the arable in Elmham), but most references to fields indicate that closes of various sizes had been long established. For example, at South Elmham no abuttals are given in land descriptions, while references to crofts and pightles are frequent; many Cratfield court entries demand the proper maintenance of gates, ditches and hedges, or seek to prevent piecemeal encroachments of live and dead hedging onto footpaths and greens. References to field crop damage caused by wandering animals are rare, although there are regular complaints about the overstocking of the greens with livestock.[58]

*b) Evolution between 1300 and* c.*1550*

Changes to the enclosed field system after *c.*1350 were subtle rather than dramatic: the diminution of the small patches of irregular open fields through piecemeal enclosure, including the conversion of some arable to pasture; and the extension through encroachment of existing closes over communal greens and lanes.

By the sixteenth century, hardly any open fields survived in these areas, and the amount of arable was significantly reduced. Again, these were gradual processes, because, even in the early fifteenth century, grain production was still commonplace in these districts, as evidenced by the record of open fields and arable farming in places such as Wickham Skeith, Thelnetham and Wortham. Similarly, the early fifteenth-century court rolls of Huntingfield contain widespread evidence of crop damage by wandering animals, and in 1416 an inventory of the goods of a thief seized in Cratfield illustrates admirably the mixed farming regime of this area: he had six cows, 66 sheep, six horses, two calves, a pig, three ploughs, and wheat, barley, peas and hay valued at £6 13*s.* 4*d*.[59] Thereafter, however, the evidence for open fields and arable farming in north-east Suffolk diminishes, and the area greatly strengthened its reputation for dairy and stock farming. Hence, by *c.*1500, the staple agrarian activities in Cratfield were dairy farming and pig rearing, while pasture and meadow dominated land use in Sibton, Yoxford and Westhall. In the 1530s, two-thirds of the demesne land of Mettingham College was laid down to pasture, with a further 10 per cent as meadow and marsh, by which date only 14 per cent of the demesne land at Ilketshall St John was arable.[60]

[58] L. A. Botelho (ed.) *Churchwardens' accounts of Cratfield, 1640–1660* (Suffolk Records Soc., 42, 1999), pp. x–xi; CUL, Vanneck Ms, box 3; Suffolk Record Office, Lowestoft, HA 12-C2-6 to 12; Martin and Satchell, *East Anglian fields*, pp. 49, 95–103.

[59] P. Northeast (ed.), *The wills of the archdeaconry of Sudbury, 1439–1474* (Suffolk Records Soc., 44, 2001), pp. 315–6, 411, 343, 418, 194, 469; CUL, Vanneck Ms, box 3 and box 5 (Cratfield and Huntingfield).

[60] CUL, Vanneck Ms, box 3, court held May 1417 (Cratfield), box 5 (Huntingfield), and box 7 (Laxfield); C. Richmond, *John Hopton. A fifteenth-century Suffolk gentleman* (1981), pp. 69–70, 72, 74; Postgate, 'East Anglia', p. 287; Simpson, *Wealth of the gentry*, pp. 203–5; Botelho, *Churchwardens' accounts*, pp. 2–4; N. Evans, 'Farming and landholding in wood-pasture East Anglia, 1550–1650', *Proc. of the Suffolk Institute of Archaeology and History* 35 (1984), pp. 304–8.

The shift to pasture, and the growing relative importance of cattle rearing and dairying, encouraged the further spread of enclosures over the small patches of open field. By *c*.1500 Yoxford and South Elmham were mostly enclosed and, in the 1530s, only a few small outcrops of open field remained around Mettingham, Bungay and Ilketshall. However, not every act of enclosure was associated with a switch to pastoral farming, for some enclosed land in Ilketshall in the 1560s was still used as arable: the value of enclosed arable was a third higher than arable lying in the remaining open fields.[61] References in fifteenth-century court rolls to new hedging are dominated by thorn, which is fast growing and highly effective at restraining livestock. In the thirteenth century, hedging in this region had been dominated by species edible to cattle, such as oak, dogwood and spindle. But the priorities of farmers had changed in the late middle ages, when the pressure for fodder had eased considerably and when hedges had to be robust and quickly established: consequently, thorn became the preferred choice of hedging plant in the later middle ages.

The spread of piecemeal enclosures also involved the extension of existing closes over neighbouring lanes and pathways. Numerous references to the obstruction of pathways and lanes are found in the fifteenth-century court rolls of Cratfield, some of which were deliberate attempts to absorb little-used paths that lay adjacent to their land. In 1405 Nicholas Stowe encroached 'on le Hundredmeere [in Cratfield] at le Ronewaye by placing a hedge there, one perch in length', and 'John Roop does the same with one ditch, twelve feet by three feet', and the next year he 'obstructed a certain path with hawthorn at Tunmere'. Many of these extensions to closes were created with either dead wood, fast-growing hawthorn, ditching, or a combination: hence in 1439 John Dawnald 'obstructed a way used by diverse tenants … with a hedge and a ditch'. In other cases, the blocking of lanes by hedges was simply the result of negligence: hedges and bushes were allowed to overgrow to the extent that they prohibited access down narrow paths and lanes that were not often used by a reduced population. The land on which these hedges lay may have been untenanted, or the tenant saw little point in expending energy or money on such tasks when labour was scarce and expensive. This explains why, in 1402, Robert Howe of Cratfield permitted 'hawthorn to grow beyond le Tounmere at Colshaugh', for which he paid a paltry 2*d*. amercement, and, in 1482, Geoffrey Blynde allowed boughs and 'les pollyngs' from his land to extend over the main road between Laxfield and Stradbroke.[62]

Overgrown and neglected hedging has been a symptom of agrarian recession down the centuries, and, similarly, some of the gates providing access to enclosed fields were allowed to fall into disrepair and neglected ditches became choked with sediment and plants. The late fifteenth-century court rolls from Cratfield record a number of amercements levied on tenants who failed to maintain the gates to their enclosures properly, and in the late 1450s John Kervylle was repeatedly amerced for not maintaining a two-bar gate at 'Kattisclose' in Huntingfield.

[61] CUL, Vanneck Ms, box 5, court held Feb. 1379 (Huntingfield); Warner, *Greens, commons and clayland*, pp. 35–8, 49; CUL, Vanneck Ms, box 3, court held May 1469 (Cratfield); Richmond, *Hopton*, pp. 69, 75; Evans, 'Farming and landholding', p. 304; Simpson, *Wealth of the gentry*, pp. 203, 205.

[62] CUL, Vanneck Ms, box 3, courts held May 1402, May 1405, May 1406, and May 1439 (Cratfield), and box 7, court held Apr. 1482 (Laxfield).

Ditches were especially important in draining the heavy clay lands of north central Suffolk, yet throughout the 1460s and 1470s the court rolls of Laxfield are full of amercements on tenants who had not scoured ditches around their land properly: for example, in 1471, a ditch lying between William Dalston's land and the highway had not been scoured, was 'defective in diverse ways', and consequently caused some localized flooding.[63]

The large communal greens were also subject to piecemeal enclosure during the later middle ages, supporting Warner's view that Suffolk's medieval greens had been substantially enclosed long before parliamentary enclosure. Much of this encroachment passed without comment in fifteenth-century court rolls, because the general shortage of tenants meant a lack of opposition, but some activity attracted attention. For example, the Cratfield court amerced John Walhawe for raising a hedge on Millgreen in Cratfield, Henry Spink for encroaching on Westwoodgreen with a ditch, and Geoffrey Baret for planting trees (presumably hedging) on an unspecified common. In 1379, a minor encroachment is recorded on Denesgrene in Huntingfield. The cumulative impact of such activity was significant. Cranmer green in Walsham suffered considerable attrition during the fifteenth century and the vast greens of South Elmham had suffered severe encroachment by the sixteenth century. The north-east corner of the county probably suffered considerable depopulation, judging by the severe falls in assessable wealth in the fifteenth century, which would have reduced the opposition to such piecemeal encroachments.[64]

## V

In *c*.1300 around one half of the land surface of Suffolk was ploughed for arable, a very high proportion by the standards of any age. Of this, no more than perhaps two thirds lay in irregular open fields and no less than one third in enclosures. There were no Midland-type fields here. The irregular field systems had three distinctive qualities. First, their layout and operation were varied and complex. Second, they were well adapted to local farming needs: indeed, the integration of arable and sheep farming in the Breckland through the device of the foldcourse is an extraordinary example of the adaptability and fitness for purpose of an irregular field system. Third, they provided local farmers with considerable choice and flexibility in the types of crops grown, and the extent to which fallows were reduced, although they had to absorb relatively high operational costs of either supervising wandering livestock or sustaining crop damage from it, in return for such flexibility. These qualities conditioned the local response to rising agrarian demand and growing commercial opportunities in the twelfth and thirteenth centuries, and then to lower levels of aggregate demand and the swing to pastoralism during the fourteenth and fifteenth centuries.

[63] CUL, Vanneck Ms, box 3, courts held Oct. 1458 and Jan. 1479 (Cratfield) and box 5, courts held June 1459 and June 1460 (Huntingfield); and box 7 (Laxfield).

[64] Warner, *Greens, commons and clayland*, pp. 7–8; West and McLaughlin, *Towards a landscape history*, p. 109; Evans, 'Farming and landholding', p. 304; CUL, Vanneck Ms, box 3, courts held May 1413, Oct. 1425 and May 1441 (Cratfield) and box 5, court held June 1379 (Huntingfield). D. Dymond and R. Virgoe, 'The reduced population and wealth of early fifteenth-century Suffolk', *Proc. of the Suffolk Institute of Archaeology and History* 36 (1986), pp. 75–7.

All three categories of irregular field system in Suffolk experienced notable changes in either their form or function during the course of the fourteenth and fifteenth centuries. The physical layout of the open fields of the Breckland hardly changed, but their operation became more formal as communal cropping and pasturing arrangements were strengthened in order to accommodate fewer but larger sheep flocks run mainly by landlords: this maturation of the foldcourse system increased the degree of interdependence between grain farming and sheep rearing. The eradication of small patches of open field from the enclosed system of north-east Suffolk, and the encroachment upon communal greens, represent modest changes in its form, while the widespread shift from arable to pasture here constitutes a significant change in function. Elsewhere in Suffolk, the gradual disappearance of irregular common fields through piecemeal enclosing activity, and the conversion of much of that enclosed land to pasture, represented major changes in both form and function. This enclosure movement was silent compared with contemporaneous enclosures in the Midlands, and it was led, not by lords, but by hundreds of small-scale farmers, yeomen and lesser gentlemen. The history of enclosure in England has often been the history of social displacement and violence from above, but the history of enclosure in medieval Suffolk is a clear example of socially acceptable enclosure driven mainly from below.

The process of piecemeal enclosure was facilitated by the weak manorial structure in central and eastern Suffolk, which diminished the power of landlords to influence or prevent enclosure. It was not merely a coincidence that enclosures made least headway in the Breckland, where lordship was relatively strong. It was also aided by the tendency for holdings to be concentrated rather than dispersed around the fields, and of many demesnes to lie in large blocks, which increased the viability of enclosure and restricted the amount of preparatory engrossment required. The high supervision costs associated with the running of irregular open field systems also made them prone to enclosure during a period of demographic decline and high wage rates. Finally, common rights over the arable were limited, which meant that commoners had less to lose through enclosure. Of course, all of these permissive institutional factors were already in existence in *c.*1300 but, at this date, they were outweighed by the risks associated with enclosure in the prevailing agrarian conditions. This situation changed after *c.*1350, when conditions generally favourable to pastoralism led to the further growth of commercialized dairy farming and stock fattening in most central, southern and eastern parts of Suffolk. The combination of this particular form of livestock farming with a marked increase in the degree of specialization of agrarian production proved a powerful incentive for the development of enclosures. A similar shift to closes also appears to have occurred in southern Norfolk during this same period.[65] In contrast, those areas that retained a serious interest in grain cultivation as part of a mixed farming regime were more likely to retain their open fields. The production of malting barley retained its importance throughout the later middle ages in north-west Suffolk, but its success depended upon the manure of sheep to maintain the fertility of the soil: hence the open fields survived and, indeed, communal controls strengthened. As Carl Dahlman has argued, open fields made most economic sense within the context of certain

[65] F. G. Davenport, *The economic development of a Norfolk manor, 1086–1565* (1906), pp. 80–1.

types of mixed farming, but they provide fewer benefits when agriculture is more specialized, especially when the importance of grain production was diminished.[66]

These extensive changes in the form and function of three different categories of field system provide strong support for Campbell's argument that a sustained release of population pressure and declining profitability in grain production could reduce the risks of restructuring field systems, and therefore increase the opportunities for it. Yet it is also evident that these changes were reinforced and refined when population increased again during the sixteenth century, when the foldcourse system reached full maturity, and when piecemeal enclosures continued until the final remnants of open field had disappeared. So, if periods of demographic decline or, more accurately, periods when the pressure on arable farming was less intense, were the likely occasion for remodelling and restructuring in the layout and operation of fields, the evident success of such initiatives would encourage their continued and wider adoption during subsequent periods of demographic growth. This might have been simply a matter of fashionable contagion or, more likely, a consequence of increasing specialization in agrarian production, which further reduced the incentives to retain open fields.

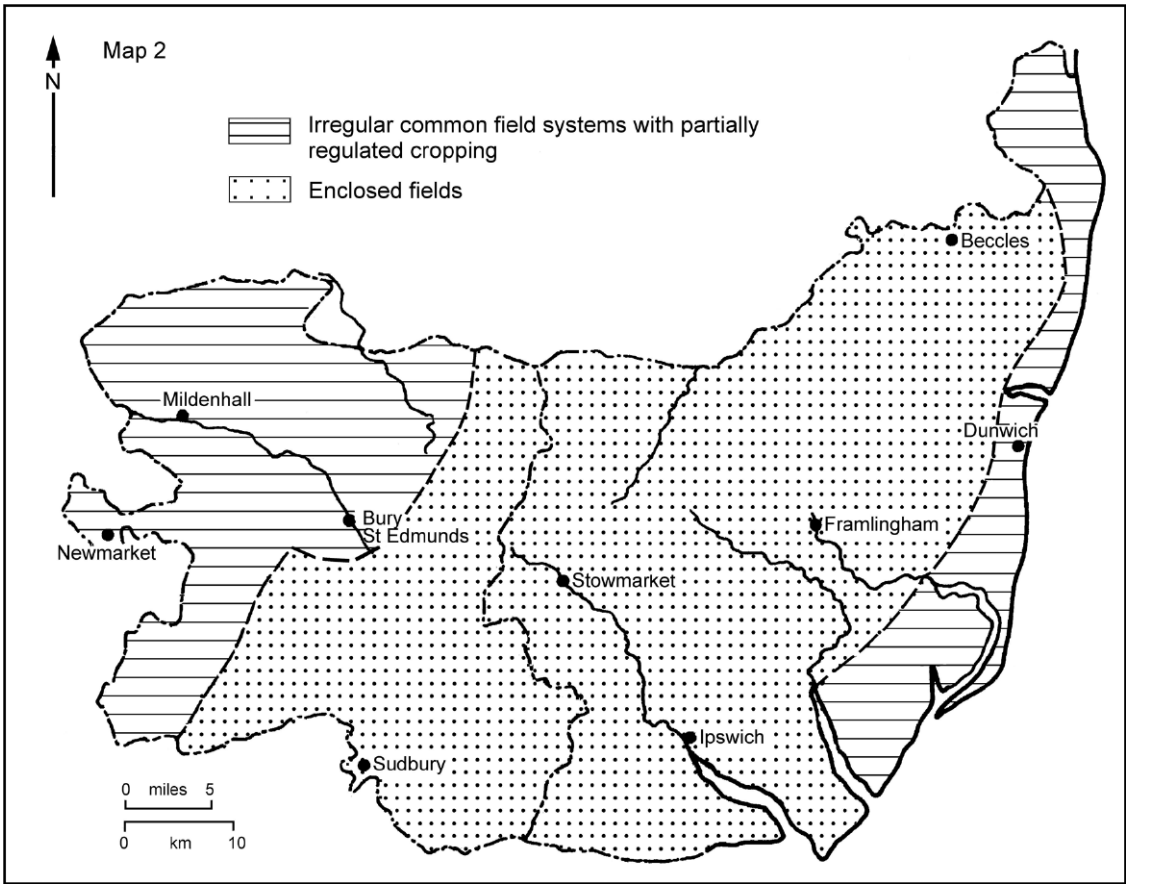
The discovery that irregular field systems changed markedly in both their layout and operation during a period of demographic decline may also provide a useful pointer for narrowing the periods in which regular common fields emerged in England. These are assumed to have evolved at various times during the five centuries of demographic expansion after *c.*800, through the reorganization of existing irregular open fields. Yet this long period of growth was punctuated by shorter periods of demographic slow-down, stagnation and even retrenchment, such as the late eighth, late eleventh and early twelfth centuries.[67] There were certainly other such periods, and it is plausible that regular common fields were created during such times. Given the dominance of regular fields in the literature, it is refreshing to contemplate that our understanding of them might be enhanced by research into the less heralded, but more varied and enigmatic, irregular field systems.

The scale of the structural changes to field systems in some parts of late medieval Suffolk was sufficient to transform many parts of its countryside from a largely open and arable landscape in *c.*1300 into one that was largely enclosed and pastoral in *c.*1550 (Map 2). The statement that Suffolk was predominantly enclosed by this date is neither contentious nor original, because in 1573 Thomas Tusser famously described the hedged and enclosed landscape of 'several' Suffolk. However, the discovery that elements of the landscape described by Tusser had only emerged in the recent past is novel: for example, Postgate reckoned that most piecemeal enclosure in East Anglia occurred in the late sixteenth and seventeenth centuries, while Suffolk does not register at all in Baker's survey of late medieval enclosure in England.[68]

[66] C. J. Dahlman, *The open field system and beyond. A property rights analysis of an economic institution* (1980), pp. 105–6 and ch. five. There is little sense in which variations in the relative extent of depopulation across the county correlated with changes to field systems.

[67] J. Langdon and J. Masschaele, 'Commercial activity and population growth in medieval England', *Past and Present*, 190 (2006), p. 63; Campbell, 'Commonfield origins', pp. 122–5.

[68] T. Tusser, *Five hundred points of good husbandry* (1984), p. 134–5; Postgate, 'East Anglia', p. 287; A. R. H. Baker, 'Changes in the later middle ages', in Darby (ed.), *New historical geography*, p. 212.




MAP 2. Approximate distribution of main categories of field system in Suffolk, *c.*1550.

This local discovery carries wider implications for the classification of historic landscapes. The English landscape is usefully and conventionally divided into 'ancient' and 'planned' countryside, which distinguishes the enclosed, irregular, wooded and older types of landscape (Tusser's 'several' countryside) from the open, planned and more recent types ('champion'). Not surprisingly, the main characteristics of such different landscapes are strongly influenced by the physical appearance of local fields: open fields contribute to an undifferentiated, prairie-type, landscape, whereas small hedged and ditched closes create a broken, wooded and hidden landscape. Of course, this division cannot be, and is not, applied simplistically, because considerable variations existed within the broad categories of champion and several landscapes: Williamson warns of 'the "fuzziness" of regional landscape boundaries, and the dangers of posing too hard a dichotomy between woodland and champion districts'.[69]

As irregular field systems possessed the capability to alter their form and function over time, it follows that the historic landscape classification of a particular locality may also change

[69] Williamson, *Shaping medieval landscapes*, pp. 62–122, 138.

over time. When Oliver Rackham labelled much of Suffolk as 'Ancient Countryside', he did so (correctly) on the basis of its known landscape features in the seventeenth century.[70] Yet we now know that some of this 'ancient' landscape was comprised of genuinely ancient closes, while some was the product of much later, fifteenth-century, piecemeal enclosures of open fields. Put another way, large tracts of central Suffolk were several and enclosed in *c*.1600 but, in *c*.1300, these same areas had been open and therefore decidedly 'champion' in their layout and appearance. The areas classified as 'Ancient Countryside' in Suffolk contained sub-landscapes varying in their appearance and antiquity, which thus warns against deploying such a concept in a facile or generalized manner.[71] Rackham implicitly acknowledged this warning when identifying that 'modern' and 'historical' differences are apparent between ancient and planned countryside, without teasing out its implications in any detail.[72] Yet the dynamic and unstable qualities of irregular field systems meant that some landscape boundaries possessed a temporal, as well as a spatial 'fuzziness', especially before the seventeenth century. This adds a complicating, but important, variable, which has not been properly captured, represented or acknowledged in many of the recent attempts to categorize the English landscape according to particular Historic Landscape Classifications.[73]

[70] Rackham, *History of the countryside*, pp. 2–4.
[71] Williamson, *Shaping medieval landscapes*, pp. 1–5.
[72] Rackham, *History of the countryside*, pp. 4–5.
[73] T. Williamson, 'Historic Landscape Classifications: some queries', *Landscapes* 8 (2007), pp. 66–8.

# Farm rents and improvement: East Lothian and Lanarkshire, 1670–1830*

*by* Muir Johnstone

*Abstract*

This paper examines changing farm rents between 1670 and 1830 across six estates in two contrasting Scottish Lowland counties. It largely endorses the established view that payments in kind generally started to be commuted to money rents in the mid-eighteenth century, although significant conversions occurred on some estates much earlier. Before the 1750s, progress towards monetization was often limited by proprietors' preference for cautiously progressive estate improvement, their continuing command of the market (which inhibited wider tenant market participation), and their conviction that grain rents provided surer protection against market price fluctuations than fixed or only infrequently renegotiable money rents. In the later eighteenth and early nineteenth centuries farm rents (by then, mainly money rents) rose between three and a half and four times original rents, calculated over 30-year periods of sustained improvement on four of the six estates, a rise of increase thought by some to be optimal for improving farms at the time. Tenant allowances, temporary rent-abatements and punitive legal action were all employed to promote farm improvement.

The gradual conversion of customary farm rents from payments in kind – delivery of grain *fermes* and kain produce, and sometimes tenant labour obligations – to rents paid mainly in cash is well-documented in published accounts of Scottish Lowland agrarian history between the seventeenth and early nineteenth centuries, as is the rapid growth in farm and estate rents as improved and increasingly market-responsive Lowland farming emerged in the later eighteenth century.[1] However, some aspects of this transformation may not yet be fully understood. Firstly, emergence of principal money rents across the Lowlands did not progress uniformly; landed proprietors, who largely controlled agricultural development until at least the mid-eighteenth century, while keen to increase estate revenues, were often cautious in adopting wide-ranging change. By examining the experience of six lowland estates, it is hoped that the relevant processes of change, including monetization of farm rents, might be further analysed. Second, the scale and pace of farm rent increases as estate improvement spread across the region in the latter part of the eighteenth century are again not precisely known. We have the prescription of leading Scottish Improver, Sir John Sinclair of Ulbster (1754–1835),

* The author is indebted to the anonymous referees and the *Review's* editor for their perceptive observations and lucid advice, and to Professor Ian D. Whyte of Lancaster University for his encouragement and support.

[1] *Fermes and kain produce*. Respectively, grain consignments and live animals or animal produce supplied by tenants as elements in stipulated annual farm rents.

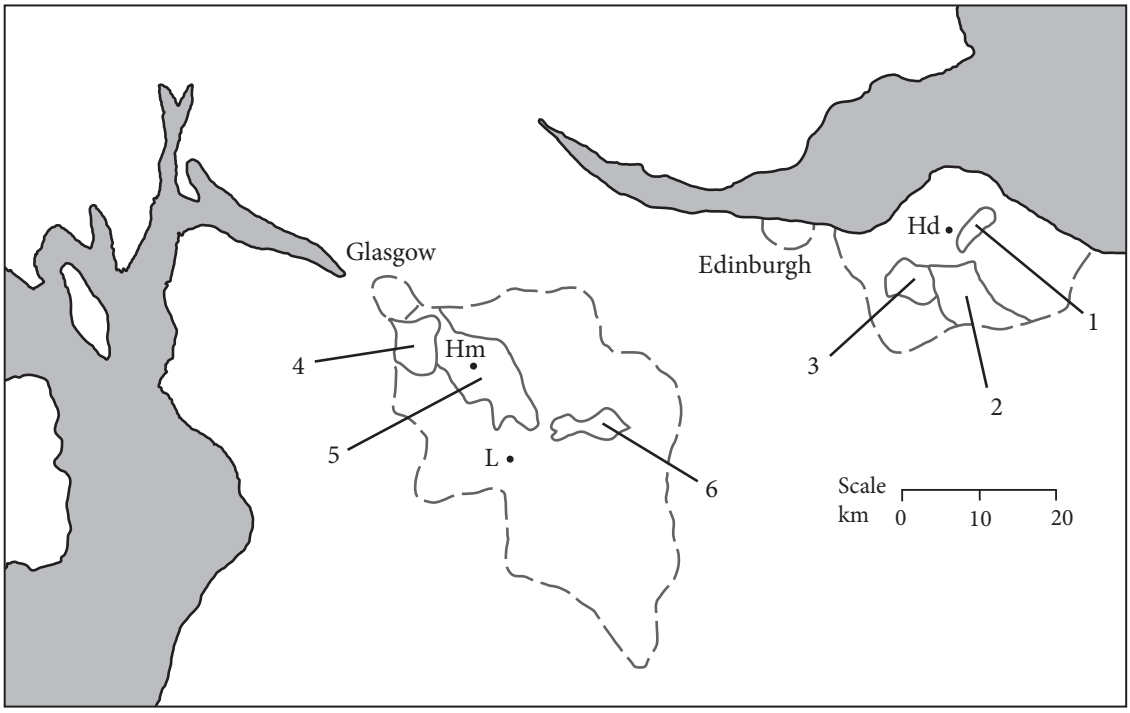



FIGURE 1. Location of estates, East Lothian and Lanarkshire

*Key*: Hd – Haddington: Hm – Hamilton: L – Lanark; East Lothian estates: 1 – Newhailes: 2 – Yester: 3 – Saltoun; Lanarkshire estates: 4 – Castlemilk: 5 – Hamilton: 6 – Lee

who suggested that a fourfold farm rent increase over a period of 30 years would promote 'enterprise' among tenants and offer a reasonable return for improving landlords.[2] Did such a 'moderate' increase, as Sinclair described it, reflect typical 'improving' farm rent increases on the selected estates? How were improving rents set and implemented on improving Lowland estates?

The absence of any published long-run series of agricultural rents within the central Lowlands has contributed to the continued uncertainty in this area. In this respect, Scotland lags well behind England.[3] This article attempts to make up for the deficiency by tracing and analysing the progress of rent monetization and rates of rent increase on six estates located in two Lowland rural counties, East Lothian and Lanarkshire. This juxtaposition allows examination of changing rents against a variety of indigenous specialisms involving pastoral, arable and mixed farming, and characteristic variables in farm size and labour organization in the eighteenth century. Lanarkshire farms were 'most properly organized in smaller units' of less than 100 acres, and typically family-run, whilst East Lothian had more 'large farms',

[2] Sir John Sinclair, *Analysis of the Statistical Account of Scotland* (1825, repr., 2 vols, 1970), I, p. 260.

[3] M. E. Turner, J. V. Beckett and B. Afton, *Agricultural rent in England, 1690–1914* (1997) was designed to 'fill the gap' in long-run agricultural rent series across England.

often relying on hired labour.[4] Lothian farms are often regarded as paradigms of pioneering agricultural improvement, while Lanarkshire has been considered 'laggard' in that connection.[5] Direct comparison of the improving records of the two counties is neither intended nor, with the limited extent of the study, feasible, but analysing estate improvement in counties with such ostensibly different improving reputations intrinsically offers a varied range of improving proficiency.

The main source of evidence is the voluminous accumulation of surviving estate papers for the six estates, but, where relevant, printed contemporary sources have been consulted. The Hamilton estate (over 40,000 acres) and Yester (around 20,000 acres) were owned throughout the period by the Dukes of Hamilton and Marquises of Tweeddale. While the former estate listed over 220 tenants and subtenants in the later eighteenth century, Saltoun, Castlemilk, Newhailes, and Lee estates, all of under 8000 acres, had never more than 50 leaseholders. These smaller estates were owned respectively by lairdly or minor noble families, the Fletchers, Stuarts, Dalrymples, and Lockharts (later Barons of Lee). Mixed arable and dairying was predominant across the Lanarkshire estates; in East Lothian, corn farms were more prevalent. Upland areas on the southerly margins of the Hamilton, Yester, and Lee estates were populated with sheep and black cattle (see Figure 1).

## I

It is tempting to regard the conversion of traditional payments in kind to cash rents and the subsequent substantial increase in annual farm rents as part of a continuous progression from medieval subsistence to modern commercial farming. The reality is more complex. Agricultural development as a whole, in the Lowlands as elsewhere, was driven between the seventeenth and early nineteenth centuries by a number of changes, only one of which involved rent monetization. These are shown schematically in Figure 2.

Farm and estate improvement characteristically involved increased single tenancy occupation of farms, often accompanied by granting of longer leases: organizational changes involving abolition of runrig possession and eradication of traditional infield-outfield systems were followed eventually by establishment of individually-run farms that had been enclosed and subdivided, often enlarged by amalgamation or engrossment and gradually adopting technologically advanced farming operations. Rent monetization emerged with growing tenant market-involvement, as commercial farming became widespread. More efficient estate administrative infrastructure was often an accompanying feature of farm and estate improvement (see Figure 2).

There was no standard pattern of change, further exacerbating the complexity of the process; examples of relatively early and much delayed developments in many of the 'components' can be identified. For example, single tenancy, a critical element in the transformation from ancient,

[4] T. M. Devine, *The transformation of rural Scotland. Social change and the agrarian economy, 1660–1815* (1995), p. 31; M. Gray 'The social impact of agrarian change in the rural Lowlands', in T. M. Devine and R. Mitchison (eds), *People and society in Scotland*, I, (1988), p. 59.

[5] The 'quintessence of the new farming class' of capitalist farmers managing improved farms was most notably represented by 'Lothian farmers'. T. C. Smout, *A history of the Scottish people, 1560–1830* (1969), p. 292; Gray, 'Social impact', p. 59.

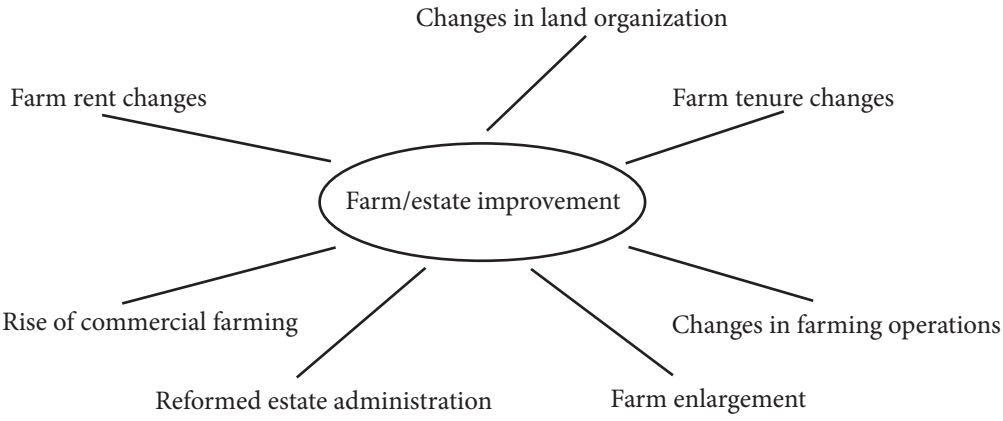



FIGURE 2. Components of change in Lowland agricultural development

communally-managed fermtouns to modern, individually-run farms, was well under way on some estates by 1700. At Yester, 42 of 49 farm tacks conferred between 1650 and 1700 were for single tenancy, as were 80 per cent of new farm tacks on the nearby Newhailes estate by 1670.[6] Between 1700 and 1730, on the Castlemilk and Saltoun estates, around three in four new farm tacks conferred single-tenancy occupation.[7] Longer farm leases are often regarded as another key component, allowing tenants security of tenure to improve their holdings; at Castlemilk and Newhailes 19-year leases were predominant from the 1720s and at Saltoun, by the later 1740s.[8] In one interpretation, such early developments offered important 'foundations' for later, more comprehensive farming improvements.[9] At Hamilton however, longer leases became usual only as part of a policy of systematic estate improvement introduced in the mid-1760s.[10]

Early farm rent monetization, another recognized concomitant of agricultural development, can similarly be identified on some estates. On the Yester estate, all 33 surviving farm tacks between 1650 and 1680 specified annual delivery of grain fermes and kain rent payments, with fewer than half (15) also including an element of cash payment. Between 1680 and 1700, nearly 80 per cent of new tacks had money rent elements.[11] Most remarkably, a 1698 rental for Colstoun barony shows 10 of 14 farm tenants paying rents solely in cash. Total grain fermes and kain payments were valued at £1011 Scots against accumulated money rents of £2820 Scots, cash payments apparently amounting to 74 per cent of total rent.[12] An annual rental for Covington

[6] National Library of Scotland (hereafter NLS), Ms 14,747, fos 5–168; 14,748, fos 2–89; 25,788, fos 4–36.

[7] NLS, Ms 5329, fos 42–9; 17,148, fos 1–135.

[8] NLS, Ms 5329, fos 49–68; 25,788, e.g. fos 9, 11, 18, 19; 17,149, e.g. fos 33, 41, 51, 53. 'Improving' tacks specified obligations regarding, for instance, regular liming of the soil, creating or maintaining enclosure and subdivision fences, applying improved crop rotations, etc.

[9] I. D. Whyte, *Agriculture and society in seventeenth-century Scotland* (1979), p. 261.

[10] At Hamilton, new 'improving' farm leases varied from 9 to 19 years.

[11] NLS, Ms 14,747, fos 3–54/55–104; 14,748, fos 2–39/40–55.

[12] NLS, Ms 14,746, fo. 2. The cash value of grain fermes was provided in the rental. These values were usually derived from contemporary local fiars prices (see n. 16).

TABLE 1. Money rent and payments in kind, Walston, Lee 1713–16.

| *Year* | *Money rents (£Scots)* | *Payments in kind (cash value £Scots)* | *Total rent (£Scots)* | *Money rent (% of total)* |
|---|---|---|---|---|
| 1713 | 5349 | 578 | 5927 | 90.2 |
| 1715 | 4805 | 379 | 5185 | 92.7 |
| 1716 | 4702 | 482 | 5184 | 90.7 |

*Note:* Money rent payments and the cash value of payments in kind (oatmeal, barley and kain hens and capons) are directly provided within the rent records.
*Source*: NLS, Ms 27,594 (Walston fo.).

barony, on the Lee estate in the 1690s, appears to indicate money payments of £1394 Scots and grain fermes worth around £1317, money payments constituting 51 per cent of the total.[13] A series of rentals for Walston barony 20 years later indicates almost entirely money rents, with produce rents forming no more than 10 per cent of total income (see Table 1).

However, a rental for the Newhailes estate in 1682 records delivery of 1495 grain bolls (barley, wheat and oats) with *no* accompanying money payments, and on the Castlemilk estate in the 1650s, and nearby Glassford and Coats parishes ten years later, three-quarters of the tenants paid their annual rents almost entirely in kind, with only minor cash contributions.[14]

A cautionary note must be sounded in all discussions regarding rent monetization. As Mitchison noted, farm rents shown as money payments in rentals or farm tacks 'might in practice (have) been made in kind' or, conversely, nominal obligations in kind might have been paid off in cash.[15] Local grain fiars, introduced between the mid-sixteenth and later seventeenth centuries in lowland Scotland, facilitated such conversions by specifying annually the cash value of locally marketed grains of varying quality.[16] Fiars might have offered a means of working out a price the tenant should pay the landlord for grains marketed by the tenant; the potential for tenant involvement in the market from at least the seventeenth century has therefore to be acknowledged (although there is no direct evidence of this before the 1750s on the six estates under examination).

The scholarly consensus is that most conversions of payments in kind to principal cash rents across the Lowlands occurred in the mid-eighteenth century.[17] Castlemilk estate records generally support this conclusion, six of seven new farm tacks conferred between 1730 and 1750 specifying money-only rents.[18] At Yester between the same dates 12 of 13 new farm tacks

[13] NLS, Ms 27,594 (Covington fo.).

[14] NLS, Ms 25,789, fo. 3; 5324, fo. 1; 5335, fos 18–330; 5329, fo. 176. A boll was a regionally-variable dry-weight measure, usually around 140 lbs (63.5 kg).

[15] R. Mitchison, *Lordship to patronage: Scotland, 1603–1745* (1983), p. 156.

[16] County sheriffs or substitutes consulted panels of local farmers and set a 'medium sort' fiars price for each grain as the average price farmers received; a mean of all prices received above the medium sort was set as 'higher sort' and a similar mean of all prices below the medium sort was set as 'lower sort'. This allowed price variation for differing qualities of grain, but within defined price limits.

[17] Devine, *Transformation of rural Scotland*, p. 23: R. A. Dodgshon, *Land and society in early Scotland* (1981), p. 255: Mitchison, *Lordship to patronage*, p. 289.

[18] NLS, Ms 5329, fos 50–68.

TABLE 2. Rental of Milton barony (three tenants), Saltoun, 1746 (£Sterling).

| *Crop* | *Quantity (bolls)* | *Cash value per boll* | *Totals* |
|---|---|---|---|
| Wheat | 82 | 14*s.* 0*d.* | £57 8*s.* 0*d.* |
| Barley | 156 | 10*s.* 5*d.* | £81 5*s.* 0*d.* |
| Oats | 80 | 8*s.* 3*d.* | £33 0*s.* 0*d.* |
| | | Total cash value of grain payments | £171 13*s.* 0*d.* |
| | | Cash payments | £79 17*s.* 2*d.* |
| | | Total | £251 10*s.* 2*d.* |

*Source*: NLS, Ms 17,149, fos. 17–18.

specified exclusively money rents (although, as previously noted, cash rents were prevalent on some parts of the estate much earlier).[19] In the 1740s virtually all Saltoun rents specified both grain rents and cash payments.[20] Cash payments, however, were often less than half the cash value of grain rents, as shown in Table 2.

A later Milton rental (1766) records cash payments of £503 Sterling against grain fermes and (minor) kain payments valued at £473, suggesting that principal cash rents were gradually emerging.[21] By the 1770s, Saltoun, Lee, Yester, Castlemilk and Hamilton estate papers record only money rents. The formal estate improvement scheme that was begun at Hamilton in the mid-1760s (and which is discussed later) was entirely predicated on money rents. The Newhailes estate was the major exception; rent payments for the whole estate in 1751 consisted of grain payments of 443 bolls of wheat, 474 of barley, 242 of oats and 32 of pease, with additional money contributions of £242 Sterling.[22] Using relevant Haddington fiars, the approximate value of the grains due was £830 Sterling, so cash accounted for only 23 per cent of the money-equivalent of whole rent payments.[23] By the 1790s, Newhailes rentals *were* recording more substantive money rents but, in 1791, three out of ten Newhailes tenants still paid annual rents 'solely by delivery of victual'.[24]

As noted earlier, the temptation is to regard the emergence of monetized farm rents, even with the chronological variations recorded above, as representing a general progression from medieval subsistence to modern commercial farming. However, such an interpretation is questionable. Firstly, examples of commercial marketing, often regarded as integrally linked with rent monetization, were present in Scottish Lowland farming in the seventeenth and earlier eighteenth centuries, when, despite the continuing prevalence of subsistence farming

[19] NLS, Ms 14,747, fos 134–43; 14,748, fos 64–86.
[20] NLS, Ms 17,148, fos 175–8; 17,149, fos 1–114.
[21] NLS, Ms 17,151, fo. 3.
[22] NLS, Ms 25,789, fos 19–20.
[23] 'Medium sort' Haddington fiars for 1751 are taken from A. J. S. Gibson and T. C. Smout, *Prices, food and wages in Scotland, 1550–1780* (1995), Tables 3.4 (oats, 12*s.* Sterling per boll), 3.10 (wheat, 17*s.* 2*d.*), 3.13 (barley, 12*s.*), 3.19 (pease/beans, 12*s.* 6*d.*).
[24] NLS, Ms 25,789, fos 26–7.

in many areas, a significant amount of marketing of grains, especially near Edinburgh and other growing towns, was evident. In most years, Scottish grain was exported to Europe and Scandinavia.[25] The Yester estate exemplifies this trade, which was almost exclusively run by or on behalf of landed proprietors. Between the 1650s and 1700, Yester barley and oats were 'contractually' supplied to local maltmen and meal-makers for subsequent processing and retail.[26] Wheat was simultaneously sold to local bakers and grain merchants or exported via Leith or Dunbar.[27] Such commercial activity was not exclusive to Edinburgh and the Lothians; a Castlemilk estate memo of 1681 records the supply of proprietary oatmeal and hay to Glasgow markets and, around 1710, a Lee estate factor recorded dispatch of oats 'to Glasgow merchants' (some 30 miles distant from the estate).[28] It has been suggested that, even in the early eighteenth century, the ever-increasing volume of agricultural trade was beginning to contribute towards growing lowland market integration exhibited by increasing synchronicity in grain fiars prices across multiplying market centres, encouraged by the Edinburgh and emerging Glasgow 'sub-national' market networks.[29] But, despite burgeoning trade, proprietary marketing, at least on the estates under examination, was apparently predominant until the 1750s.

Proprietary marketing activities largely depended upon the delivery of traditional grain rents from tenant to landlord. Farm tack specifications instructed tenants to deliver stipulated grain consignments to landlords' girnels (storage barns) or to specified markets, or 'places of like distance' (for delivery to individual customers) 'when required' by the laird or his factors, ensuring maximum marketing flexibility for the laird (and carriage at his tenants' expense).[30] Tenants were routinely required to supply marketable grains, for example in a Newhailes tack 'the best grains grown on the land', in a Castlemilk version 'good, sufficient victual', or, in a Saltoun estate memo 'well-dight [winnowed] mercat stuff'.[31] Such arrangements excluded tenants from meaningful market-involvement on their own account.

From the later sixteenth century grain fermes had been 'a more important source of revenue for (Scottish) landowners' than money rents.[32] Grain prices rose appreciably in the later sixteenth and early seventeenth centuries while the Scottish currency during that period (and up to the Union of 1707, when Sterling was adopted as the national currency) was serially debased and devalued, largely through deliberate government action.[33] In this continuing situation, collecting rents principally as grain payments protected the real value of rents in a way that money rents could not, because annual feus were often fixed amounts and cash rents were renegotiable only

[25] A. Fenton and T. C. Smout, 'Scottish agriculture before the Improvers', *AgHR* 13 (1965), p. 90.

[26] NLS, Ms 14,709, e.g. fos 72, 115, 134; 14,713, fo. 59.

[27] NLS, Ms 14,710, e.g. fo. 93; 14,713, e.g. fos 20, 43.

[28] NLS, Ms 5324, fo. 16; Ms 27,594 (Walston fo.).

[29] A. J. S. Gibson and T. C. Smout, 'Regional prices and market regions: the evolution of the early modern Scottish grain market', *EcHR* 48 (1995), p. 271.

[30] NLS, e.g. Ms 17,149, fos 51–2; 25,788, fo. 4; 17,148, fo. 1; 17,150, fo. 182.

[31] NLS, Ms 25,788, fo. 13; 5329, fo. 45; 17,148, fo. 7.

[32] Mitchison, *Lordship to patronage*, p. 49.

[33] Grain prices rose at varying rates between 1550 and 1620 and were steady or rose more slowly thereafter (Gibson and Smout, *Prices, food and wages*, p. 6). The debased Scottish coinage was valued at one-twelfth of sterling from 1603.

TABLE 3. Grain fermes, Yester, Saltoun, Newhailes, 1660s–1760s.

| *Year* | *Estate/barony/farm* | *Rent fermes (bolls)* | | |
|---|---|---|---|---|
| | | *Wheat* | *Barley* | *Oats* |
| 1665 | Yester (Bolton Barony) | 22 | 38 | 12 |
| 1755 | Yester (Barony) | 86 | 106 | 96 |
| 1709 | Saltoun (farm) | 43 | 73 | 36 |
| 1766 | Saltoun (farm) | 211 | 401 | 192 |
| 1670 | Newhailes (estate) | 574 | 592 | 247 |
| 1751 | Newhailes (estate) | 1106 | 1199 | 621 |

*Sources*: Yester, NLS, Ms 14,748, fos 16, 24: 14,746, fos 10, 15; Saltoun, Ms 17,148, fos 1, 7: 17,149, fo. 17: 17,151, fo. 3; Newhailes, Ms 25,789, fo. 1: 25,788, fos 13, 17: 25,799, fos 40–7.

on the renewal of a lease.[34] As Table 3 shows, grain fermes increased significantly between the seventeenth and mid-eighteenth centuries.

Increased output was achieved by improvements, amongst them regular liming, the use of new crops and modified crop rotations, but often without widespread general enclosure. There was a gradual extension of cultivable land.[35] While examples are not numerous within estate records, it is noted that, in 1682, '(rent) augmentations' were 'imposed on Glassford moors' and, in 1712, a Lee estate factor was 'poinding, measuring and setting (moorland) wastes' being prepared for cultivation.[36]

Application of local grain fiars facilitated monetary evaluation of retrospective shortfalls in tenant grain rent payments (examples of which proliferate within various estate papers). In addition, it allowed accurate calculation of proprietary compensation for poor quality grains supplied by tenants. For example, the proprietor of Newhailes in 1745 reckoned due financial compensation for seven 'deficient' grain bolls in one tenant's fermes consignment at the medium-sort Haddington fiars price of 14*s*. per boll.[37] Application of fiars eventually hastened 'translation of obligations from grain to money'; more immediately, local fiars, by ensuring clearer tenant rent accountability, probably enhanced the attractiveness of continuing grain rents from a proprietary viewpoint.[38]

[34] Interestingly, in the 1850s, long after money rents had emerged, the continuing practice of basing at least half of annual Lothian farm rents upon relevant grain fiars was praised as providing an inbuilt correlation between farm rents and grain prices not found 'anywhere else within the United Kingdom' (although other Lowland examples can be found). W. Neilson Hancock, *What are the causes of the prosperous agriculture in the Lothians of Scotland?* (1852), pp. 9–10. The Laird of Ochtertyre (Perthshire) set, from the 1770s, cash rents that included equivalent fiars' prices for a stipulated quantity of oatmeal (agreed between the laird and the tenant), so that farm rents should 'in some measure reflect the price of oatmeal'. J. Ramsey of Ochtertyre, *Scotland and Scotsmen in the eighteenth century* (ed.) Alexander Allardyce (2 vols, 1887), II, p. 360.

[35] Dodgshon suggests proprietary rent 'augmentations' were often drawn from crops grown annually in what had previously been only periodically ploughed 'outfield' lands (Dodgshon, *Land and society*, p. 248).

[36] NLS, Ms 5335, fo. 27; Ms 27,594 (Walston fo.)

[37] NLS, Ms 25,799, fos 22–31.

[38] Mitchison, *Lordship to patronage*, p. 49.

So, with such encouragement for proprietary continuation of rents in kind, why did money elements in Lee and Yester estate rentals (as noted earlier) appear at all in the late seventeenth and early eighteenth centuries? Tenant market involvement and rent monetization is often seen as emerging earliest in livestock farming regions, and some pastoral farming *was* practised in upland areas on the Lee and Yester estates (although mixed arable and livestock was more general in both places).[39] The earlier Lee farm rents and feus were paid in 'money, victual fermes and kain' but, as already noted, by 1711 in Walston barony, money elements apparently contributed more than nine-tenths of annual rent (see Table 1).[40] Clearly, cash-paying tenants had to acquire rent money from somewhere, and livestock marketing in upland baronies such as Walston appears the most likely source. However, in Colstoun barony on the Yester estate in 1698, around three-quarters of total rents were apparently paid in cash, but Colstoun was situated in the lower stretches of the estate, more suited to corn growing than livestock rearing (in fact, residual non-cash rents there almost entirely consisted of grain fermes).[41] There was significant livestock marketing. Extensive grazing parks at Hamilton were leased from the 1760s, and similar, if smaller-scale, activities on the Saltoun parkland estate of Wester Pencaitland after 1818, but in both cases the marketing operations were largely proprietary, so any monetization of tenant rents on those estates cannot be specifically attributed to significant increase in tenant livestock marketing.[42]

If estate records fail to elucidate the particular contribution of tenant livestock farming in rent monetization, they do indicate increasing tenant involvement in grain marketing from the 1740s and '50s. At that time, on many estates, the proprietary-dominated marketing system described earlier was increasingly under pressure, as tenants on improving, more efficient farms, sometimes enlarged via engrossment and amalgamation and with growing freedom to manage their own affairs, were increasingly producing regular surpluses.[43] By the 1750s, Saltoun tenants, although mainly still paying mixed victual and cash rents, regularly undertook estate-based market transactions, both buying and selling grains (mainly wheat, the major 'cash crop'). In 1753 the Saltoun factors compiled lists of tenants wishing to sell surplus wheat and, in 1756, while five tenants offered to buy surplus wheat from the laird at 'the fiars of that year', others offered to sell wheat to the estate 'at 14*s*. 6*d*. per boll'.[44] There is some evidence that tenants were simultaneously selling wheat at the nearby Haddington market; some tenants apparently acted as selling 'agents' for their neighbours, comparing prices in Haddington and Edinburgh grain markets to secure advantageous deals.[45]

Perhaps the most comprehensive tenant market involvement emerged on the Castlemilk estate, where, by the 1750s, all new farm tacks specified money-only rents and routinely

[39] A 1759 Lee farm tack allowing 'pasturing of cattle' is a rare reference to livestock farming, NLS, Ms 27,578, fo. 3.

[40] NLS, Ms 17,593, fo. 8.

[41] NLS, Ms 14,746, fo. 2.

[42] Hamilton Public Library (hereafter HPL), 631.1/277 Burrell journal, 1790–2, p. 232; 279, Burrell journal, 1795–6, p. 31: NLS, Ms 17,158, fos 108–9 (Saltoun).

[43] By the 1790s, enlargement had been considered for around 62 per cent of farms in East Lothian and 38 per cent in Lanarkshire, *The Statistical Account of Scotland 1791–99* (20 volumes, repr. 1973), II, VII. Individual estate records suggest that Hamilton (with 46 post-1745 references to farm enlargement), Saltoun (32) and Castlemilk (29) most frequently considered this option.

[44] NLS, Ms 17,150, fos 13, 15, 54–5, 68.

[45] NLS, Ms 17,150, fos 54–5.

authorized tenants to sell in nearby Glasgow markets not just current surpluses but whatever 'hay, corns, straw and fodder growing on the lands they shall think proper'.[46] In Torrance, a largely pastoral barony within Castlemilk, 'the produce of the dairy and occasionally some ryegrass hay [was] sent to Glasgow and Hamilton markets'.[47] Clearly, access to local markets was a critical factor in growing tenant market involvement at Saltoun and Castlemilk, but equally important were market price trends. The consensus among historians is that the overall market tendency between the mid-seventeenth and later eighteenth centuries was towards relatively stable Scottish grain prices (which, despite short-term upward fluctuations typically reverted to lower price norms within three- or four-year cycles).[48] Persistently sluggish cash returns doubtless contributed to the hesitant proprietary investment in enclosure and other costly innovations noted earlier, which delayed the fundamental transformation of the organizational structure and productive capacity of Lowland farming. The scholarly consensus is that the real surge in commercial production (involving tenant as well as proprietary market involvement) occurred in the final decades of the eighteenth century, as 'unprecedented market pressures emanating from an urban and industrial structure in the first throes of economic revolution', exacerbated by general European war (which, from 1793, put greater pressures on domestic food supplies), brought about the long-awaited return of consistently rising food prices.[49] As trading profits and growing capital accumulation subsequently progressed, so investment in improvements increased, eliciting a situation in which 'rising prices coincided with [a] fall in real [production] costs', adding further impetus to the process.[50]

This market-led explanation of post-1780 Scottish agricultural development has obvious merit; but what this paper suggests is that the necessary preconditions for extended market-growth – an emerging tenant capacity to produce regular crop surpluses and growing tenant market-participation – were already well advanced on some Lowland estates as proprietary marketing dominance slackened from the 1750s.

## II

While it has been noted that farm rents that were predominantly paid in kind did increase in value during the early- and mid-eighteenth century on at least some of the estates under examination (see Table 3), the most significant rent increases probably took place after the emergence of principal money rents. The aim of this section of the paper is to try – as already noted, in the absence of comprehensive agricultural rents data for the Lowlands as a whole – to quantify average farm rent increases and their speed of implementation during identifiable periods of intensive improvement on the selected estates.

As previously noted, while increasing money payments within mixed victual and cash rents can be found in earlier times on some estates, by the mid-eighteenth century, principal money

[46] NLS, Ms 5329, fos 79, 81. Tenants also purchased some of their manure supplies as Glasgow 'city waste', expanding their control and financial accountability as independent farmers.

[47] NLS, Ms 8220, fos 92–4.

[48] S. G. E. Lythe and J. Butt, *An economic history of Scotland, 1100–1949* (1975), pp. 34–5: Gibson and Smout, *Prices, food and wages*, p. 7.

[49] Devine, *Transformation of rural Scotland*, p. 42.

[50] H. Hamilton, *An economic history of Scotland in the eighteenth century* (1963), p. 85.

rents were almost fully implemented at Yester, Lee and Castlemilk. From the mid-1760s they were being implemented on the Hamilton estate via the formal estate improvement scheme, and were largely established at Saltoun by 1780.[51] Only at Newhailes did farm rents continue to be paid substantially in kind after that time.

As monetary rents became established, and especially as the later eighteenth-century rise in food prices began, some Lowland landlords, like their English counterparts, might have been tempted to 'rack up' individual rents 'to the highest money rent the farm could … sustain'.[52] But most realized that maximizing rent revenue would have inevitably led to tenant bankruptcies and vacant farm leases – an outcome in no-one's economic interest. It has been claimed that most Lowland proprietors set 'realistic', rather than rack rents, although tenant failure to discharge increased farm rents in full was often ruthlessly dealt with, as will be described later.[53]

But what constituted a 'realistic' improving rent increase? Contemporary political-economists offered theoretical answers. Adam Smith saw profits, wages and rents (in traditional subsistence farming economies) as equal income streams deriving from the business of farming. David Ricardo defined farm rent as payment to the landlord 'for use of the original and indestructible powers of the soil'.[54] But how should rents reflect enhanced 'powers of the soil' brought about by agricultural improvement? The Board of Agriculture from 1793 tried to provide practical guidance to improving landlords by compiling English county rent rolls (with little success). The Board's President, the Scottish improver Sir John Sinclair suggested, on the basis of observed 'good improving practice', that an 'optimum' fourfold farm rent increase over a period of 30 years would allow proprietors a fair return for improving investment, while encouraging 'enterprising and independent' tenants.[55] This advice did not appear in print until 1825 (although it is feasible that Sinclair, a tireless publicist for agricultural improvement, might have peddled the idea in the course of his earlier career). Do actual rent increases conform to such a prescription on the six estates in East Lothian and Lanarkshire?

Annual farm rents are usually specified within individual farm tacks. Estate rentals provide (usually biannual) records of all farm-rent payments, revenues from rented-out estate utilities such as lime and coal workings, and returns from proprietary parks or fields leased for seasonal grazing or cropping (these latter often providing the highest rent increases on improving estates).[56] The specific purpose of this paper is to examine changes in individual farm rents, improving farms being seen as the main vehicle of agricultural development. To ensure compatibility, only improving farms not engrossed or amalgamated during estate improvement (a fairly

[51] John Burrell, the 'Manager of Improvements' at Hamilton, noted in 1764 that estate improvement, just then begun, would probably take 'twelve years' to complete (HPL, 631.1/236, Burrell journal, 1763–9, p. 4). He believed emphatically in abolition of rents in kind (HPL, 631.1/240, Burrell journal, 1769–70, pp. 82–3).

[52] Turner *et al.*, *Agricultural rents*, p. 14.

[53] T. M. Devine, 'The making of a farming elite: Lowland Scotland, 1750–1850' in Devine (ed.) *Scottish Elites* (1994), p. 71.

[54] A. Smith, *An enquiry into the nature and causes of the wealth of nations* (1900 edn), p. 134: D. Ricardo, *The principles of political economy* (1973 edn), p. 33.

[55] Sinclair, *Analysis of the Statistical Account*, I, p. 260. The 'good improving practice' was observed within estates in Kirkcudbright that Sinclair believed were notably effective in promoting improvement.

[56] For instance, rents for 'Hamilton Parks' increased fivefold between 1777 and 1816, compared to corresponding general improving increases of up to three and a half times the original rents, HPL, 333.3, fos 19–24.

frequent practice) are compared.[57] Moreover, since the intention was to compare actual rent increases on the six estates with Sinclair's 'optimum' rent increase, rent rises are extrapolated on an average, *pro rata* basis over the 30-year period he specified. The analysis concentrated on farm rent increases during significant periods of estate improvement.

As already noted, the formal introduction of the Hamilton improvement scheme in 1764 clearly marked the start of significant estate improvement there. An 'improving rents' schedule for an initial tranche of 42 farms set on improving leases (shown in Table 4) shows that 'Advanced' rents – first rents after initial estate-led improvements – were to be on average 56 per cent higher than existing 'unimproved' rents. An interim 'review' of these farms in 1767 recorded average 'Advanced' rents at 62 per cent above previous rents, indicating progress was marginally better than expected.[58] Because improving leases invariably required tenants to 'be agreeable to the methods of improvement and proposed rentals', these figures also suggest that willing tenants were readily found.[59] According to the schedule, 'improved' rents, introduced after expiry of the initial 19-year improving lease, were to be on average over two and a half times (160 per cent) higher than unimproved rents. Extrapolating this 19-year rate of increase over a *pro rata* 30-year period, Hamilton improving rents were scheduled to increase by 252 per cent, to three and a half times the unimproved rents – an increase not far short of Sinclair's prescribed fourfold increase.

But the schedule shows projected rather than actual rents. A sample of improving (but unenlarged) farms on the Hamilton estate shows *real* rent rises, as shown in Table 5. In 1799, 30 years or so after initial improving tacks were conferred, only three of the eight sampled farms had actually attained their scheduled 'improved' annual rent target; by 1811 five had done so. Annual rents for individual farms had risen by between 115 and 316 per cent by 1799; by 1811 farm rents were between double and eight and a half times the original rents. Only Townhead farm achieved Sinclair's prescribed fourfold increase over 30 years, although four of the eight had done so after 40 years. Average farm rent increases amounted to 393 per cent over 46 years; extrapolated *pro rata* over 30 years, this represents an average rise of 256 per cent – three and a half times higher than unimproved rent. Farm size was not a distinguishing factor. Townhead, with the most rapidly rising rent, had only 36 acres, while the largest overall rent increases were recorded on Hookhead, Floors and Cornsulloch farms, ranging in size between 120 and 300 acres. Average rent increases for the sample farms, although just below Sinclair's 'optimum', largely met the estate improvement schedules, the £956 rents total collected from the eight sample farms in 1799 representing 92 per cent of the projected 'improved' rents total of £1041.

On the Saltoun estate, some forms of improvement, including farm rent monetization, were implemented from the 1780s, but the most intensive period of comprehensive estate improvement began in 1803.[60] Between 1765 (when grain fermes still accounted for a substantial

[57] However, farm rent increases on enlarged, improving farms might have been proportionately greater than those on unenlarged, improving farms. Further research might elucidate this matter.

[58] HPL, 631.1/236, Burrell journal, 1763–9, pp. 62–75.

[59] ibid, p. 79.

[60] NLS, Ms 17,246, fo. 1. Inaugurated by proprietor General John Fletcher-Campbell, as noted by Andrew Fletcher in 1832.

TABLE 4. Improvements schedule, 42 farms on the Hamilton estate, 1764 (£Sterling).

| *Acreage* | *Present rents* | *Improved rents* | *Advanced rents* | *Enclosure costs* |
|---|---|---|---|---|
| 12,362 | £1514 2*s.* 0*d.* | £3878 13*s.* 0*d.* | £2362 11*s.* 0*d.* | £4659 18*s.* 0*d.* |

*Source*: HPL, 631.1/236, Burrell journal, 1763–9, pp. 62–75.

TABLE 5. Individual farm rents (sample), Hamilton estate, 1765–1811 (£Sterling).

| *Farm* | *Rent* | | | | | |
|---|---|---|---|---|---|---|
| | *1765* | | *1770s* | *1799* | *1801–11* | *Change 1765–1811 (%)* |
| | *existing* | *projected* | | | | |
| Allanton | 77 | 191 | 205 | 180 | 180 | 134 |
| Merryton | 141 | 310 | 247 | 250 | 250>650 | 361 |
| Skellyton | 67 | 160 | 123>134 | 144 | 155 | 131 |
| Netherburn | 14 | 44 | 40 | 48 | 48 | 243 |
| Townhead | 15 | 62 | 9 | 60 | 60 | 300 |
| Floors | 33 | 119 | 90 | 85 | 85>255 | 673 |
| Hookhead | 28 | 67 | 60 | 99 | 99>183 | 554 |
| Cornsulloch | 26 | 88 | 70 | 90 | 90>220 | 746 |

*Source*: HPL, 631.1/236, Burrell journal, 1763–9, pp. 61–70: 333.3/19, fos 20, 24.

proportion of annual rents) and 1799 (when money rents predominated), the value of total annual estate rents rose from £1250 to £2396.[61] Subtracting additional annual rent of £325 for Lampuckwells and Huntlaw Mains farms, added to the estate in the 1780s, the 1799 estate rent was therefore around 1.7 times higher than that of 1765.[62] Table 6 provides a survey of ongoing rents for a sample of unenlarged, improving farms on the more intensively improving estate after 1799. The sample shows an average farm rent increase of 155 per cent over a 19-year period, which, when extrapolated *pro rata*, represents an average rise of 245 per cent over 30 years, farm rents rising nearly three and a half times, a rate only marginally lower than the 256 per cent increase on the Hamilton estate during a correspondingly intensive improving phase.

While, as previously noted, partial rent monetization occurred even on the seventeenth-century Yester estate, principal money rents probably did not predominate there until the mid-eighteenth century. Given this very gradual progression, farm rent increases on this estate should perhaps be examined over a longer period. Table 7 shows ongoing rents for a sample of unenlarged, improving Yester farms between 1760 and 1818.

Over this extended period, farm rent increases ranged from a doubling of annual rent (Castlemains) to a greater than tenfold rise (Walden). The average increase works out at 566 per cent over 56 years. Duly extrapolated, this suggests a 303 per cent rise over a pro-rata

[61] NLS, Ms 17,151, fos 3, 277.

[62] NLS, Ms 17,151, fos 165–6.

TABLE 6. Individual farm rents (sample), Saltoun estate, 1799–1818 (£Sterling).

| *Farm* | *Rent* | | *Percentage rise* |
|---|---|---|---|
| | *1799* | *1818* | |
| Huntlaw | 180 | 290 | 61 |
| Lampuckwells | 145 | 372 | 157 |
| East Mains | 114 | 265 | 132 |
| Blanceburn | 146 | 512 | 251 |
| Greenhead | 130 | 354 | 172 |

*Source*: NLS, Ms 17,151 – 17,157 (various rentals).

TABLE 7. Individual farm rents (sample), Yester estate, 1761–1817 (£Sterling).

| *Farm* | *Rent* | | *Percentage rise* |
|---|---|---|---|
| | *1761* | *1817* | |
| Longyester | 103 | 850 | 725 |
| Castlemains | 500 | 1000 | 100 |
| Reidshill | 34 | 300 | 782 |
| Ewington | 67 | 200 | 198 |
| Broadwoodside | 24 | 168 | 600 |
| Marvington | 44 | 400 | 809 |
| Priestlaw | 50 | 420 | 740 |
| Walden | 22 | 235 | 968 |
| Westhopes | 89 | 245 | 175 |

*Source*: NLS, Ms 14,746, fos 1–2, 98–9.

30-year period, average farm rents rising to just over four times unimproved rents, a higher proportional rise than comparable Hamilton and Saltoun increases and one precisely fitting Sinclair's 'optimum' improving rent rise.

A retrospective memo concerning Milton barony on the Castlemilk estate in the relatively early period, 1731–61, indicates annual rent revenue rose over three and a half times (from £175 to £632) in those 30 years.[63] Table 8 shows ongoing rents for a sample of unenlarged, improving Castlemilk farms during a later period. Farm rent increases ranged from zero (Netherton/Gartsheugh) to over five and a half times original rents (Windlaw), with average farm rent increase of 240 per cent over those 22 years. Extrapolated pro-rata over 30 years, this suggests average farm rents rose by 327 per cent – higher than the earlier Milton barony increase and substantially above Sinclair's 'optimum' fourfold rise. Farm rents did not, however,

[63] NLS, Ms 8200, fos 82–3.

TABLE 8. Individual farm rents (sample), Castlemilk estate, 1799–1821 (£Sterling).

| *Farm* | *Rent* | | *Percentage rise* |
|---|---|---|---|
| | *1799* | *1821* | |
| Bowhouse | 110 | 325 | 195 |
| East Cassilton | 82 | 250 | 204 |
| Croftfoot | 55 | 174 | 216 |
| Gallowhill | 70 | 230 | 231 |
| Netherton/Gartsheugh | 150 | 150 | 0 |
| Windlaw | 45 | 250 | 455 |
| Parklees | 30 | 119 | 296 |
| Picketlaw | 50 | 210 | 320 |

*Source*: NLS, Ms 5325, fos 2–19, 241.

rise uniformly across the estate. Total annual rents for five improving farms within Torrance and Kilbride baronies (where livestock pasturing predominated) rose from £165 p.a. in 1801 to £339 p.a. in 1831, effectively only doubling over 30 years.[64]

In the 1750s, most Newhailes tenants paid predominantly grain rents; as noted earlier, three out of ten tenants still did so in the 1790s.[65] Specific details on individual farm rents are, however, scarce and somewhat contradictory; Morham Mains and Ludgate Loch farms are recorded as paying the same annual rents in 1791 as they paid in 1751 (respectively £160 and £8 8*s*.), but Overhailes farm, delivering an exclusively victual rent of 64 bolls wheat, 72 bolls bear and 64 bolls oats, valued (using relevant 'medium-sort' Haddington fiars) at £136 10*s*. in 1751, apparently paid £370 in annual cash rent in 1791, representing a pro-rata doubling of farm rent over 30 years.[66]

The foregoing analysis – with due acknowledgement to the inevitable inaccuracies brought about through the processes of extrapolation – suggests that, over 30-year periods of estate improvement, average farm rents on the improving Hamilton, Saltoun, Yester and Castlemilk estates rose between three and a half and just over four times. These rent rises occurred mainly in times of consistently rising market prices. On one estimate, average (Scottish) grain prices (oats) in the early 1800s were around 226 per cent higher than those in the later 1760s.[67] Corresponding 40-year average farm rent increases for the four improving estates referred to (extrapolated from the 30-year averages calculated earlier) were between 326 (Saltoun) and 436 per cent (Castlemilk). While average farm rent increases might thus have outstripped rises in grain price, the potential for greatly enhanced farm output ensured both profits and capital accumulation continued to grow for tenants and proprietors on these improving estates.

[64] NLS, Ms 8220, fos 84–6, 97–100: The farms were Hurlawcrook, Upper Backraw, Murrayhill, Lachlyock, and Newfarm.

[65] NLS, Ms 25,799, fos 14–21, 40–47; 25,789, fos 26–7.

[66] NLS, Ms 25,789, fos 19–20, 26–7. See n. 23.

[67] T. M. Devine, *Clearance and improvement. Land, power and people in Scotland, 1700–1900* (2006), p. 53.

TABLE 9. Rental value of Craighead farm, Crawford, 1772 (£Sterling).

| *Acreage* | *Type of land* | *Rental value per acre* | *Total rental value* |
|---|---|---|---|
| 120 | Enclosed cultivated land | 15*s.* | £80 0*s.* 0*d.* |
| 130 | Hard hill pasture | 4*s.* | £27 12*s.* 0*d.* |
| | | | £117 12*s* 0*d.* |

*Source*: HPL, 631.1/245, Burrell journal, May-July 1772, pp. 87–8.

TABLE 10. Valuation, Netherton farm, Crawford 1771 (£Sterling).

| *Quantity* | *Item* | *Value* | *Total value* |
|---|---|---|---|
| 101 acres | Croft | 20*s.* per acre | £101 0*s.* 0*d.* |
| 580 acres | Outfield | 5*s.* 6*d.* per acre | £159 10*s.* 0*d.* |
| 1566 acres | Pasture | 5*s.* 2*d.* per acre (average) | £404 0*s.* 0*d.* |
| 232 soumes | Cattle and sheep | 25*s.* per soume (average) | £290 0*s.* 0*d.* |
| 159 bolls | Sowing | 10*s.* per boll (average) | £79 10*s.* 0*d.* |
| Value (annual rent plus farm output) | | | £1034 0*s.* 0*d.* |

*Source*: HPL, 631.1/242, Burrell journal, Feb.–Aug. 1771, pp. 127–8.

The similarity in farm rent increases on the improving Hamilton, Saltoun, Yester and Castlemilk estates might suggest application of common rent-setting formulae. Across the six estates improved rents appear to derive mainly from application of variable rent-per-acre assessments, an example of which is shown in Table 9, illustrating how an initial improving rent was set for a 250-acre farm on the Crawford Estate in South Lanarkshire. Other examples of the same practice can readily be found. Improved rents for newly enclosed holdings in Coulston parish in Castlemilk in 1817 had rent-per-acre rates ranging from £1 1*s.* to £3; tenant bids for the improved farm of Wester Maigrie at Saltoun in 1818 offered between £1 18*s.* and £2 5*s.* per acre, while bids for varied enclosures at Newhailes ranged between £1 8*s.* and £2 6*s.* 8*d.*; Yester factors valued former outfield areas of the improving farm of Newbigging at 15*s.* per acre when 'properly enclosed'.[68] Rent-per-acre values were derived from crop estimates; East and Mid Coats farms on the Hamilton estate in 1771 had rent-per-acre rates of 33*s.* and 24*s.* for former infield and outfield lands, based upon estimated average (mixed?) grain output of eleven (infield) and eight (outfield) *firlots* per acre.[69] John Burrell, Hamilton improvements manager, set initial improving rents for mixed arable and grass farms 'by the seed and by the acre', as in the example in Table 10.[70] The calculations appear to suggest an annual rent of £664 10*s.*, employing 'rent by the acre' categories as set out in the first three lines, but estimated livestock

[68] NLS, Ms 5325, fo. 199; 17,157, fos 129–30; 25,789, fo. 42; 14,746, fo. 58.

[69] HPL, 631.1/242, Burrell journal, Feb.–Aug. 1771, p. 147. A *firlot* was a quarter-boll (around 1.2 English bushels).

[70] ibid., pp. 127–40.

and crop returns apparently amount to only £369 10*s*. In fact, this calculation only makes sense if what is shown is *projected* improving rent against *existing* (unimproved) farm output, in which case farm output needed to double in value (not unachievable for an improved farm) for rent and output to be in reasonable balance.

Other examples provide a more appropriate correlation between improved rents and farm output. Lowerton farm on the Saltoun Estate had crop returns valued at £410 in 1819 against an annual rent of £302, while Hookhead farm on the improving Hamilton Estate in 1781 had an annual rent of £29 15*s*. against farm output valued at £59 10*s*., setting improved rents at half to three-quarters of the estimated annual output.[71]

## III

The unprecedented changes that accompanied comprehensive estate improvement must have bewildered and dismayed many farm tenants, some of whom, even in the 1760s and '70s, had remnants of ancient runrig and infield-outfield divisions within their holdings.[72] In general, however, lowland landlords, despite tenant apprehensiveness and frequent failure to stock improving farms adequately, still apparently preferred to carry forward estate improvement, where possible, via the 'indigenous tenantry'. In the Hamilton improvement scheme, it was proposed, perhaps sometimes reluctantly, to bring tenants on 'by degrees' rather than replacing them with more willing, 'substantial' tenants.[73]

In formal terms, the 'methods of improvement' and the 'proposed rentals' specified within improving tacks had to be fully accepted by tenants.[74] All estate papers nevertheless record tenant lease bids well below proposed rent levels. The lowering of the stipulated improved rent to accommodate such bids was rarely allowed. (An uncharacteristic reduction from £1300 to £788 per annum for the 'much improved' Middlemains farm at Saltoun in 1814 was soon withdrawn, and the farm let on a short-term 'holding lease' until a tenant willing to pay the full rent was found.)[75] But improved tacks were complex packages specifying both rents and intrinsic 'improvement' allowances, often including the regular supply of processed lime for soil-enrichment, estate-sponsored enclosures or 'rewards' for tenant-led enclosures, or investment in the extension or repair of farm buildings. Any farm rent concessions were usually tied to such allowances. On the Castlemilk estate in 1782, a reluctant tenant was offered a reduced initial annual rent if he agreed to erect enclosure fencing in subsequent years. A prospective tenant for the amalgamated farm of Monkrigg-Mitchellhall on the Saltoun estate in 1806 was offered £100 reduction from his annual rent of £700 if, in the course of his lease, he undertook

[71] NLS, Ms 17,159, fo. 101: HPL, 631.1/264, Burrell journal, 1780–82, p. 359.

[72] Of the 42 farms set for improvement at Hamilton in 1765, over 30 required scattered runrig possessions to be 'laid together and enclosed' before improvement could proceed (HPL, 631.1/236, Burrell journal, 1763–9, pp. 62–75): at Saltoun areas of the estate were still 'largely unenclosed' even in the 1770s (NLS, Ms 17,246, fo. 7).

[73] Devine, *Transformation of rural Scotland*, pp. 106–7; Devine's specific reference was to the characteristic approach employed on the improving Hamilton Estate, although Burrell admitted that reliance on the existing tenantry was partly conditioned by a failure to attract 'expert and substantial' tenants (HPL, 631.1/236, Burrell journal, 1763–9, p. 202).

[74] HPL, 631.1/236, Burrell journal, 1763–9, p. 79.

[75] NLS, Ms 17,156, fos 16–17.

to repair farm buildings and supervise the installation of a new threshing mill.[76] A Hamilton tenant was assured in 1819 that his new improving tack, while requiring increased annual rent, bound the proprietor to erect 'a stable, byre, cart shed and milkhouse', while another, fretting over the asking rent of £80 per annum for Skellyton farm in 1765, was promised 'ten kilns of lime yearly' for the first three years of his lease if the full rent were paid.[77] Such concessions were designed to improve the estate as well as cajole tenants to pay higher rents. John Burrell noted that, while 'nothing will prompt tenants more to come up to the proposed rent than a premium of lime', neither could it 'be more for the Duke's interest'.[78]

Valued tenants had such concessions increased in difficult times. Allowances for poor crop yields, where the estate had failed to complete stipulated enclosures, were paid out at Hamilton and Saltoun, following poor harvests in the early 1770s and 1780s.[79] Between 1773 and 1778 the Hamilton estate journals record 35 instances of action initiated against tenants with serious rent arrears, but also itemize 32 grants of increased allowances against rent.[80] Between 1783 and 1787, when rent arrears were even more extensive, tenant allowances were proportionally higher (51 against 25 instances of punitive action).[81] Burrell strove to provide financial compensation for 'every article of improvement' made by tenants during difficult times.[82] Such generosity, specifically focused on 'good' tenants struggling in adverse circumstances, even encompassed market fluctuations. In the difficult early 1780s, the tenant of Allanton farm had his annual rent of £200 reduced by £25 because, having leased his farm 'when prices of grains were high', he struggled to meet his obligations as prices slumped.[83] The principal tenant of Lettrick-Dechmont farm, paying annual rents of nearly £500 with debts of over £1,500 'for arrears of crop 1777 and preceding years', was similarly granted a generous 'one-off' allowance of £700 'on account of falling markets since the commencement of the tack [in 1771]'.[84] Interestingly, the estate, presumably afraid that such generosity might provide a potentially ruinous precedent, ordered that the tenant 'never let it be known what indulgence was given'.[85] At Saltoun, such allowances were especially notable in the serious market depression following the end of the Napoleonic Wars in 1815. The tenants of Maigrie and Middle Mains farms were given rent abatements because, 'despite much-improved practice', falling market prices had made their farms 'too high-rented'; a neighbour in Blanceburn farm had his annual rent reduced by one-third to compensate for the fall in 'local grain prices'.[86] By 1816, total Saltoun rent arrears amounted to £4383 against corresponding annual rents of £3331.[87] The most successful Saltoun 'capitalist farmers' William Hepburn and John Walker, with debts to the estate of £1770 in 1816, were offered up to 25 per cent reduction on their total annual rents of £1835, it being thought

[76] NLS, Ms 5329, fos 144–5; 17,153, fos 54–5.

[77] HPL, 631.1/288, Burrell journal, Jan.–Dec. 1819, pp. 26–7; 631.1/236, Burrell journal, 1763–9, p. 98.

[78] HPL, 631.1/236, Burrell journal, 1763–9, p. 98.

[79] HPL, e.g. 631.1/249, Burrell journal, 1773–8, pp. 89, 92–6 (1774); 631.1/274, Burrell journal, 1784–7, pp. 139, 186 (1786). NLS, Ms 17,151, fos 126, 127, 129 (1780s).

[80] HPL, 631.1/249, Burrell journal, 1773–78, e.g. pp. 6, 31, 53, 92.

[81] HPL, 631.1/269, Burrell journal, 1782–3, e.g. pp. 36, 125, 210: 631.1/274, Burrell journal, 1784–7, e.g. pp. 27, 81, 94.

[82] HPL, 631.1/249, Burrell journal, 1773–8, pp. 134–5.

[83] HPL, 333.3 fo. 19: 631.1/264, Burrell journal, 1780–2, p. 26.

[84] HPL, 631.1/ 259, Burrell journal, 1778–80, p. 91.

[85] ibid.

[86] NLS, Ms 17,156, fos 227–30; 17,158, fos 162–3.

[87] NLS, Ms 17,156, fos 220–1.

'inadvisable to part with these tenants if they can possibly be supported'.[88] In a remarkably sustained episode of proprietary support, an improving tenant of Spittal farm on the Castlemilk estate between 1811 and 1831 had his annual rent of £310 reduced progressively to £260, and finally to £180, because 'although industrious … he met with many losses'.[89]

Harsher proprietary actions often accompanied such concessions. In the bad years of the mid-1770s and '80s (see above), indebted Hamilton tenants were persistently 'pushed for payment' and some subsequently ordered to 'pay up or be removed'.[90] 'Due diligence' – provision of surety for arrears, often from friends or relations – was frequently demanded; 'ultimate diligence' – imposing sequestration of assets to clear arrears, accompanied in the most hopeless cases by forced eviction via a 'decreet of removing' – was the wretched final step.[91] On the improving Hamilton estate, 'due diligence' was applied when arrears exceeded a year's rent. In the earlier 1770s, 43 of 82 Hamilton tenants in significant arrears had crop returns and livestock 'valuated' against respective arrears – a preparation for sequestration of assets.[92] In the earlier 1780s, 101 Hamilton tenants with arrears 'thought recoverable' owed £3556 against total annual rents of £4390, while 41 tenants had 'doubtful' or 'desperate' arrears totalling £2849, more than double their annual rents.[93] At Yester, as early as the 1730s, farm tacks stipulated that if a tenant had arrears of two or more years rent 'it shall be lawful for the proprietor summarily to remove him'.[94] By the 1760s Castlemilk farm leases were '*ipso facto* void and null' in similar circumstances, and the same procedure applied by 1820 on the Lee Estate.[95] From around 1800 Saltoun proprietors were authorized by tack to apply to the 'Judge Ordinary' (the county sheriff or his substitute) to remove tenants owing over one year's rent.[96]

Despite such apparent willingness to evict, the actual extent of tenant removal for non-payment of rent is often unclear. Individual tenants with conspicuous rent arrears can be readily identified, and their ultimate fate sometimes discovered. Saltoun evictions in the post-1815 years included both the indebted tenant of Blanceburn farm, and the estate's most substantial tenants, Hepburn and Walker.[97] The struggling tenants of Lampuckwells and Barleymill farm were similarly evicted in 1819 and 1820.[98] Others, variously threatened with sequestration of crops or proprietary repossession, appear to have survived.[99] But, even if the five verifiably evicted Saltoun tenants were the only removals, this loss still represents around 20 per cent of the whole Saltoun tenantry.[100] It has been estimated that Hamilton estate tenant numbers fell by around 13 per cent between the 1750s and 1790s, but this resulted from farm amalgamations and voluntary migration as well as from forced evictions, and, as at Saltoun, specific references to forced removals are rare within Hamilton estate records.[101] As noted earlier, preliminary

[88] NLS, Ms 17,156, fos 226–8.

[89] NLS, Ms 8220, fos 97–100.

[90] HPL, 631.1/249, Burrell journal, 1773–8, e.g. pp. 67, 95; 631.1/264, Burrell journal, 1780–2, e.g. pp. 29, 30, 31.

[91] HPL, 631.1/249, Burrell journal, 1773–8, e.g. pp. 31, 92–3; 631.1/269, Burrell journal, 1782–3, pp. 344, 355.

[92] HPL, 631.1/249, Burrell journal, 1773–8, pp. 12, 40–49, 55–6.

[93] HPL, 631.1/264, Burrell journal, 1780–2, pp. 52–8.

[94] NLS, Ms 14,747, fos 136–7.

[95] NLS, Ms 5329, fo. 77; 27,578, fo. 18.

[96] NLS, Ms 17,152, fos 143–4.

[97] NLS, Ms 17,158, fos 28–9; 17,157, fos 61–2.

[98] NLS, Ms 17,158, fos 58–9, 181; 17,159, fos 7–8, 18–19.

[99] For example the tenant of Cauldshiel farm, who was threatened at one stage with removal, but apparently survived (NLS: Ms 17,158, fos 60–1; Ms 17,159, fos 98–9).

[100] There were 24 listed farm tenants in 1817–19 (NLS, Ms 17,157, fos 73–4, 232–3).

[101] Devine, *Transformation of rural Scotland*, p. 115.

sequestration of crops and livestock were initiated against 43 tenants with serious rent arrears in the mid-1770s, and 41 tenants had rent arrears considered to be 'irrecoverable' in the mid-1780s. If forced removal was applied in all these cases, up to 20 per cent of estate tenants might have been dispossessed in each decade (which is in line with the estimated Saltoun evictions for the post-1815 period).[102]

## IV

Despite seventeenth and early-eighteenth century examples of partial monetization of farm rents, notably on the Yester, Castlemilk and Lee estates, principal cash rents, as established in published research for Lowland agriculture as a whole, did not predominate across the six estates until the mid-eighteenth century and Newhailes farm rents retained significant elements of payment in kind even in the 1790s.

Detailed analysis of developments on the six estates between *c.*1670 and *c.*1760 suggests that rent monetization was delayed by a general proprietary desire to retain control of ongoing change by instituting gradual rather than comprehensive estate improvement, which served to delay the more costly innovations. The notion of such 'top-down' agricultural change in the first half of the eighteenth century is hardly a novel concept, but the detailed repercussions of the typically conservative proprietary approach have arguably not been fully explored. Examples of pre-1760 improvements in soil enrichment, adoption of new crops, farm enlargement and other categories can of course be found, but comprehensive farm enclosure and subdivision were often postponed. The Hamilton and Saltoun estates were still 'largely unenclosed' in the 1760s and '70s. Increased crop output, although modest in scale, came from limited improvements that included the extension of regular cultivation to moorland and 'outfield' areas previously only periodically ploughed and cropped. Such conservative agricultural development could be supported by the continued employment of traditional rent structures, adapted to proprietary market requirements for gradually increasing grain fermes (proportional to rising farm output) and market quality produce. Continuing rent payments in kind additionally gave proprietors a stake in increased profits in times of rising food prices (fixed or only periodically renegotiatiable money rents were less flexible), while the application of local grain fiars facilitated accurate assessment of proprietorial losses caused by poor quality grain fermes. Significant tenant market involvement was not apparent on these estates until the 1750s; at Castlemilk and Saltoun such market-participation was initially tenant-led, although by the early 1800s at Saltoun, and at Hamilton from the mid-1760s, full tenant market-participation and farm-rent monetization were established components of comprehensive, estate-sponsored improvement schemes.

Consistently rising agricultural prices after 1780 encouraged both wider tenant market-involvement and increasing rent monetization. After that date, the only references in estate papers to payments in kind are at Newhailes. Cash rents increased rapidly in the later eighteenth century, although precise rates of overall Lowland farm rent increases have not yet been fully researched. It is generally agreed that rack-renting was rare across the region; on the selected estates proprietors typically set improving rents using graduated rent-per-acre assessments

[102] Around 220 tenants are listed in the annual estate rentals for 1775–83 (HPL, 333.3, fos 3–19).

for different types of land, with some consideration for estimated individual farm output. This paper suggests that this process resulted in notably similar increases on the improving Hamilton, Saltoun, Yester and Castlemilk estates, average farm rents rising to three and a half or just over four times unimproved rents, calculated over corresponding 30-year periods of continuous estate improvement, increases on or around Sir John Sinclair's 'optimum' fourfold increase in farm rents over such a period. Farm rents actually rose faster than average grain prices between 1780 and 1815, but substantially increased productive output on improved farms ensured continuing profitability.

Improving proprietors on the selected estates (as generally across the Lowlands) tended to retain existing tenants rather than take on wealthier outsiders. Stipulated 'improving' farm rents, in principle non-negotiable, were in practice frequently reduced, usually on pledges of subsequent tenant-driven improvements. Allowances for already completed improvements and, in bad years, compensation for crop failures were permitted. On the Hamilton estate, following poor harvests in the early 1770s and 1780s, such allowances outnumbered legal actions against tenants with rent arrears. Rent reductions for falling market prices were allowed at Hamilton and, especially during the post-1815 market depression, at Saltoun. But legal measures involving debt security, sequestration of assets and warrants of eviction simultaneously increased – at Yester, Castlemilk, Hamilton and Lee against tenants with two or more years' accumulated rent arrears, at Saltoun with one year only. One in five tenants at Hamilton in the 1780s and on the post-1815 Saltoun estate were subjected to serious legal action, although the numbers ultimately suffering forced eviction are unclear. In retrospect, we can see that rent modernization and improvements were responses to rising market demand in the late eighteenth-century. When these favourable conditions faltered in the post-1815 depression, continuation of the impressive pace of lowland estate improvement was seriously challenged.

# George Boswell of Puddletown (1735–1815): progressive farmer and author

*by* Joseph Bettey

*Abstract*

This paper explores the career of an unusual eighteenth-century innovator. George Boswell was not only the author of the first detailed and practical guide to the creation, lay-out and management of water meadows, but is also a good example of a working farmer eager to incorporate new ideas, new crops and improved implements into his farming practice. His advice was sought and his expertise valued by several leading agriculturalists during the late eighteenth century, including Arthur Young and Robert Bakewell. His letters to George Culley provide a great deal of information about farming methods and conditions in Dorset, and his contributions to the Bath and West Agricultural Society give details of his construction of and experiments with ploughs, rakes, drills and threshing machines.

George Boswell deserves to be remembered, not just as the author of an informative account of the techniques of watering meadows, but as a remarkable example of a practical farmer eager to embrace the latest farming advances, and as the respected correspondent and informant of some of the leading agricultural innovators of the time. His contributions to the early publications of the Bath and West of England Society and his experiments with ploughs, drills, threshing machines, new crops and improved methods make him of national rather than purely local importance. These achievements are the more noteworthy in that he spent his entire life as a hard-working tenant farmer, shopkeeper, land-agent and tithe-collector in the district around Puddletown in south Dorset, and seldom had the leisure or the money to travel far from home.

Little is known of his origin or early life, except that he was born in Norfolk in 1735, and came to Puddletown as a young man and spent the rest of his life there, with only occasional visits to his native county. It is probable that he came to Puddletown in the service of Robert Walpole, second Earl of Orford, whose principal seat was at Houghton in Norfolk. The Earl had acquired the manor of Puddletown through his marriage in 1724 to Margaret, daughter and heiress of Samuel Rolle of Heanton, Devon.[1] Another link with Norfolk was later provided by the Rev. Dr Philip Lloyd (1729–90), who had been a tutor to the family of Earl Temple of Stowe, Buckinghamshire and who became Dean of Norwich and vicar of Puddletown in 1765. The non-resident rector employed Boswell as his agent.[2] Soon after his arrival in Puddletown,

[1] J. Hutchins, *History of Dorset* (third edn, 1863–70), II, p. 615.

[2] Dorset Record Office (DRO), PE/PUD/IN5/1/1, agreements and correspondence about Puddletown tithes, 1695–1822.

Boswell engaged in several business enterprises, as well as farming on his own account and acting as land agent for local landowners. On 12 June 1760 he married Sarah Chapman of Puddletown.[3] She was the daughter of the Rev. John Chapman, a schoolmaster who also took gentlemens' sons into his household as boarders. A detailed survey of the inhabitants of Puddletown made by the vicar in 1769 shows George Boswell and his wife Sarah living in the Market Place with three children, four servants and two of Sarah's unmarried sisters. There they had a shop selling groceries, clothing, cloth, buttons and thread.[4] George Boswell later appears in the Puddletown overseers' accounts as a supplier of bedding, tape, thread and buttons for the use of the parish poor.[5] In his correspondence he mentions his business as a maltster, and may also have been involved in tanning, since one of the buildings listed in the 1769 survey is described as 'Mr Boswell's Skin House'. The parish registers record that several children were born to George and Sarah Boswell, but most of them died in infancy, and only George (born 1761), Sarah (born 1768) and Samuel (born 1769) survived to adulthood.[6] George suffered from a severe mental disorder and in 1779 was confined in a private lunatic asylum at Halstock where he died sometime after 1790.[7] The parish register records that Sarah Boswell 'wife of Mr George Boswell' was buried on 10 July 1777. He did not re-marry. His household was managed and his children cared for by his sister-in-law; later his daughter Sarah kept house for him.

As well as his work as a land agent for the Earl of Orford and others, and his grocery and mercer's business, Boswell supervised the glebe lands for Dr Lloyd, collected the tithes, dealt with several complex tithe disputes and kept the non-resident vicar informed about local affairs. He represented the vicar in disagreements with local farmers over tithes due on items such as milk, wool, wood-faggots and lambs born to sheep temporarily pastured outside the parish. Later, Boswell leased the tithes himself. He was involved with other local landowners, including James Frampton of Moreton, the Rev. Dr Henry Arnold of Ilsington, who was a canon of Wells cathedral, and the Earl of Ilchester, representing them in dealings over enclosures on the nearby heath, forestry and land reclamation. In 1785 he provided detailed surveys and valuations of their Ilsington estate for the Arnold family, and continued for many years to be involved in the management of their property. In 1802, for example, he was given full power to act on behalf of the Arnolds in a complex dispute over the precise boundaries between their land and that of the adjacent Walpole estate.[8] It is clear from his letters that George Boswell had received a good education, and that he had a lively, enquiring and essentially practical mind. His main interest was in farming and especially in agricultural improvements. He was a practical farmer, renting land from various estates in Puddletown and district. He was involved in the management of the charity school at Puddletown, served as Overseer of the Poor in 1775, and was deeply concerned about the appalling conditions of the Dorset agricultural labourers. Boswell was evidently well-respected as a farmer and land agent, and in 1774 the Rev. Dr Philip Lloyd recommended him

[3] DRO, PE/PUD:RE 3/1, Puddletown Parish Register.

[4] C. L. Sinclair Williams (ed.), *Puddletown: an account of the inhabitants, 1769* (Dorset Record Soc., 11, 1988).

[5] DRO, PE/PUD/OV1/21/4; 5, Puddletown overseers' accounts.

[6] DRO, PE/PUD: RE 3/1.

[7] DRO, PE/PUD/IN5/1/1. I am grateful to Mrs Jennifer Hawker for supplying the information about the Halstock asylum.

[8] DRO D/PUD/M6–9, Earl of Orford's Puddletown estate, 1760–96; Wiltshire and Swindon Record Office (WSRO), 873/96, papers relating to Ilsington Farm, Puddletown.

to his patron, Earl Temple of Stowe, as a suitable man to survey and value a large estate at Eastbury in the parish of Tarrant Gunville which the Earl had inherited in 1762 from George Bubb Doddington.[9] In 1779 Dr Cummings, a respected physician from Dorchester, wrote to Edmund Rack, the secretary of the recently-formed Bath and West of England Agricultural Society, to recommend the experimental work of 'Mr Boswell, an ingenious Farmer in this neighbourhood'.[10] James Frampton granted Boswell a lease of Waddock Farm on the bank of the river Frome at Affpuddle, three miles from Puddletown in 1790. Frampton recorded in his Estate Diary:

> Waddock Farm has been in most slovenly hands and under sad management for a number of years, but is now lett to Mr George Boswell of Piddletown, who entered on it and has conducted it with uncommon spirit.

Frampton added that he had kept the rent low, below the market price on the grounds that Boswell would be 'a sensible, active, responsible and good tempered neighbour'. There could hardly be a warmer tribute to a tenant from his landlord. Waddock Farm comprised 344 acres and the rent was £260 per annum.[11]

## I

It is Boswell's activities as an agricultural improver and innovator that are particular interest. In his work as a land agent he regularly suggested improvements such as the introduction of turnips, sainfoin, vetches and buckwheat, together with close adherence to cropping rotations. For example, in a valuation of Ilsington Farm in 1785 Boswell recommended cultivation of some pasture to rid it of moss, and insisted that the tenant should not be permitted to take 'more than two crops of corn following Turnips, Fetches upon the same, or Buck Wheat ploughed in not esteemed a crop'.[12] He took particular pains in the cultivation of turnips, obtaining seed from different sources and asking Dr Lloyd to send him yellow turnip-seed from London. During the 1790s he obtained oats, peas and seed potatoes by sea from Northumberland, and 'Poland oats' which were imported into Weymouth.

Boswell was involved from the beginning with the Bath and West of England Agricultural Society founded in 1777, the earliest such society in the country. On 4 December 1777 Boswell sent to the Society a detailed description of a model plough which he had constructed with 'an accurate engraving on a scale of three inches to a foot'. Having made the plough himself, he was able to supply complete costings: 'carpenters bill 10*s*. 0*d*., smiths bill for iron work 7*s*. 0*d*., materials 3*s*. 6*d*.'.[13] The plough was described in great detail in the Society's second volume

[9] Huntingdon Library, Pasadena, Stowe Collection, STG Box 422. This letter was found by Mr George Clarke and I am indebted to him for providing me with a transcript of it.

[10] Bath Record Office, Bath and West of England Agricultural Society, First Correspondence Book, 1777–82, p. 224.

[11] DRO, D/FRA/E32, leases on the Frampton estate; T9–10, Frampton Estate, Waddock Farm leases; E68, James Frampton's diary.

[12] WSRO, 873/96, papers relating to Ilsington Farm, *c*.1650–1814.

[13] Bath Record Office, Bath and West of England Agricultural Society, First Correspondence Book, pp. 44–49, 275–9.

of *Letters and Papers* in 1783, with a carefully-labelled drawing entitled 'Mr Boswell's Norfolk plough' showing its construction and dimensions. No doubt drawing upon his experience as a young man in Norfolk, Boswell designed his plough with one share and coulter attached to a sturdy beam with one handle and two wheels. He summarized 'the superior advantages of the Norfolk plough over every other sort I have seen' as follows:

> It goes with only two horses without a ploughboy. Two good able horses with one of these ploughs will break up the strongest [level] land I ever saw in Somersetshire. At a proper season it will plough nearly an acre a day. Having but two horses, and those going a-breast the ploughman, can always see between them, and by that means draw out his work as straight as a line can be stretched. This makes his furrows as true and exact as it is possible to be conceived.

The contrast could not have been greater between Boswell's elegant plough and the heavy, cumbersome plough, known as a 'sull' or 'zull', then in common use in Dorset, and requiring four horses or six oxen to draw it.[14]

In 1779 Boswell wrote to the Bath and West Secretary, Edmund Rack, sending details of a machine which he had constructed 'for raking summer-corn stubbles'. He wrote that it was the Dorset practice to employ women with hand-rakes for this task, but that he had found it difficult to find a satisfactory labour force. He continued that 'having for many years used the Norfolk ploughs here, I thought a rake might be so constructed as to go on the breast-work of one of these ploughs in the same manner as the plough itself is used'. He gave details of his experiments with the implement, its construction and the manner of using it, and concluded that 'To my great satisfaction, I found it succeeded even beyond my expectation … One horse and a boy to lead him, with a man to clear the rake, will easily rake twelve acres of stubble in a day, and if two horses are taken into the field to be used alternately, twenty acres might be raked in the same time, but this would be hard work for the man'. In September 1779 he attended a meeting of the Society to demonstrate his invention, and was warmly thanked for his contribution.[15] Later, he records the construction and experiments with seed drills and threshing machines.

It was, above all, his work on water meadows which established Boswell's reputation and importance. The technique of carefully-controlled watering of meadows to produce early grass had been introduced at Puddletown and Ilsington earlier than anywhere else in the country, and was already established there by the first decade of the seventeenth century. Nowhere was the technique of watering to encourage spring feed for sheep and lambs, to be followed by an abundant hay crop, better understood or practised than in this district lying between two chalkland rivers, the Piddle and the Frome. As early as 1605 there are references to channels and ditches being constructed across the Broadmoor at Puddletown, and to the creation of water meadows at Affpuddle in the same year.[16] In 1608 four tenants at Ilsington, encouraged

[14] Bath and West Society, *Letters and Papers on agriculture, planting etc* (14 vols, 1780–1816), II, pp. 356–60.

[15] Bath and West Society, *Letters and Papers*, I, (1780), pp. 45–50.

[16] J. Bettey, 'The Development of water meadows in Dorset during the seventeenth century', *AgHR* 25 (1977), pp. 37–43; id., 'The floated watermeadows of Wessex: a triumph of English agriculture' in H. Cook and T. Williamson (eds), *Watermeadows* (2007), pp. 8–22.

by the landowner, Henry Arnold, entered into a complex agreement to construct and maintain a watercourse 900 yards long and seven feet wide to bring water from the river Frome to water their meadows.[17] The practice had spread rapidly and by the end of the seventeenth century had become an essential feature of farming in the district, enabling large flocks of folding sheep to be kept and provided with grass during the 'hungry-gap' of early spring. In his *General View of the Agriculture of Dorset*, 1793, John Claridge reported that in Dorset 'the proportion of water meadows is no where so great, or any where better managed; the early vegetation produced by flooding is of such consequence to the Dorset farmer that without it their present system of managing sheep would be almost annihilated'.[18]

In farming at Puddletown and district Boswell had become an expert on the creation of water meadows and the techniques of watering, and in 1779 his book *A treatise on watering meadows* was published.[19] This brought him a national reputation as an exponent of agricultural improvement. The book was jointly dedicated to his landlord, James Frampton and to the Earl of Ilchester, the first president of the Bath and West Agricultural Society. Both men had encouraged Boswell to publish his work. The Rev. John Hutchins, the author of the magisterial *History of Dorset* first published in 1774, who spent his life in the district, evidently knew Boswell and was familiar with his work and local reputation. Hutchins described him as an ingenious farmer who had introduced new and successful agricultural methods, and added that the idea for a book on water meadows was suggested to Boswell 'by a gentleman to whom he had great obligations and who died before the publication of the third edition' (1790).[20] This was James Frampton who died in 1784. Frampton's farming methods and his large acreage of well-managed water meadows were highly commended by Arthur Young during his *Tour of Eastern England* in 1771.[21] Hutchins adds that Boswell was also 'encouraged by the correspondence of gentlemen in different parts of the kingdom, particularly the Rev Theophilus Houlbrook of Hollygrove, Salop'.[22] Boswell's book provided a full account of the methods and benefits of watering meadows, with detailed descriptions, plans and diagrams of hatches, channels, drains and tools. He addressed the practical problems of surveying, levelling, building hatches in the river bed and regulating the water to ensure swift, even flow over the whole surface of the meadow, adding that 'the art of watering consists in giving every part of the meadow its due quantity of water equally alike'. Boswell could claim that his book was the first detailed and illustrated description of all the techniques of watering meadows. He stressed that his work was the result of several years experience, 'the genuine work of a practical farmer', and assured his readers that 'the plans are actually drawn from meadows now watered'. He deplored the fact that so many large areas of land beside streams and rivers – which could easily be watered – were neglected, unimproved and boggy, 'a reproach to the age, a disgrace to the country, and a nuisance to the occupiers'. He provided a full account of the management of the meadows and details of the annual cycle of the work required

[17] WSRO, 873/96.

[18] J. Claridge, *A general view of the agriculture of Dorset* (1793), p. 34.

[19] The full title was *A treatise on watering meadows: wherein are shewn some of the many advantages arising from that mode of practice, particularly on coarse, boggy, or barren land*.

[20] Hutchins, *Dorset*, II, p. 623.

[21] A. Young, *Farmer's Tour through the East of England*, (4 vols, 1771), III, pp. 283–6.

[22] Hutchins, *Dorset*, II, p. 623.

and summarized their advantages as increasing the supply of winter feed and consequently the quantity of manure for the farm; producing a good crop of hay even in a dry summer; providing abundant early grass for a flock of breeding ewes and their lambs before the natural growth of grass has occurred. Boswell saw the expense of maintaining the meadows as small in relation to the advantages. Moreover meadows brought social advantages, 'almost the whole of the expenses in this mode of cultivation is the actual manual labour of a class of people who have no genius to employ their bodily strength in other ways for their's and their family's support'.[23]

Boswell's book achieved considerable success. Whilst the first edition was privately printed, a second soon followed and a third was published by Debretts in 1790. The book was praised by John Claridge in 1793 and was warmly recommended by Thomas Bayley, a member of the Board of Agriculture, in a lecture on Manures in Manchester in 1785, which was later published. Bayley pointed out the efficacy of water as a manure and suggested that all who wished to improve their land by irrigation or floating should read Mr George Boswell's book.[24] The publication of his book brought Boswell to the attention of leading agriculturalists, including Robert Bakewell of Dishley, Leicestershire, who was engaged in an ambitious programme of livestock improvement by selective breeding. Bakewell came to Puddletown in 1788 to inspect Boswell's meadows for himself. In a letter to the Bishop of Llandaff, whose main interest was in his estate at Rydal, Westmorland, and who had asked for advice on creating water meadows, Bakewell wrote on 25 November 1788

> I spent some days with Mr Boswell of Piddletons near Dorchester who has wrote a pamphlet on this subject which does him great credit and which I should recommend to those who wish for information in this way … I have long considered the watering of land as the greatest of all improvements and the most neglected.[25]

In December 1788 Boswell recorded 'the Bishop of Llandaff has written twice to me upon the subject of watering of lands near Winander Meer [Windermere]'. Boswell invited the Bishop's steward to visit him at Puddletown. Shortly afterwards the Duke of Newcastle sent his 'master of works' to inspect Boswell's water meadows, the agricultural writer, Arthur Young, called on him, and he was contacted by William Colhoun, a progressive landowner of Wretham, Norfolk, who was a friend of Lord Orford. Later Boswell became more cautious in providing help and advice to the gentry, writing in 1789 (with reference to the Bishop of Llandaff) that as soon as their own purposes were served, wealthy landowners forgot their informant.[26]

In 1783 Boswell was invited to write a paper for the Bath and West Society 'On watering

[23] Boswell, *Treatise on watering meadows*, p. 14.

[24] Thomas B. Bayley, *Thoughts on collecting and preserving different substances for manure* (1796), pp. 18–19.

[25] H. C. Pawson, *Robert Bakewell* (1957), p. 135.

[26] Boswell's letters have been printed in J. F. James and J. H. Bettey (eds), *Farming in Dorset* (Dorset Rec. Soc. 13, 1993), pp. 117–68, from originals in the Northumberland RO, ZCU/12–27. In this instance the references are to letters of 27 Dec. 1788 (p. 135), 2 Oct. 1792 (p. 152) and 14 Mar. and 9 Sept. 1787 (pp. 127, 132). The Bishop of Llandaff, the Right Rev. Richard Watson, seldom visited his diocese, devoting himself to farming on his estate. He was also Professor of Chemistry at Cambridge although he confessed that on his appointment, he knew nothing of it, having 'never read a syllable on the subject nor seen a single experiment'. *ODNB*, sub Richard Watson, Bishop of Llandaff (1737–1816).

meadows; and the kinds of water found most efficacious for that purpose'. In his paper Boswell emphasized the benefits of clear chalkland water coming straight from a river or stream, and which had not previously been used for watering meadows. He pointed out that experienced watermen claimed that the best water came from near the spring-head or source of the stream. He also discussed in detail the different effects which water had upon various soils, and emphasized that by far the best meadows were those consisting of a light loam with well-drained gravel sub-soil. Upon such meadows, he claimed, the water 'without any foreign assistance has an amazing effect; the fertilizing quality is really astonishing', providing early grass followed by an abundant and reliable hay crop. He refers to correspondence he had had with Arthur Young who had sought his opinion on the same subject, and the fact that Dr Joseph Priestley had quoted a passage from his book in support of 'a new theory of vegetation, by his phlogiston'. In this paper, as elsewhere, Boswell emphasized his own practical knowledge of the subject, declaring 'I write from facts that are every day under my eye'.[27]

In 1789 a Gloucestershire clergyman, the Revd Thomas Wright, who was curate of South Cerney, published a short pamphlet entitled *An account of the advantages and method of watering meadows by art*, based on the system he had seen being used along the river Churn which is a tributary of the Thames. Wright became rector of Ould in Northamptonshire and in 1790 published a much fuller second edition of his work, adding 'as practised in the county of Gloucestershire' to the title. Boswell was scathing in his criticism of Wright's publication, describing the work as superficial and erroneous. In particular, Boswell disagreed with Wright's views on the quality of water best suited to promote an early growth of grass on meadows. Wright, describing methods on the claylands of the upper Thames valley, emphasized the benefits of muddy water during winter floods, whereas Boswell, laid stress on the efficacy of clear water from chalk streams. Wright also claimed that Boswell was mistaken over the qualities of land suitable for watering, the nature of the best sub-soils, the length of time that a meadow should be watered, and over the best methods of building weirs and hatches. In a letter to George Culley of 1789, Boswell wrote

> Have you seen a new treatise upon water meadows by a clergyman in Gloucestershire, if not I dare say you will. People in their zeal for a cause they've espoused generally think they can never point out the advantages too strongly – but by over doing it they often hurt it, such you will find to be the case there.[28]

In a letter to Culley in October 1789, Boswell again referred to Wright's work and added:

> He [Wright] has stated some facts directly opposite to what I had advanced so strongly – that a gentleman, Mr Keld of Beverley in Yorkshire, came to my house, on purpose from London to ascertain the fact (viz. that water as clear as chrystal issuing from springs near, has made as great improvement upon the land as can possibly be conceived) – I carried him to the meadows and convinced him.[29]

[27] Bath and West of England Society, *Letters and Papers*, II, pp. 85–93.

[28] James and Bettey (eds), *Farming in Dorset*, p. 138, Letter 6, April 1789.

[29] James and Bettey (eds), *Farming in Dorset*, p. 141, Letter 7, 25 Oct. 1789.

It was through Robert Bakewell's recommendation that the progressive Northumberland farmer, George Culley, made contact with Boswell. Culley had been a pupil of Bakewell, and with his brother Matthew, was farming a large acreage at Fenton, Northumberland.[30] His approach to Boswell resulted in a long correspondence between 1787 and 1805, of which Boswell's letters have survived among the Culley papers, although with a gap between 1796 and 1804. Sadly, Culley's letters to Boswell have disappeared. Boswell's letters are extremely informative about Dorset farming, with details of cultivation, prices, improved methods and especially concerning livestock husbandry and the management of water meadows. The letters describe Boswell's experiments with spring-sown vetches, rye, clover, drill-sown turnips and winter housing for dairy cows, mentioning the fact that 'cow houses are new things here'.[31] They reveal that in 1788–9 George Culley sent one of his labourers, Henry Rutherford, to Puddletown to be taught the techniques for making and maintaining water meadows. Rutherford remained at Puddletown for several months before returning to Fenton and establishing water meadows there. Boswell laid stress on the fact that the man sent by Culley should be 'a labourer and to be both willing and able to go through the manual part of the work in all weather, as the watermen do here'. He was to come in October and remain until April, 'that is the full season for watering meadows with us'. Boswell agreed to instruct him in the techniques, to show him different meadows and methods, and added:

> A few years since I watered above twenty acres which were never watered before, that will be a model for him, if well attended to.

Fears that a man coming from Northumberland might not be accepted in Dorset were brushed aside:

> His speech and dialect will be no objection. I have the pleasure to say this part of the kingdom amongst the lower class are not deficient in civility to strangers, and I shall with great readiness take him under my protection and show him some degree of attention.[32]

Henry Rutherford's time in Dorset was evidently successful, and in subsequent letters Boswell frequently sent good wishes and messages to him in Northumberland.

Having established a reputation for his writings on water meadows, Boswell tried his hand at other forms of improvement. In 1802 he took a 25-year lease of Oakers Wood from the Frampton estate. This was an area of 125 acres of poor heath and woodland north-east of Waddock Farm. The rent was only a guinea a year, because the ground was said to be in a miserable state, but Boswell undertook to build a farmhouse, barn and stable. The buildings were duly erected by 1809, but in spite of all Boswell's strenuous efforts to convert this poor acidic heathland into a productive farm, the land remained stubbornly unresponsive, and the lease was abandoned

[30] S. MacDonald, 'George Culley of Fenton', *Archaeologia Aeliana*, fifth ser., 3, (1975), pp. 131–41; Anne Orde (ed.), *Matthew and George Culley: travel journals and letters* (British Academy Records of social and economic history, new ser., 35, 2002); Orde (ed.), *Matthew and George Culley: farming letters* (Surtees Soc., 210, 2006). And see also D. J. Rowe, 'The Culleys, Northumberland Farmers, 1767–1813', *AgHR* 19 (1971), pp. 156–74 and Anne Orde, 'The Culleys and farm management', *Northern Hist*., 41 (2004), pp. 327–38.

[31] James and Bettey (eds), *Farming in Dorset*, p. 135, Letter 4, 27 Dec. 1788.

[32] Ibid., pp. 127–8, Letter 1, 14 Mar. 1787.

in 1815 by Boswell's son, Samuel, after his father's death. In the Frampton Estate Diary in 1815, James Frampton recorded that he proposed to plant most of the land with trees:

> On application from Mr Samuel Boswell I this year took off his hands the remainder of his lease of Oakers Wood grounds, and in consideration of the money expended by his father in building there, I agreed to pay him twenty four pounds per annum from Michaelmas 1816 for the twelve years of his Lease which were unexpired. These grounds not answering for tillage I determined on planting the greater part of them reserving only a few fields round the house for the use of any person who might occupy it.[33]

## II

Boswell's letters to Culley provide a great deal of information about Dorset sheep, the grazing routine and folding of the sheep flocks, the introduction of cultivated grasses, turnips and new varieties of wheat and barley. He described the marketing of sheep, the importance of the west-country sheep fairs, the sales of in-lamb ewes and the demand for sheep to feed convicts in the hulks at Portsmouth. The corn prices which he quotes fluctuated wildly, and in December 1788 he wrote that the price of malting barley had fallen disastrously low because of the abundance of cider apples, 'the amazing crops of apples in the neighbouring counties has made the barley a dull commodity at market'.[34] In 1790 he referred to a problem affecting Dorset tenant farmers which arose from the sporting rights enjoyed by landlords, 'the gentlemen sportsmen who are the greatest tyrants in the kingdom are over the fields every day and if any late corn is out uncut they are beating for game all over it'.[35] Boswell gives details of his experiments in making and using seed drills and a threshing machine. In January 1789 he wrote:

> I have been some time endeavouring to invent a machine for drilling all sorts of corn and seeds, upon a different principle from any I have heard of, for I have seen none except drawings. I constructed one late last wheat season and it seemed to answer very well. … One difficulty I met with and which I was not aware of, the delivering more grain out going down the hills than when going up – that I think I have now got over. … My principal plan is for corn and I have it in contemplation, and I think with certainty, to sow barley or oats in drills and the broad clover broad-cast at the same time and with the same machine.[36]

By April 1789 he could report 'My drill plough will, I think, answer my expectation'.[37] He had successfully drilled oats and peas, and by adding a third horse hoped to drill seven acres a day.

With a few exceptions, Boswell was not impressed by the quality of his neighbours' farming and livestock management. In 1787, for example, he complained to Culley that

> We are very inattentive to stock of any kind, except some farmers in respect of the ewe flock – and even there they are well contented if they don't decline in quality, having scarce a wish

[33] DRO, D/FRA/E 69, Frampton estate diary 1802, 1809, 1815.

[34] James and Bettey (eds), *Farming in Dorset*, p. 134, Letter 4, 27 Dec. 1788.

[35] Ibid., p. 148, Letter 10, 11–13 De. 1790.

[36] Ibid., pp. 136–7, Letter 5, 24 Jan. 1789.

[37] Ibid., p. 138, Letter 6, 6 Apr. 1789.

> to improve (I mean with any expense). Mr Bakewell will never make converts of our farmers, for he is esteemed here the best farmer who gets the most money, and which is generally done where there are least outgoings.[38]

In 1790 he lamented that so little attention was paid to improving the quality of the folding sheep flocks on which the fertility of the thin chalkland soils depended, 'We have not a farmer in the county I believe that would give twenty guineas, or hardly half the money, for the best ram in England.'[39] A letter of 2 October 1792 described George III's holiday visits to Weymouth and his tours of local farms, upbraiding farmers for thistles and anthills. Boswell quotes the King's rebukes, 'bad farmers, bad, bad, farmers, thistles, thistles, thistles farmer, earth hills, earth hills farmer everywhere, they should be cut, yes cut, cut and kept neat'.[40]

Boswell was concerned about the condition of the poor and the plight of the poorly-paid labourers in Dorset, and fearful of civil unrest during the Napoleonic War. He was particularly exercised over the shortage of food for labourers during the summer of 1795 when there was a persistent fear of riots. In July 1795 he wrote that like many other farmers, he was supplying corn to the labourers at below cost, and that county-wide subscriptions were being raised to support the poor in an attempt to prevent 'troublesome and riotous' behaviour or actual starvation.[41] Boswell's son, Samuel, joined the Volunteers at Weymouth during the invasion threat of 1804, and Boswell took his daughter to view the military exercises held on the downs in the presence of the King. He wrote that:

> I should have scarce believed my son Samuel would ever have put on a Red Coat, yet he has with the Company been on permanent duty at Weymouth for a month, without being one day absent, or once home. I had six of my own men doing duty in it all the time; the day they marched to Weymouth was the day of the alarm of the French being landed in Portland; they were ordered to march as expeditiously as possible with twenty rounds of ball cartridges per man; they gave three Huzzas and marched off from Dorchester within half an hour. It turned out a false alarm.[42]

During the invasion scare Boswell was named as one of the volunteers charged with the task of driving livestock away from the coastal region and evacuating the district if the French should land.[43]

Boswell's life was not without difficulties and disappointments. As already mentioned several of his children died at birth or in infancy, and his wife, Sarah, died in 1777 at the age of 45. The severe mental disorder suffered during the 1790s by his eldest son George, and his eventual confinement in a lunatic asylum, was deeply troubling and extremely expensive. Moreover, while still living at home, George had destroyed many valuables and much equipment. Boswell's financial difficulties were compounded by a series of dry summers and poor harvests and meant that in 1795 he was unable to pay George Culley for seed which had been supplied to him. It may be that it was embarrassment over this episode which led to a

[38] Ibid., p. 133, Letter 3, 9 September 1787.
[39] Ibid., p. 148, Letter 10, 11–13 December 1790.
[40] Ibid., p. 150, Letter 11, 2 October 1792.
[41] Ibid., p. 156, Letter 13, 14 July 1795.
[42] Ibid., p. 164, Letter 16, 6 July 1804.
[43] DRO, OV/1/18, Puddletown overseers' records.

gap of eight years in the letters between 1796 and 1804. In July 1793 Boswell had confessed to Culley that:

> I have more sincere trouble and concern upon my spirits and hands than I ever hope to experience again. The various bankruptcys and stopping of principal houses have so affected our concerns that we hardly know which way to turn … my next neighbor and most intimate friend … Mr Masterman has lately stopped for £15,000. I had not the least suspicion of it.[44]

In July 1795 he wrote again 'I tell you truly and honestly that I was ashamed to write because from some very untoward circumstances, I was not able to make you a remittance, believe me I have, from the almost total failure of last year's crops of corn and turnips been really distrested'.[45] He added that labourers and their families were having great difficulty in obtaining food, and that 'in the trade I am in, grocer and mercers' shop, there is scarce any money to be taken'.[46] It was at about this time that Boswell ceased to subscribe to the Bath and West Society.

## III

It is, above all, in his letters to George Culley that we can see Boswell's personality, his enquiring mind and deep interest in all aspects of contemporary agriculture and agricultural improvement, and his eagerness to learn about new developments in farming methods. By December 1789 Boswell had turned his attention to making a threshing machine and wrote thanking Culley for sending detailed drawings of a machine made by John Bailey, who was estate manager for Lord Tankerville of Chillingham Castle, Northumberland, and who later joined with George Culley in writing the *General View of the Agriculture of Northumberland, Westmorland and Cumberland* (1805). Boswell sent a detailed list of questions concerning the machine, with suggestions for modifications and enquiries about a chaff-cutter, a machine to swindle flax, bruise flax seed for calves, slice turnips and 'an Engine to cut Tobacco that go by water'. John Bailey evidently answered all the questions, and in January 1790 Boswell sent him thanks 'for his obliging attention and trouble … [which] made everything perfectly intelligible'.[47]

In 1793 Boswell was invited by Sir John Sinclair, the chairman of the newly-formed Board of Agriculture, to come to London and supervise 'an experiment of watering Hyde Park and Saint James Park'. He ignored the invitation on the sensible grounds that Sir John Sinclair was 'quite ignorant of my situation in life, it will not suit my inclinations nor pocket to go two hundred miles at my expense to gratify the idle curiosity of every person that chuse to ask it'.[48] It is a measure of Boswell's reputation in the county that in 1796 he was invited to correct the *General View of the Agriculture of Dorset*, which had been written for the Board of Agriculture by the Dorset Surveyor, John Claridge, and which had attracted a good deal of criticism from local landowners and farmers. Boswell declined this commission too, since the Board would not provide 'a promise of my real expenses being repaid me'. His final publication was a long letter, published in the *Farmer's Magazine* in 1804, in which he reported on weather conditions in

[44] James and Bettey (eds), *Farming in Dorset*, p. 155, Letter 12, 25 July 1793.
[45] Ibid., p. 156, Letter 13, 14 July 1795.
[46] Ibid., p. 157, Letter 13, 14 July 1795.
[47] Ibid., p. 145, Letter 9, 14 Jan. 1790.
[48] Ibid., p. 155, Letter 12, 25 July 1793.

Dorset throughout the previous year, crops and yields of wheat, barley and turnips and sales of sheep, lambs and swine. In this letter he emphasized the crucial importance of the sheep flocks and the fold, 'sheep and lambs entirely engage the farmers' attention – everything gives way to the sheep system'. He described the value of the sheep fold enabling 500 sheep to manure an acre of ground each week, and provided details of the large flocks and the early lambing habit of the Dorset Horns, writing that 'one farmer in the neighbourhood has more than 600 lambs already'.[49]

## IV

George Boswell died in August 1815 at the age of 80. His finances had evidently recovered despite his improving lease of Oakers Wood. In his will dated 28 June 1813, he described himself as 'George Boswell, gentleman, of Piddletown in the county of Dorset'.[50] By this time his daughter, Sarah, had married William Noyle, Esq., of Withycombe Raleigh, near Exmouth.[51] By her father's will she was left for her sole use the income of £2000 invested in stock at three per cent. To his three sisters, who were all widows, and to their children and to the children of his brother, Thomas, Boswell left small legacies. All the rest of his estate, including copyhold tenements called Arnolds and Sturmeys and a leasehold estate in Puddletown called Duckhole, he left to his son, Samuel, who acted as his executor.[52]

Boswell's publications and letters reveal him both as an enthusiast for all forms of agricultural improvement, and as a practical tenant farmer intent on using the best methods in watering meadows, sheep-flock management, arable cultivation, the use of turnips, clover, vetches, potatoes and other crops which few other local farmers had introduced. Although not affluent, he was ready to experiment with his own designs for ploughs, rakes, drills and threshing machines, and eager to spread his ideas as widely as possible. He was evidently well respected and recognized as an energetic and successful farmer. His local reputation was summed up in 1793 by John Claridge who, having praised Boswell's 'ingenious publication' on water meadows, added:

> I cannot help remarking here for Mr Boswell's credit, that I found him (who is a native of Norfolk) making use of Norfolk ploughs, drawn by two horses; his turnips excellent, and his system of tillage carrying on with the greatest success … proof of the practicability of the improvement I could wish to enforce throughout the county.[53]

[49] *Farmer's Magazine*, V (1804), pp. 114–8.

[50] Throughout his life George Boswell used the traditional name 'Piddletown'. The local gentry had already adopted the alternative, more genteel form 'Puddletown'.

[51] The marriage was announced in *The Morning Chronicle*, 1 Dec. 1807.

[52] TNA, PROB 11/1571/417.

[53] Claridge, *General View … Dorset*, p. 36.

# Horse-stealing in Wales, 1730–1830*

*by* Nicholas Woodward

*Abstract*

Building on the earlier work of Edwards and Beattie and using Wales as a focus area, this paper asks why horse-stealing was so common in Georgian Britain. It shows that it was partly due to a plentiful supply of horses, particularly field horses, which in Wales tended to be concentrated in the eastern central counties, an area that played an important role in horse-breeding. Thieves were often adult males, in their late twenties or thirties, employed in agricultural occupations, and only rarely were they hardened criminals. They were attracted to stealing horses for a variety of reasons, only one of which was profit. Indeed, horse theft was a relatively lucrative crime, even though thieves often sold the stolen animals at discount. The high level of theft, however, also reflected the fact that there was little economic incentive for horse owners to protect their animals, particularly the less valuable ones; from the individual owner's point of view, the risk of theft was not that great and protection was often expensive.

Just as motor vehicle theft is today, so in the eighteenth and early nineteenth centuries horse-stealing was one of the most conspicuous serious crimes. Some of the most prominent criminals of the eighteenth century – Samuel Gregory, Dick Turpin and Jonathan Wild, for instance – were implicated at some stage of their careers with horse-stealing.[1] This view is reinforced by both Beattie and King who, using indictment figures, have estimated that horse-stealing was quantitatively one of the most prevalent capital crimes in the south-east of England.[2] Further corroboration comes from the Select Committee on Capital Convictions (1819), which showed that between 1810 and 1818 almost 900 suspected horse thieves in England and Wales were committed for trial, while the official returns for 1826–31 show that a further 935 were convicted of the crime.[3] It is likely, moreover, that such figures understate the true level of criminal activity; like most felonies, some, perhaps most, horse thefts were unrecorded, because the victims failed to either detect or prosecute the criminals.

Why was horse-stealing so prominent at this time? At a superficial level, the answer is obvious. As Cohen and Felson have argued, property crime depends on the co-existence of

* Subject to the usual disclaimer, the author would like to thank Peter Edwards and Peter King for their comments on an earlier draft of the paper, Ruth Campbell for her assistance in collecting the information on horse prices, and the staff of the National Library of Wales for their assistance in constructing the database.

[1] G. Howson, *Thief-taker general* (1970); D. Barlow, *Dick Turpin and the Gregory gang* (1973); J. Sharpe, *Dick Turpin, the myth of the English highwayman* (2004).

[2] J. Beattie, *Crime and the courts in England, 1660–1800* (1986), p. 147; P. King, *Crime, justice and discretion in England* (2000), p. 137.

[3] BPP, 1819, VIII, *Report of Select Committee on Criminal Law relating to the punishment in felonies*, p. 128; BPP, 1831–2, XXXIII, *Return on number of persons convicted of sheep and horse-stealing*, p. 579.

three conditions: a supply of suitable targets, a failure on the part of owners to protect their property, and a supply of motivated offenders.[4] High levels of horse theft, therefore, must have been due to widespread use of horses with a high market value, the inability or unwillingness of horse owners to protect their animals, and plenty of criminals prepared to steal horses. This, however, simply raises other questions to which we do not have immediate answers. For example, was horse theft really lucrative? Could stolen horses be disposed of relatively easily? Were horse thieves casual criminals or were they professionals? Did the supply of offenders increase in periods of distress? Why did owners not protect their horses from theft more diligently?

Unfortunately, horse theft has attracted relatively little detailed attention from historians. One notable exception is Peter Edwards's study of the horse trade in Tudor and Stuart England, which includes a chapter on horse-stealing.[5] He shows that the crime became increasingly important during the sixteenth century. To offset this, the authorities responded by both removing the benefit of clergy and introducing the voucher system.[6] These measures, it seems, had some impact on horse theft, although it is not clear that they reversed its upward trend. Nevertheless, Edwards identified certain periods when horse theft was exceptionally common, for example, the Civil War, a time when horse prices were high and soldiers were on the move. He speculated that horse-stealing was also common in years of harvest failure. He suggested, too, that the victims of horse theft were quite successful in both recovering their stock and apprehending the criminal. The criminals were a varied group and displayed varying degrees of professionalism, although predictably most came from agricultural backgrounds.

We know even less about horse theft in the eighteenth century. Beattie includes a brief section on horse-stealing in his survey of crime in Surrey and Sussex.[7] Without providing much empirical evidence, he asserts that it was a well-organized crime, a view supported by both Hay and McLynn.[8] This stemmed from its lucrative nature. As a result, horse-stealing tended to attract a disproportionate number of professional criminals, sometimes working in gangs with well-established fencing networks. The implication was that, not only was it a common crime, it was subject to low detection rates. The corollary of this was that when horse thieves were captured they were less likely to be treated sympathetically, perhaps experiencing high rates of prosecution, conviction and execution.

The aim of this paper is to build on the work of Edwards and Beattie. The main area of focus is Wales. It is unlikely that the character of the crime was different here from other parts of the country. Of course, rates of horse theft probably varied locally in response to differences in the size of the local horse population. It is also possible – even though Wales was part of the same criminal justice system as England – that there were regional differences in the extent to

[4] L. E. Cohen and M. Felson 'Social change and crime rate trends', *American Sociological Rev*. 44 (1979), pp. 588–9.

[5] P. Edwards, *The horse trade of Tudor and Stuart England* (1988), pp. 105–39.

[6] When the sale of a horse took place at a fair, details about the horse and sometimes information about both the buyer and seller was included in a toll book. The transaction was also witnessed and the buyer received a certificate of purchase.

[7] Beattie, *Crime and the courts*, pp. 167–70.

[8] D. Hay, 'War, dearth and theft in the eighteenth-century. The record of the English courts', *Past and Present*, 95 (1982), p. 134; F. McLynn, *Crime and punishment in eighteenth-century England* (1989), p. 93.

which victims were prepared to prosecute and local courts to indict and convict.[9] Nevertheless, it is doubtful whether either Welsh horse owners, when exposed to the risk of theft, or Welsh criminals, when faced with profitable opportunities to steal horses, would have reacted very differently from their English counterparts. Indeed, existing studies suggest that crime was as much a feature of life in Wales as it was in England.[10]

The principal source of information has been the gaol files of the Court of Great Sessions. The Court was established in 1543 and performed many of the functions of the English assizes until its demise in 1830. Like the English assize courts, the Great Sessions met twice-yearly. There were four circuits: Chester (which incorporated the counties of Denbigh, Flint and Montgomery), North Wales (Anglesey, Caernarvon and Merioneth), Carmarthen (Carmarthen, Pembroke and Cardigan) and Brecon (Brecon, Radnor and Glamorgan). Monmouthshire was part of the Oxford circuit, although occasionally horses stolen there and in the English border counties were included in the records of the Great Sessions.[11]

The files have been used profitably by a number of eighteenth-century rural historians, most notably David Howell and Melvin Humphries, although neither examined horse-stealing in any depth.[12] They include a familiar range of materials, such as examinations, depositions, recognizances, prisoner's calendars. There are even some newspaper advertisements and handbills, which were occasionally used by victims to recover their horses. These can be used to draw qualitative inferences about the crime. The National Library of Wales (NLW) has used the files to compile a database of Welsh crime for the years between 1730 and 1830. From this, the horse-stealing cases were extracted, and these form the basis of the quantitative judgements.[13] Over the study period, the gaol files include information on 575 cases of horse theft, considerably more than cattle theft (227 cases) or robbery (201), though less than either sheep-stealing (1568) or burglary (1131).[14]

[9] This possibility has been demonstrated by Peter King in a study of assault in Cornwall in 'Changing attitudes to violence in the Cornish courts, 1730–1830', in his *Crime and law in England, 1750–1840* (2006), pp. 255–80.

[10] D. W. Howell, *The rural poor in eighteenth-century Wales* (2000) esp. pp. 209–40.

[11] G. Parry, *A guide to the records of the Great Session*, (1995). The records for Monmouthshire are at the National Archives. No attempt has been made to include in the study either this or information from the extant Welsh quarter sessions (which is very patchy), because of possible differences arising from record-keeping procedures.

[12] M. Humphries, *The crisis of community: Montgomeryshire society, 1680–1815* (1996); Howell, *Rural poor*. Other studies that have used the gaol files for a comparable period include N. Woodward, 'Infanticide in Wales, 1730–1830', *Welsh History Rev*. 23 (2007), pp. 94–125; id., 'Seasonality and sheep-stealing: Wales, 1730–1830', *AgHR*, 56 (2008), pp. 25–47; id., 'Burglary in Wales, 1730–1830: evidence from the Great Sessions', *Welsh History Rev*. 24 (2009), pp. 60–91. From the early modern period, there is also S. Howard, 'Servants in early modern Wales: co-operation, conflict and survival', *Llafur* 9 (2004), pp. 33–43 and id., 'Investigating responses to theft in early modern Wales: communities, thieves and courts', *Continuity and Change* 19 (2004), pp. 400–30; S. Parkin, 'Witchcraft, women's honour and customary law in early modern Wales', *Social Hist*. 31 (2006), pp. 295–318.

[13] The database can be used in the National Library of Wales (hereafter NLW), although an on-line version is also available at http://www.llgc.org.uk/sesiwn_fawr/index_s.htm. The Library database was used in this study.

[14] These figures exclude crimes that were committed under riot conditions. The definition of burglary coincides with the modern treatment by including daytime 'housebreaking' as well as night-time 'burglary'.

Legal records need to be treated with considerable care, and the gaol files are no exception. For instance, a small proportion of the files are missing. Crude adjustments for this can be made, but not for the possibility that information about some of the cases may be missing from the files and it cannot be assumed that the court officials always recorded the cases accurately. As a result, it will occasionally be necessary to draw attention to the possible limitations of the findings.

The paper is divided into nine sections. In the first two we examine whether there was a plentiful supply of suitable targets and whether horse-stealing was potentially lucrative. In the following four sections we examine the offenders: their characteristics, their motives, their professionalism and their tactics. Finally, before drawing conclusions, we consider the victims – what measures they took to protect their stock and why they were not more vigilant – and why there were local variations in the extent of the crime.

## I

Whether there was a ready supply of suitable targets depended crucially on the size of the horse population. Relatively little is known about the horse population in Britain; figures were not systematically collected until the late nineteenth century, when it was approaching its peak. Nevertheless, Thirsk suggests that growth was quite rapid in the early modern period, which she attributes to a number of influences.[15] Fashion and wartime demand played a role, but commercial conditions also favoured horse-breeding. There was, for example, a growth of inter-regional trade; agriculture made increasing demands on horses; and the use of horses as a means of private transport expanded. During the eighteenth century, internal trade continued to grow, while within agriculture the decline in oxen and the growth of arable farming increased the demand for traction horses. At the same time, rising living standards and improvements to the road network led to a growth in demand for both riding and working horses. The result was that by the beginning of the nineteenth century, horses were considerably more important than two centuries earlier, and Thompson has estimated that in 1811 there were approximately 1.3 million horses in Great Britain, equivalent to 10 for every hundred persons.[16] By 1871 the horse population had increased to 2.1 million, although the ratio had fallen to 8:100.

What about Wales? It would be unrealistic to expect the Principality to have exceptional horse population densities, which tended be highest in areas where either arable farming or urbanization were important.[17] Nevertheless, it is possible that relative to population, Wales supported more horses. Unfortunately, qualitative sources, such as the *General Views* of agriculture of the late eighteenth and early nineteenth centuries, have little to say about the

[15] J. Thirsk, *Horses in early modern England: for service, for pleasure, for power* (1988).

[16] F. M. L. Thompson, 'Nineteenth-century horse sense', *EcHR* 29 (1976), pp. 60–81.

[17] E. J. T. Collins, 'The farm horse economy of England and Wales in the early tractor age, 1900–40' in F. M. L. Thompson (ed.), *Horses in European economic history: a preliminary canter* (1983). However, his figures suggest that, despite the prevalence of pastoral farming, the Welsh horse population density was relatively high.

[18] The 1790s surveys were all entitled *General view of the agriculture of [county name]*. The authors were: J. Clark, *Brecknock* and *Radnor* (1794); J. Fox, *Glamorgan* (1796); C. Hassal, *Carmarthen* and *Pembroke* (1794), G. Kay, *Caernarvon, Denbigh, Flint, Merioneth* and *Montgomery* (1794); T. Lloyd and D. Turnor, *Cardigan* (1794).

TABLE 1. Probate inventories: Welsh farmers (excluding Monmouthshire)

| | *Per cent inventories mentioning:* | | *Average number of horses per farm* | | *Horse: livestock ratio* | *Horse:cattle ratio* | *Horse:sheep ratio* | *Number of inventories* |
|---|---|---|---|---|---|---|---|---|
| | *Horses* | *Oxen* | *Mean* | *Median* | | | | |
| 1730–1754 | 94.3 | 51.4 | 3.2 | 3.0 | 16.7 | 24.3 | 134.9 | 70 |
| 1755–1779 | 95.0 | 30.7 | 3.0 | 3.0 | 15.4 | 24.7 | 75.7 | 101 |
| 1780–1804 | 96.8 | 15.4 | 2.8 | 3.0 | 15.2 | 25.4 | 65.4 | 160 |
| 1805–1830 | 94.5 | 13.0 | 3.2 | 3.0 | 22.0 | 40.9 | 102.1 | 165 |

*Note*: The ratios are calculated from values. The averages and ratios exclude inventories for which no horses were recorded. Stock includes poultry and pigs as well as horses, sheep and cattle.
*Source*: NLW will and probate inventory files.

matter.[18] Advertisements for farm stock sales and livestock inventories suggest that there was considerable variation; while some farms kept no horses, others maintained a considerable number. For example, one Denbighshire inventory listed 22 brood mares, colts and saddle horses and 11 wagon horses.[19] To arrive at a more accurate picture, a sample of just under 500 farmers' probate inventories was examined, and this suggests that Wales supported a considerable number of horses. For example, in the second quarter of the eighteenth century, the vast majority of farmers owned at least one horse – very often a riding horse for personal use – but possibly also breeding stock and working animals (Table 1). Later, there was hardly any increase in either the proportion of farmers keeping horses or the average number of horses per farm. Although cattle were by far the most important item of livestock on Welsh farms, in value terms, horses accounted for a fairly high proportion of most farmers' livestock assets – between 15 and 22 per cent. Horse numbers also seem to have expanded – at least in value terms – at the expense of cattle, no doubt due to the substitution of oxen by high-value working horses.[20]

The 1871 agricultural census returns can also provide us with some insights. The returns, which include working farm horses and breeding stock but not commercial or riding horses, are far from ideal for our purposes, although they may be broadly indicative of patterns during the earlier period. They tend to reinforce the view that horses played a fairly important role in the Welsh farm economy. They show that, overall, the density of the horse population was not much lower than in England and, in the case of breeding horses, it was actually higher (Table 2). They also suggest that Wales supported considerably more horses per head of population.

The relatively large Welsh horse population should, perhaps, come as no surprise. It was due to both supply and demand influences. On the supply side, conditions favoured the production of horses. The Welsh topography and climate encouraged livestock farming,[21] and

[19] NLW, Chirk F 12510.

[20] Due to a rapid turnover, it is likely that these figures understate the relative importance of cattle to the income stream of agriculture.

[21] On Welsh farming see F. V. Emery, 'Wales', in J. Thirsk (ed.) *The agrarian history of England and Wales*, V, *1640–1750* (2 vols, 1985), I, pp. 393–428.

TABLE 2. Agricultural horses: 1871

| | *Horses per 100 acres* | | | *Horses per 100 persons* | | |
|---|---|---|---|---|---|---|
| | *Number of horses for agricultural purposes* | *Unbroken horses and breeding mares* | *All horses* | *Number of horses for agricultural purposes* | *Unbroken horses and breeding mares* | *All horses* |
| Anglesey | 2.3 | 1.2 | 3.4 | 8.6 | 4.5 | 13.1 |
| Brecon | 1.1 | 1.1 | 2.2 | 8.1 | 8.7 | 16.8 |
| Cardigan | 1.7 | 1.0 | 2.6 | 10.1 | 5.9 | 16.0 |
| Carmarthen | 1.7 | 1.1 | 2.8 | 8.7 | 5.6 | 14.4 |
| Caernarvon | 1.0 | 1.0 | 1.9 | 3.4 | 3.4 | 6.7 |
| Denbigh | 1.6 | 1.2 | 2.8 | 5.8 | 4.4 | 10.2 |
| Flint | 1.7 | 1.0 | 2.8 | 4.2 | 2.5 | 6.7 |
| Glamorgan | 1.3 | 0.9 | 2.2 | 1.8 | 1.3 | 3.1 |
| Merioneth | 0.7 | 0.5 | 1.2 | 5.9 | 3.7 | 9.6 |
| Montgomery | 1.4 | 1.1 | 2.5 | 10.0 | 7.7 | 17.7 |
| Pembroke | 2.1 | 1.1 | 3.2 | 9.2 | 4.8 | 14.0 |
| Radnor | 1.4 | 1.2 | 2.7 | 15.3 | 13.2 | 28.4 |
| England | 2.2 | 0.7 | 3.0 | 3.4 | 1.1 | 4.5 |
| Wales | 1.5 | 1.0 | 2.5 | 5.6 | 4.0 | 9.6 |
| England and Wales | 2.1 | 0.7 | 2.9 | 3.5 | 1.2 | 4.8 |

*Source*: BPP, 1871, LXIX, *Agricultural Returns for Great Britain*, pp. 271–350.

horses were probably an attractive form of diversification.[22] On the demand side, Welsh horse producers faced fairly elastic conditions. Given the dispersed nature of Welsh settlements, the internal demand for horses was high. Indeed, the gaol files suggest that the horse ownership was widespread even amongst labourers.[23] On top of this, there was a large export demand from the eastern English counties. This had been evident during the during the sixteenth and seventeenth centuries, and continued to be so in the eighteenth and early nineteenth centuries. Some evidence comes from 11,000 entries in the Ludlow Horse Toll books, which cover the years 1723–50 and 1765–1816. As at most horse sales, local traders dominated the market.[24]

[22] Welsh stock-farmers seem to have been extensively diversified. Thus, the probate inventories suggest that almost 80% kept all three types of stock (i.e. cattle, horses and sheep) and 16% kept two types. On the possible reasons for this diversification, see David R. Stead, 'Risk management in British agriculture, c.1750–1850', *EcHR* 57 (2004), pp. 334–61.

[23] Woodward, 'Seasonality and sheep-stealing', p. 28.

[24] J. Chartres, 'The marketing of agricultural produce' in J. Thirsk (ed.), *Agrarian history*, V (i), pp. 440–1. Of the horse sellers at Ludlow, 77.5% came from Shropshire and 13% from Hereford. But they also came from counties as far distant as Berkshire and Wiltshire. Of the horse buyers, 84% came from Shropshire and 6% from Hereford. But some came from London, and the counties of Northampton, Leicester, Wiltshire and Buckingham were also listed.

TABLE 3. Area differences in horse ownership in Wales

| *Area* | *Inventories mentioning horses (per cent)* | *Horses per farm* | | *Horse:livestock ratio (per cent)* | *Horse:cattle ratio (per cent)* | *Horse:sheep ratio (per cent)* |
|---|---|---|---|---|---|---|
| | | *Mean* | *Median* | | | |
| North | 97.5 | 3.3 | 3.0 | 26.6 | 44.5 | 243.4 |
| West Central | 95.1 | 2.6 | 3.0 | 14.7 | 23.5 | 69.1 |
| East Central | 97.1 | 3.5 | 3.0 | 17.4 | 35.0 | 56.6 |
| South | 93.0 | 2.9 | 3.0 | 17.7 | 26.1 | 150.5 |

*Note*: North covers the counties of Anglesey, Denbigh and Flint; West Central – Caernarvon, Cardigan and Merioneth; East Central – Brecon, Montgomery and Radnor; South – Carmarthen, Glamorgan and Pembroke.
*Source*: NLW wills and probate inventory files.

TABLE 4. Relative horse prices: Ludlow

| *Description* | *Price* | *Description* | *Price* |
|---|---|---|---|
| All Horses | 100.0 | Colts | 86.5 |
| All Mares | 104.3 | Fillies | 94.8 |
| Mares < 14 h.h. | 69.4 | Nags | 102.2 |
| Mares ≥ 14 h.h. | 151.8 | All < 4 years | 94.9 |
| All Geldings | 109.7 | All ≥ 4 & < 6 years | 112.6 |
| Geldings < 14 h.h. | 82.6 | All >over 6 years | 94.0 |
| Geldings ≥14 h.h. | 106.5 | Other | 94.2 |

*Source*: See Figure 1.

Nevertheless, Ludlow attracted a fairly large number of Welsh horses. Most of these came from the adjacent counties of Radnorshire and Montgomeryshire, but horses from as far away as Carmarthenshire and Cardiganshire were not that unusual. Overall, seven per cent of the horses sold at Ludlow came from Wales, although during the French Wars the proportion more than doubled. By contrast, only two per cent of the horses sold at Ludlow found their way into Wales. The Ludlow evidence also shows that Welsh traders sold a slightly lower proportion of mares than their English counterparts, suggesting that breeding activity played a fairly important role in their farming activity.[25]

There were regional variations. The *General View* for Carmarthen, for example, suggested that the prevalence of small farms operated against the rearing of colts, although the gentlemen of the Towy valley bred a better type of saddle horse, using stallions from Hereford.[26] The *General View* for Merioneth pointed to the fact that few horses were bred in the county.[27] By contrast, the *General View* for Glamorgan drew attention to plentiful supplies of horses, while

[25] The proportions of mares, geldings, colts and fillies for Welsh traders were respectively 38, 20, 5 and 5%. The figures for the English traders were 41, 14, 8 and 7%.

[26] Hassall, *General View … Carmarthen*, p. 36.

[27] Kay, *General View … Merionethshire*, p. 15.

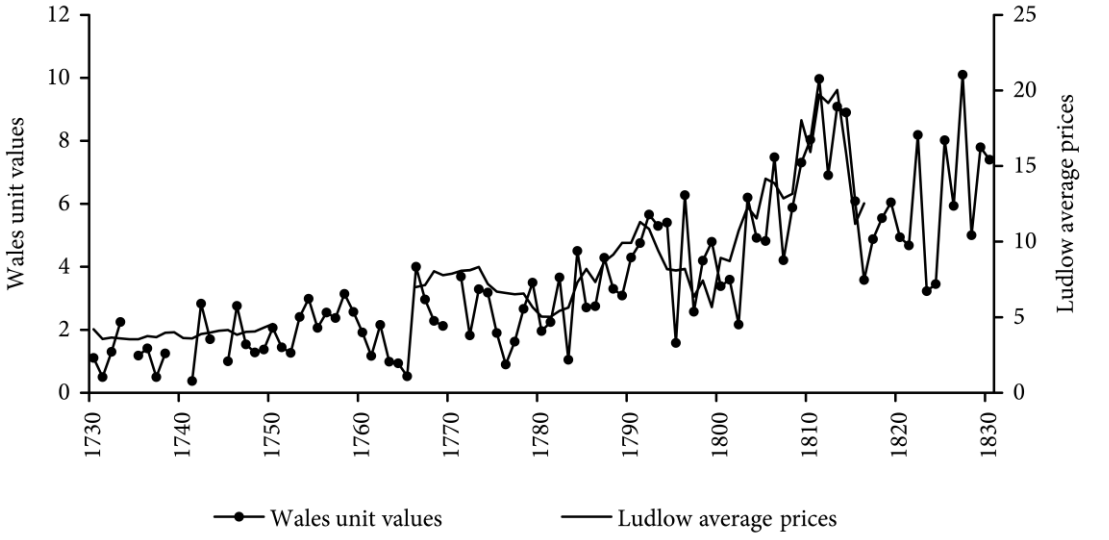



FIGURE 1. Unit value of Welsh horses and average horse prices at Ludlow (£s)

*Source*: NLW, wills and probate inventory files; Shropshire Archives, LB/7/1063–1066.

that of Montgomery commented that 'the waste lands or commons … are chiefly depastured by sheep, innumerable ponies with few cattle'.[28] The probate inventories suggest that the central eastern counties supported most horses, although in value terms the northern counties were most important (Table 3). The 1871 census returns suggest that horse population densities were highest in Anglesey and Pembrokeshire, two counties with relatively large arable sectors. But, relative to human population, the central and eastern counties topped the rankings, due in part to a plentiful supply of breeding stock.

Whether horses were suitable targets for theft did not, however, depend entirely on their availability. Another key influence was the price they would fetch. The price of a horse depended on the characteristics of the animal. Judging from the Ludlow data, geldings, mares and nags, in contrast to colts and fillies, commanded above average prices (Table 4). This, no doubt, was due to their average age. Indeed, there was an inverted-U relationship between price and age, horses between four and six years old fetching the highest prices. Height was also an important determinant. Thus, on average, a horse of fifteen hands would fetch almost four times as much as a pony of thirteen hands. In addition, the probate inventories suggest that working horses were worth almost twice the average, while mountain horses would fetch only 60 per cent.

Horse prices, of course, changed over time.[29] As Figure 1 shows, Welsh unit values and Ludlow

[28] Fox, *General View … Glamorgan*, p. 22; Kay, *General View … Montgomeryshire*, p. 18.

[29] Not all transactions were conducted exclusively through cash or credit. Exchanges also took place, and these were quite common in the early part of the period. In the 1720s and 1730s just under 4% of the entries in the toll books referred to exchanges. By the 1770s, however, they were very unusual. Such exchanges sometimes involved a swap of horses. Yet, more often than not, they involved a horse and cash exchange. On some occasions, however, other livestock – sheep and a yoke of oxen, for example – was involved.

average prices moved in sympathy over the period.[30] On trend, nominal prices rose quite markedly from the middle of the eighteenth century until the latter stages of the Napoleonic wars. At that point they collapsed, although a recovery took place in the second decade of the nineteenth century. The result was that unit values were five times higher in the late 1820s than in the early 1730s. Once allowance is made for creeping inflation and the change in the price of animal products, there was, perhaps, a doubling in the real values.[31] However, this probably exaggerates the real change; as we have seen, high-value working horses became relatively more important over the period. In other words, there was probably little change in the economic incentive to steal horses over time.

There were also regional differences in horse prices. Judging from the probate inventories, horses fetched the highest prices in the north. However, this probably reflects a disproportionate number of working horses. A composition effect also explains why Welsh horses tended to fetch lower prices than their English counterparts. Thus, the Ludlow figures show that the average price of Welsh horses was seven per cent below that of the local ones.[32] The most probable reason for this is that there were a disproportionate number of hill ponies in Wales; at Ludlow the median height of a Welsh horse was thirteen hands compared with fourteen for an English one. However, this probably has fewer implications for horse theft than might be supposed. For one thing, there were plenty of high-value horses in Wales. For another, it was not necessarily in the interests of a thief to steal a valuable horse. Quality horses would have been 'hot' and would have aroused the suspicion of horse traders, increasing the risks of detection.[33] In any case, horses usually fetched higher prices than other items of livestock. Judging from the stock inventory shown below, horses commanded considerably higher prices than sheep (Table 5). Working and riding horses, although not necessarily hill-ponies, were also worth more than cattle, which, being relatively immobile, were not good targets for criminals.[34]

[30] The correlation coefficient between the two series was 0.868. The correlation between unit values and quoted horse prices has been noted, too, by M. Overton 'Prices from probate inventories' in T. Arkell, N. Evans and N. Goose (eds), *When death do us part* (2000), pp. 120–43. Overton's correlation coefficient was only 0.36, but his study covered the period 1550–1749, suggesting possibly that during the eighteenth century the horse market became increasingly integrated. It should also be noted that the Welsh unit value series displays greater annual volatility because there are fewer valuations in any year than quoted prices.

[31] Using O'Brien's index of animal prices as the deflator, the real value of Welsh unit prices increased from 100 in 1730 to roughly 233 in 1820. Between 1730 and 1816 the Ludlow average real prices rose from 100 to 119. The differences, of course, may partly reflect that the shift from oxen to working horses may have occurred later in Wales.

[32] The Ludlow figures have been used because probate valuations are not reliable indicators of relative values. In particular, they tend to be lower because they include horses – old, even blind ones, for example – that would not be marketed. Overton's study, too, shows that unit values were well below market values.

[33] The dangers of stealing a high-value horse are illustrated by the case of Shergar, the 1981 Derby winner. Kidnapped in 1983, it has invariably been assumed that, following the immense publicity surrounding the case, the kidnappers killed the horse. Further support for the idea that the incentive to steal a valuable horse was weak comes from the Sherlock Holmes case of Silver Blaze. When the horse disappeared on the moor, it was speculated that he had been taken by gypsies. Holmes's response, however, was that this was unlikely because it was not in the interests of gypsies to take the horse; they could not hope to sell such an animal, and they did not want trouble from the police. See A. Conan Doyle, 'Silver Blaze', in P. Craig (ed.), *The Oxford book of English detective stories* (1990), p. 18.

[34] It should be remembered that in a breeding area, such as Wales, not all horses would have been broken. Indeed, some breeding mares would have been halter-broken only. R. J. Moore-Colyer, *The Welsh cattle drovers*

TABLE 5. Value of stock (£): Cusop, Hay-on-Wye, December, 1820

| *Item* | *Number* | *Unit Value* |
|---|---|---|
| Cart Horses | 8 | 17.00 |
| Riding Horses | 6 | 17.91 |
| Brood Mares | 4 | 8.97 |
| Ponies | 1 | 4.00 |
| Foals | 2 | 6.00 |
| Cows | 4 | 16.00 |
| Cows with (or in) Calf | 4 | 13.99 |
| Heifers | 4 | 8.00 |
| Steers | 4 | 12.50 |
| Bullocks | 5 | 9.40 |
| Feeding Ewes | 62 | 0.70 |
| Wethers | 32 | 0.71 |
| Yearling Sheep | 61 | 0.56 |

*Source*: Hereford RO, N44.

The suitability of livestock as a target for theft is also influenced by its marketability. Fortunately for the eighteenth- and nineteenth-century horse thief, there was an exceptionally active market for horses, and the court depositions show that the turnover of horses was sometimes very high. For example, when Evan Evans stole a horse near Cardiff in 1753, he sold it almost immediately to a Gloucestershire innkeeper who, soon afterwards, sold it at a Somerset fair.[35] Similarly, in 1803 Griffith Evans, a Merionethshire farmer, successfully located his stolen horse after it had changed hands three times.[36]

Many horses were bought and sold at fairs, which were quite numerous in Wales, although they were in slow decline by the eighteenth century.[37] *Owen's Book of Fairs* suggests that in 1777 there were just over 220 horse fairs in Wales (excluding Monmouthshire). Nevertheless, their importance varied from county to county. In the northern area, cattle-only fairs were predominant, with the exception of Denbighshire, where there were some mixed fairs. Of the eastern central counties, Montgomery and Radnorshire, though less so Brecon, had a high density of mixed fairs. In the western central counties, the pattern was also quite variable. Caernarfon was more like the northern counties, with large cattle fairs that did little or no trade in horses. Both Merioneth and Cardigan, however, had a large number of mixed fairs. There was also a variable pattern in the southern counties; Pembrokeshire and Carmarthen supported

*Note 34 continued*
(2006), pp. 60–1 argues that drovers could cover between fifteen and twenty miles per day, although over short periods it might have been possible to cover rather more. A fit horse, by contrast, would be able to cover 30 to 40 miles, and in endurance competitions horses have been known to cover 100 miles.

[35] NLW, Great Sessions, 4/616/4.

[36] NLW, Great Sessions, 4/197/6.

[37] I. Mitchell, 'The changing role of fairs in the long eighteenth-century: evidence from the north Midlands' *EcHR* 60 (2007), pp. 545–73.

a high density of mixed fairs, unlike Glamorgan, which had very few. In the border counties (including Monmouthshire) there were just under 130 horse fairs. However, the uneven county pattern was sustained. Cheshire and Monmouthshire accounted for very few of these fairs, the dominant county being Shropshire, which accounted for over 40 per cent of the total.

Horse fairs provided relative anonymity for horse thieves and were an ideal venue at which to sell a horse. Lewis Harris, who stole a mare from Joseph Emerson, a Monmouthshire farmer, was detected when he tried to sell the animal at Cowbridge fair, unaware that Emerson was there, trying to purchase a replacement.[38] Fairs also provided opportunities for thieves to steal horses. Edward Davies used Newtown fair in October 1768 as an occasion on which to steal a horse from a stable yard.[39] An advertisement appeared in the *Hereford Journal* in 1771 offering a reward for the apprehension of a 'Welchman about twenty years of age, middle size, rather thin' who had stolen a mare from just outside Brecon, when the owner was at his local livestock fair.[40]

There were other avenues through which thieves could dispose of their stolen animals. By the late eighteenth century, agricultural markets were thriving, and many of these catered for the sale of one or two horses each week. Even more important were the possibilities of private arrangements – selling to friends, family, acquaintances or even strangers. This type of buying became so extensive that the offer of a horse from a complete stranger would have been unlikely to arouse suspicion automatically, even if, in *The Cambrian's* view, it was an inadvisable practice.[41]

## II

Thus, there were plenty of suitable targets for the horse thief.[42] There is every reason to suppose that there was a plentiful supply of offenders too. Most horse theft in Wales, if not so much in the south-east of England, was a rural crime and, contrary to what we might expect, crime rates in rural areas were quite high.[43] It is true that, on some occasions, such crime was often undetected and that, on others, it was fairly trivial.[44] Crimes such as wood theft, trespass, poaching and gleaning were quite common in rural areas,[45] but then so too were more serious crimes such as burglary and robbery and, in Wales, sheep stealing was an endemic problem.[46] The origins of such crime are complex. Historians have sometimes linked

[38] *The Cambrian*, 10 Sept. 1825.

[39] NLW, Great Sessions, 4/189/4.

[40] *Hereford Journal*, 11 July 1771.

[41] *The Cambrian*, 28 Jan. 1829.

[42] On migrant farm workers, see E. J. T. Collins, 'Migrant labour in British agriculture in the nineteenth-century', *EcHR* 29 (1976), 38–59.

[43] C. Emsley, 'The history of crime and crime control institutions, *c.*1770–*c.*1945', in M. Maguire, R. Morgan and R. Reiner, *The Oxford handbook of criminology* (1994), p. 152; J. Glyde, 'Localities of crime in Suffolk', *J. Statistical Society* 19 (1856), pp. 102–6.

[44] R. Storch, 'Policing rural southern England before the police', in D. Hay and F. Snyder (eds), *Policing and prosecution in Britain, 1750–1850* (1989), pp. 211–66.

[45] T. Shakesheff, 'Wood and crop theft in rural Herefordshire, 1800–60', *Rural Hist.* 13 (2002), pp. 1–17; P. B. Munsche, *Gentlemen and poacher: The English game laws, 1671–1831* (1981); P. King, 'Gleaners, farmers and the failure of legal sanctions, 1750–1850', *Past and Present*, 125 (1989), pp. 116–50.

[46] BPP, 1844, V, *Report of Select Committee on Commons' Inclosures*, p. 180.

it to rural poverty and need.[47] Such views received some support from the Select Committee (1827), which attributed the increase in rural crime to the growth of poverty, although it suggested that the poor laws and the growth of poaching, which acted as a nursery for many criminals, were also factors.[48]

However, materialistic motives must have played a role too. Not much is known about the pay-offs from crime in the eighteenth and nineteenth centuries. We can nevertheless gauge whether the potential returns were high, by comparing the value of the stolen horses with local wages. Whether potential and actual returns were identical, of course, would depend on whether the thieves disposed of their horses at their market value, an issue to which we will return.[49] For the time being, it emerges that the horse thief could enjoy a fairly high pay-off from his crime. For example, Arthur Young suggested that in 1769 an agricultural labourer from Bridgend, Glamorganshire, could expect to earn 6*s*. a week.[50] Over the preceding five years the average value of horses stolen in Glamorganshire was £3 10*s*., equivalent to roughly two and a half month's pay. In the 1790s the *General View* of Breconshire quoted an average daily wage of 1*s*. 2*d*., while the average value of a local horse stolen in that decade was £3, which was equivalent to 51 days work.[51] The *Rural Queries* to the Poor Law Report (1832) suggest that an agricultural labourer from Clyro, Radnorshire – the scene of a number of horse thefts – would earn between £40 and £45 in a year. If, however, he stole a local horse in one of the years between 1825 and 1830, he could expect to get £11 for it, equivalent to roughly a quarter of a year's income.[52]

Horse-stealing was considerably more profitable than most other types of property theft. As Table 6 shows, only cattle theft was comparable but, as already mentioned, cattle were not as easy to steal. Nevertheless, we have to be careful when using averages, because the potential returns from crime are usually highly skewed. As Figure 2 shows, between 1730 and 1755 (a period of aggregate price stability), three-quarters of Welsh robbers accounted for only six per cent of the value of the goods stolen.[53] The pay-offs from horse-stealing, however, were less skewed, due in part to the fact that valuable horses were well-protected. Thieves may also have anticipated that victims would devote greater effort to recovering valuable horses, which, in any case, would be more difficult to dispose of without arousing suspicion.

Any evaluation of the rewards of crime needs to take into account the risks of detection, indictment and conviction. Unfortunately, court records are of limited value for these purposes. Because horses were valuable assets and some owners were strongly attached to them, victims had a strong incentive to recover their stock. Certainly, some horse owners went to considerable lengths. Thus, one Carmarthenshire owner, whose horse, worth £10, was stolen in 1810, had a

[47] J. E. Archer, *By a flash and a scare: incendiarism, animal maiming and poaching in East Anglia, 1815–70* (1990), pp. 16–17.

[48] BPP, 1827, VI, *Report of Select Committee on Criminal Commitment*, pp. 3–4.

[49] Of course, horse prices were low in Wales, but then so too were wages. On wages, see Howell, *Rural poor*, esp. pp. 66–81.

[50] Arthur Young, *A six weeks tour through the southern counties of England and Wales* (8 vols., 1768) I, p. 110.

[51] J. Clark, *General View … Brecknock* (1794) p. 5.

[52] BPP, 1834, XXX, *Report from His Majesty's Commissioners for inquiring into the administration and practical operation of the poor laws, Rural Queries*, App. B, p. 661.

[53] If anything, these figures understate the degree of inequality, because victims of low-value robbery would have had little incentive to devote resources to recovering their goods and prosecuting criminals.

TABLE 6. Median value of items stolen (shillings)

| *Type of Theft* | *1730–54* | *1755–79* | *1780–1804* | *1805–30* |
|---|---|---|---|---|
| Horse-stealing | 50.0 | 80.0 | 100.0 | 200.0 |
| Cattle-stealing | 40.0 | 100.0 | 120.0 | 200.0 |
| Sheep-stealing | 4.0 | 5.0 | 5.0 | 20.0 |
| Robbery | 11.0 | 15.5 | 25.0 | 32.0 |
| Pickpocketing | 24.0 | 118.5 | 50.5 | 140.0 |
| Burglary | 15.1 | 48.5 | 24.0 | 61.5 |
| Housebreaking | 13.0 | 28.0 | 20.0 | 41.3 |
| All burglary | 13.5 | 40.0 | 22.5 | 49.0 |

*Source*: NLW Gaol Files database.

set of elaborate handbills printed, depicting a gibbet with a horse thief accompanied by the devil.[54] He also offered a reward of £45. If this was typical, we might anticipate that detection rates were high but it is unlikely that they were. Horses could be moved quickly from the scene of the crime, third parties would have had little interest in helping to recover a stolen horse and, being a capital offence, potential witnesses were not always prepared to come forward. One witness to a horse theft, who successfully escaped a charge of perjury, argued that he had not revealed his suspicions in case 'I should be sorry to be the means of hanging people'.[55] Parish constables, where they existed, could have offered assistance, but they were probably too busy.[56] Not surprisingly, therefore, some victims started off a search with little prospect of recovering the horse, and some may even have regarded the costs as prohibitive.[57]

No doubt, it was for this reason that some horse owners joined prosecution societies. The aim of such societies varied. Sometimes they would financially assist the victim in both the search for and prosecution of offenders, and occasionally they even organized police patrols. Such societies became quite common in late eighteenth-century England,[58] and they emerged in Wales at about the same time.[59] Horse thieves were often a major target of these societies.[60] Thus the stated aims of the Atcham society, established in 1789, was 'to prosecute housebreakers, horse, cow, sheep, pig and poultry stealers'; it claimed to cover Shropshire, Montgomeryshire, Denbighshire, Merionethshire and Flintshire.[61] The Oswestry society was even more explicit about horse theft, advertising itself for 'the prevention of crime, in particular the crime of horse-stealing'.[62] It offered rewards of £50 for information on crimes including horse theft.

[54] NLW, Great Sessions, 4/757/4.

[55] NLW, Great Sessions, 4/757/4.

[56] King, *Crime, justice and discretion*, pp. 62–75.

[57] J. Styles, 'Print and policing: crime advertising in eighteenth-century provincial England', in Hay and Snyder (eds), *Policing and prosecution*, p. 76.

[58] See, especially, D. Philips, 'Good men to associate and bad men to conspire: associations for the prosecution of felons in England, 1760–1860' and P. King, 'Prosecution associations and their impact in eighteenth-century Essex' both in Hay and Snyder (eds), *Policing and prosecution*.

[59] *Carmarthen J.*, 12 Jan. 1812.

[60] Howell, *Rural poor* p. 233.

[61] *Shrewsbury Chronicle*, 25 Apr. 1789.

[62] NLW, Posters File.

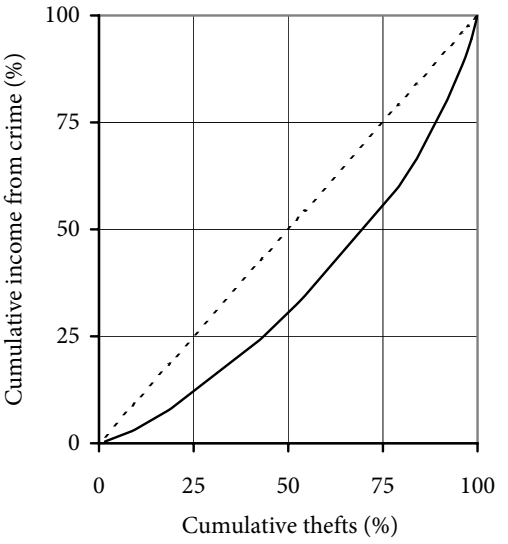



FIGURE 2a. Horse-stealing Lorenz curve: 1730–1755

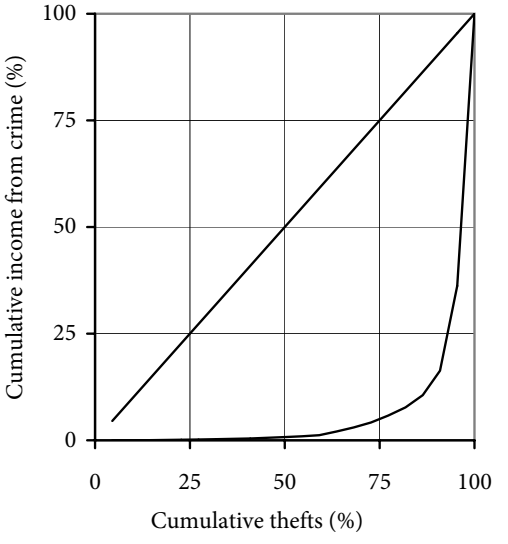



FIGURE 2b. Robbery Lorenz curve: 1730–1755

*Source*: NLW Gaol Files database.

The horse thief still had a good chance of escaping detection and, even if he was detected, there was no guarantee that he would be prosecuted.[63] In the absence of state assistance, the costs of prosecution were so high that some horse owners may have preferred to recover the horse and deal with the criminal informally. It is nonetheless possible, as Beattie has suggested, that prosecution rates for horse-stealing may have been higher than for other property crimes; horse theft was viewed with considerable antipathy and it is possible that owners may have been more inclined to prosecute as a deterrent.[64] Certainly, the national returns (Table 7) suggest that, once the decision to prosecute had been made, horse (and cattle) thieves had a relatively high probability of appearing before a trial jury, and of being convicted.[65] This may have been because most horse thieves tried to sell the animal, leaving little doubt as to their guilt. It is also possible, because many thieves were mobile farm workers, that they were unable to produce decent character witnesses.[66] Nevertheless, having been convicted, the horse thief was less likely to be executed than many other serious criminals. During the period of study only three per cent were executed, the majority being transported, usually for life.[67] This figure is similar to that for other types of serious livestock theft, but considerably lower than for a number of other capital crimes, possibly because livestock theft rarely involved violence.[68]

[63] BPP, 1819, VIII, *Report of Select Committee on Capital Conviction*, pp. 11–12.

[64] This is consistent with the evidence of Thomas Shelton to the 1819 *Select Committee* (p. 26), who argued that 'I have not observed any disinclination to prosecute in the case of horse-stealing'.

[65] There were very few partial verdicts in horse-stealing cases.

[66] See King, 'Prosecution associations', pp. 221–58.

[67] This figure is considerably less than that quoted in King (*Crime, justice and discretion*, pp. 274, 276) for the Home circuit. However, execution rates were lower on the other circuits too.

[68] King, *Crime, justice and discretion*, pp. 297–333.

TABLE 7. Legal outcomes of prosecutions: England and Wales, 1812–18

| *Crime* | *as per cent total committals* | | | *Executions (as per cent of convictions)* |
|---|---|---|---|---|
| | *No true bills and not prosecuted* | *Acquitted* | *Convicted* | |
| Arson | 30.5 | 43.7 | 25.9 | 51.0 |
| Burglary & Housebreaking | 14.3 | 24.8 | 60.9 | 7.2 |
| Cattle-stealing | 8.1 | 18.0 | 73.8 | 1.6 |
| Forgery & Uttering | 15.0 | 31.9 | 53.0 | 20.1 |
| Horse-stealing | 10.4 | 17.6 | 71.9 | 2.8 |
| Robbery | 17.2 | 35.4 | 47.4 | 13.6 |
| Sheep-stealing | 16.2 | 24.7 | 59.1 | 4.2 |

*Source*: BPP, 1819, VIII, *Report of Select Committee on Criminal Law Relating to capital Punishments in Felonies*, 1819, pp. 128–32.

Generally, if a horse thief was detected, there was a good chance that he would be convicted, but the prospects were less daunting for the Welsh horse thief. The gaol files suggest that only 81 per cent of those suspected of horse theft ever appeared before a trial jury, considerably lower than in England and Wales as a whole. It also seems that, once indicted, conviction rates were lower in Wales: 60 per cent as compared with 80 per cent in the area as a whole. The reasons for these differences are unclear, although the lower levels of population density might have reduced the chance of catching a thief in possession of a stolen horse.

## III

The incentives to commit horse theft were fairly strong, but what sort of people were involved? Predictably, the majority were men. Only 30 women are mentioned in the NLW database. Women tended to have low overall crime rates, although this may have been exaggerated by low prosecution rates. Nevertheless, they do not seem to have been particularly involved in horse-stealing; they make up 17 per cent of all criminals in the database but only 5 per cent of the horse thieves.[69] This is probably due to a number of influences. First, women had fewer opportunities to steal horses. Relatively few worked with them and they were less likely to work outside than men. Secondly, they had less control over how they managed their time, an important requirement for horse-stealing, which was often done at night. Finally, women may have been discouraged because of the difficulties of disposal. As women rarely owned horses, they were more likely to arouse suspicion when trying to sell one. A case in point is Catherine Lloyd, a widow who was apprehended in Cardigan in 1789, trying to sell a stolen mare.[70] She

[69] G. Morgan and P. Rushton, *Rogues, thieves and the rule of law* (1998) pp. 100, 106, note that livestock theft by women was unusual in the north-east too.

[70] NLW, Great Sessions, 4/905/1.

drew attention to herself by her anxiety to be paid and by her willingness to accept a price well below the value of the horse.[71]

As a number of authors have argued, the tendency of officials to use fairly general labels restricts the usefulness of court data to describe the occupations of the offenders.[72] For what they are worth, the figures suggest that relatively few suspects primarily worked with horses. Only six defendants were described as jockeys, grooms, ostlers or carters, and there were only a couple of horse dealers. This a little surprising, because dealers had a poor reputation, but this may have stemmed more from their selling unsound horses than from either stealing or fencing them. It is possible that they do not figure prominently because dealing was a licensed activity,[73] although there were unlicensed horse dealers.[74] Only five were innkeepers (another group with a poor reputation), less than the number of tailors and breech-makers (17) and cobblers (11).[75] It may be that their reputation stemmed less from direct involvement in horse-stealing than from their support of criminal networks and the provision of information to horse thieves about opportunities or buyers.

Farm servants were also under-represented; only six were recorded, although this may be because they were sometimes recorded as labourers. Nevertheless, we can be fairly sure that agricultural workers dominated the crime. Yeomen, who accounted for 29 per cent of horse thieves, but only 23 per cent of those in the NLW database, were over-represented. So were labourers, who accounted for 46 and 23 per cent respectively. As some labourers may have magnified their status in order to receive a more sympathetic hearing, it is even possible that these figures understate their importance. We should not be surprised that they played such an important part. If nothing else, their employment, their seasonal migration and their low wages provided them with both the opportunities and the financial incentives to steal horses.

A fairly typical example of the migrant horse-stealer was William Jones, who was apprehended at Knighton, Radnorshire, in November 1785.[76] Jones, who came from Shropshire, was aged 22 at the time of his crime. He had worked as a farm servant for eight years. Although he was described as a 'yeoman' in the court documents, he had become a day labourer two years before the crime was committed. In the months preceding the theft, he had worked on the harvest near Gloucester. When this finished, he made his way home, picking up occasional work. On the way, he came across a mare that was both saddled and bridled – the details are not clear – which he stole. Seeing an opportunity to make a profit, he then rode to Knighton, where he tried to sell the mare. But when he failed to produce a voucher, he was taken before the magistrates.

Job Pritchard and Howell Powell were also farm labourers. Both men came from Breconshire and, in the summer of 1740, decided to go on the tramp in search of work.[77] They first went to Herefordshire and then to Gloucestershire. However, they do not seem to have been very

[71] NLW, Great Sessions, 4/197/6.
[72] Edwards, *Horse trade*, p. 128.
[73] Moore-Colyer, *Welsh cattle drovers*, pp. 64–71.
[74] For example, *The Cambrian*, 21 Nov. 1807.
[75] On innkeepers, see P. Clark, 'The alehouse and alternative society', in D. Pennington and K. Thomas (eds), *Puritans and revolutionaries* (1978).
[76] NLW, Great Sessions, 4/529/3.
[77] NLW, Great Sessions, 4/377/2.

TABLE 8. Age distribution of horse thieves and other criminals (per cent)

| | *Horse-Thieves* | | | *NLW database – all thieves* | *Old Bailey Property Crimes* |
|---|---|---|---|---|---|
| | *NLW database* | *Prison Hulks 1828* | *Old Bailey* | | |
| Under 20 | 5.4 | 8.1 | 18.9 | 19.9 | 30.6 |
| 20–24 | 19.4 | 21.2 | 31.8 | 19.7 | 22.4 |
| 25–29 | 16.1 | 24.2 | 17.4 | 15.4 | 13.8 |
| 30–34 | 17.2 | 13.1 | 8.5 | 13.5 | 9.6 |
| 35–39 | 9.7 | 15.2 | 8.0 | 9.0 | 7.0 |
| 40–44 | 9.7 | 3.0 | 8.0 | 8.8 | 5.5 |
| 45–49 | 8.6 | 5.1 | 3.5 | 4.8 | 4.1 |
| 50–54 | 5.4 | 1.0 | 1.0 | 4.0 | 2.6 |
| 55–59 | 3.2 | 3.0 | 2.0 | 2.5 | 1.9 |
| 60+ | 5.4 | 6.1 | 1.0 | 2.3 | 2.4 |

*Source*: NLW, Gaol Files database; Prison Hulks, TNA, HO 8; Old Bailey, www.oldbaileyonline.org.uk.

successful and decided to return home. Determined that this should not be empty-handed, they stole a pair of horses from Pritchard's former employer, which they later sold. Although they were probably not as opportunistic as Jones, it is doubtful that they were regarded as hardened criminals, and it was possibly because of this that the presiding judge recommended a commutation of their death sentences.[78]

Information on the age of the offenders has survived for 93 cases.[79] The oldest recorded thief was 63,[80] while the youngest was 16.[81] As with most crimes, the crime rate of horse-stealers tended to rise with age, peaking in early adulthood, after which it declined. It seems that horse thieves were relatively old, with an average age of 34 years, compared with 30 for all criminals in the NLW database and a marked under-representation of those under the age of 20 (Table 8). This does not seem to have been a peculiarity of the Welsh data; it was evident on the prison hulks in 1828[82] and, judging from the Old Bailey transcripts over the 1730–1830 period, London too.[83]

[78] TNA, SP 36/56, fo. 186.

[79] It is also subject to data-heaping, with over-representation of those aged 20, 30, and 40. This may slightly distort the frequency distributions presented.

[80] NLW, Great Sessions, 4/634/3.

[81] NLW, Great Sessions, 4/201/1; 635/4.

[82] On the prison hulks, the mean age of the horse stealers was 32 years and the median 28. However, the hulk data may be subject to selective age bias. Indeed, we might expect young horse thieves to attract an unusual number of transportation sentences.

[83] Although, when compared with the overall age distribution, young horse thieves were under-represented at the Old Bailey, it is evident that the proportions under 20 and between 20 and 25 were considerably higher than in Wales. One possible reason for this difference is that many young thieves from the Home Counties may have converged on London to dispose of stolen horses because of the anonymity that the metropolis provided. Perhaps they reasoned that they were less likely to arouse suspicion there because the large volume of horse sales implied that purchasers would come into contact with a wide variety of vendors. However, it is also likely that prosecution practices differed in London, although whether this resulted in an unusual number of juvenile prosecutions specifically for horse theft is not clear.

Why were young thieves under-represented? There are (at least) three possible reasons. First, in agricultural communities a high proportion of young men would have been employed as farm servants. King has argued that the frustrations of service help to explain the relatively early peak in the age-crime profile for property theft as a whole.[84] However, because service reduced the mobility of young farm workers, it may, if anything, have reduced their opportunities to steal horses. Secondly, young men may have anticipated difficulties in disposing of stolen horses. Like women, young men were unlikely to own horses and would have been treated with suspicion when trying to sell one. Finally, it may be that their lifestyles, values and responsibilities encouraged them to commit crimes that provided excitement and immediate returns, crimes such as burglary and robbery. Only later, as their lifestyles and responsibilities changed, did they shift towards low-risk, relatively lucrative crimes, such as horse-stealing.[85]

## IV

While it was primarily an acquisitive crime, not every horse theft was driven by profit. Some were the result of family feuds and disagreements with employers. Thus, in 1730 Edward Lewis, a Radnorshire servant, stole a horse from his brother-in-law and employer, following a dispute over unpaid wages.[86] John David, a Carmarthenshire labourer, stole a horse from his employer when his request to attend an aunt's funeral was refused.[87] Predictably, some thefts were committed by joy-riders. For instance, William Bevan, a Radnorshire yeoman, was accused of horse theft in 1756, although he was never prosecuted, the horse having been found on a nearby moor.[88] In the same year, John Rowland, a Denbighshire labourer, was indicted for stealing a bay gelding, worth only 15*s*. In his defence Rowland argued that, being tired, he had borrowed the horse. However, there were doubts about the veracity of his story; he was found guilty, although he was pardoned on joining the army or navy.[89]

The most interesting issue, however, is whether horse-stealing was motivated by economic hardship. In his study of sheep theft in Yorkshire, Wells suggested that it was committed for a variety of reasons. Although butchers and farmers sometimes stole for profit, urban and rural workers stole sheep as a means of alleviating poverty, supplementing their meager incomes, even enhancing their diets.[90] He also implied that, occasionally, under conditions of extreme privation, it was a means of survival.[91] Was horse theft committed for similar reasons? It is

*Note 83 continued*.
See P. King, 'The rise of juvenile delinquency in England, 1780–1840: changing patterns of perception and prosecution' in his *Crime and law*, pp. 73–113.

[84] King, *Crime and discretion*, pp. 176–83.

[85] D. J. Steffensmeier, E. A. Allan, M. D. Harer and C. Streifel, 'Age and the distribution of crime', *American J. Sociology* 94 (1989), pp. 803–31.

[86] NLW, Great Sessions, 4/516/1.

[87] NLW, Great Sessions, 4/611/6.

[88] NLW, Great Sessions, 4/381/4.

[89] NLW, Great Sessions, 4/272/4.

[90] R. Wells, 'Sheep-rustling in Yorkshire in the age of the industrial and agricultural revolutions', *Northern Hist*. 20 (1984), pp. 127–45; J. Rule, 'The manifold causes of rural crime: sheep-stealing in England, *c*.1740–1840', in J. Rule and R. Wells (eds), *Crime, protest and popular politics in southern England, 1740–1850* (1997), pp. 237–54, draws similar conclusions.

[91] M. Freeman, 'Plebs or predators? Deer-stealing in Wychwood Forest, Oxfordshire in the eighteenth and nineteenth centuries', *Social Hist*. 21 (1996), pp. 12–13, suggests that hardship was occasionally a reason for deer theft.

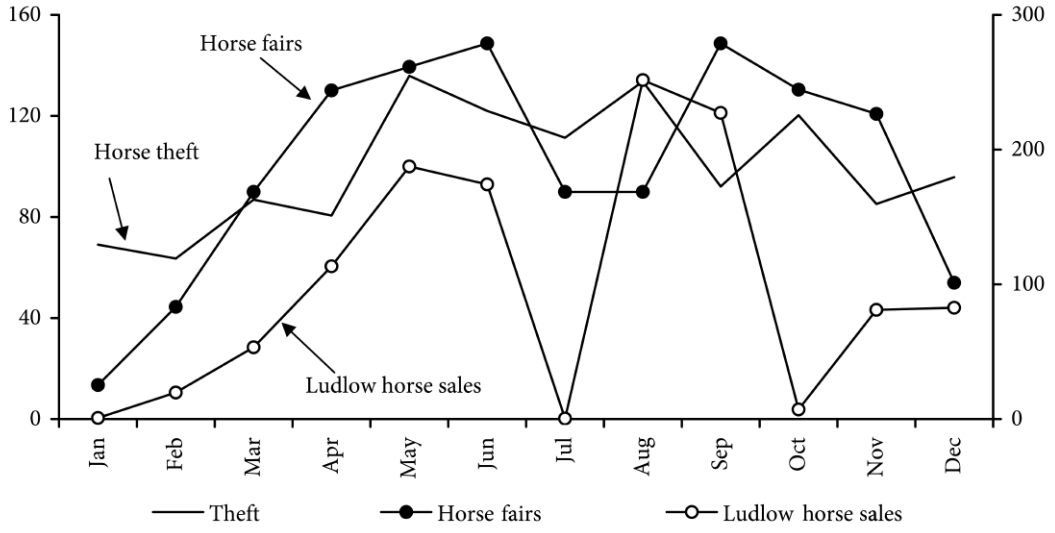



FIGURE 3. Horse theft, horse fairs, Ludlow horse sales: seasonal indexes

*Sources*: Theft, NLW Gaol Files database; Fairs, Shropshire Archives, 522/10/85; Sales, see Figure 1.

difficult to be sure.[92] Horse flesh was rarely, if ever, eaten in Britain and, although they were marketable, horses could not be turned into immediate cash. In contrast to either food theft or burglary, circuit judges rarely used distress as a mitigating factor when making a recommendation to commute a death sentence for horse-stealing.[93] In addition, there are relatively few cases in the NLW database where distress was or could be used as an explanation for the crime. One possible exception is the case of Thomas Williams, a 36 year old Breconshire labourer who stole a horse from a Radnorshire farmer. On being confronted with the crime, Williams had claimed that he needed money for his children who were ill with smallpox.[94]

The seasonal pattern also casts doubt on the claim that horse-stealing was sensitive to economic hardship. We find that the winter months were the peak time for a number of rural

[92] Further support for this claim comes from the Irish Famine of the 1840s. At this time, most crimes increased, and horse-stealing was no exception, although, in contrast to cattle and sheep convictions, which increased rapidly, there was little change in its relative importance. See N. Woodward, 'Transportation convictions during the Great Irish Famine', *J. Interdisciplinary Hist.* 37 (2006), pp. 59–87.

[93] For example, in the case of John Severn, the judge pointed to his previous good character and to his usefulness as a sailor (TNA, HO 47/11/23). In the case of George Harding, his deep penitence and religious observation were mentioned (TNA, HO 47/8/2). It is also worth noting that, in appeal cases (these can be found in TNA, HO 78), it was very unusual to argue that distress was the cause of the crime. Instead appellants tend to stress that the criminal had been led astray by either hardened criminals or alcohol, that he had extensive responsibilities, and that he had been wrongly convicted. An illustrative exception is William Rose, a Derbyshire farmer, who was convicted of stealing a mare in 1828. His appellants testified not only to Rose's good character, but argued that the crime had been motivated by his own financial distress, the loss of his own horses, and his large number of dependants. For a general discussion of pardoning see King, *Crime, justice and discretion*, pp. 297–333.

[94] NLW, Great Sessions, 4/395/1.

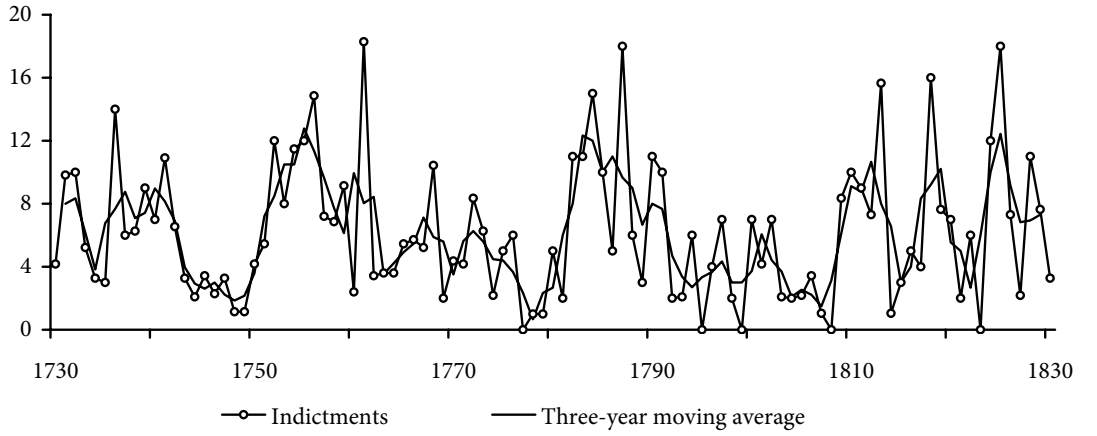



FIGURE 4. Indictments for horse-stealing: Wales

*Source*: NLW Gaol Files database.

crimes – wood and grain theft, sheep-stealing and certain types of poaching.[95] This, of course, was a time when wages were at their lowest and unemployment, which provided both an incentive and opportunity to steal, was at its highest. However, the pattern for horse-stealing was quite different. Far from being a winter crime, it was prevalent in the late spring, summer and early autumn (Figure 3).

Why was horse-stealing so uncommon in the winter? It was a not consequence of low prices; indeed, judging from the Ludlow evidence, horse prices were at their highest in the winter months and at their lowest in the third quarter of the year. Rather, it was probably due a combination factors. Judging from the incidence of fairs and the volume of sales, horses were more difficult to dispose of during the winter months (Figure 5). These were also the months when agricultural labourers were relatively immobile and had fewer opportunities to steal horses. Valuable horses were more likely to be stabled during the winter months, offering them some protection against theft.

Even if it was concentrated into the summer months, it is still possible that horse theft was more common in years of hardship. Figure 4 shows the annual pattern of prosecutions. It seems to suggest there was no marked long-term trend in horse-stealing. This is a little surprising, because we might have expected an increase over the period. After all, this was a period when the horse population was growing nationally and, with transport improvements and the growth of private sales, one when stolen horses could have been disposed of with increasing ease. There are two possible explanations for why this did not happen. First, any increase in the incentive to steal horses may have been countered by a greater security-consciousness on the part of owners.[96]

[95] T. Shakesheff, 'Wood and crop theft' p. 4; A. Howkins, 'Economic crime and class war: poaching and the Game Laws, 1840–1880', in B. Harrell-Bond, *The imposition of the law* (1979), pp. 280–81; H. Osborne, 'The seasonality of nineteenth-century poaching', *AgHR* 48 (2000), pp. 27–41; Woodward, 'Seasonality and sheep-stealing'.

[96] T. J. Philipson and R. A. Posner, 'The economic epidemiology of crime', *J. Law and Economics* 29 (1996), pp. 405–33.

TABLE 9. Average number of horses stolen

| *Phase* | *Average* |
|---|---|
| Peace 1730–8 | 6.9 |
| War 1739–48 | 4.9 |
| Post-war 1749–50 | 2.7 |
| Peace 1751–5 | 9.6 |
| War 1756–63 | 8.2 |
| Post-war 1764–5 | 4.5 |
| Peace 1766–75 | 5.4 |
| War 1776–83 | 4.6 |
| Post-war 1785–5 | 12.5 |
| Peace 1786–92 | 7.9 |
| War incl. Peace of Amiens, 1793–1815 | 4.5 |
| Post-war 1816–17 | 4.5 |
| Peace 1818–30 | 7.6 |

*Source*: NLW, Gaol Files database.

There is no compelling reason to suppose this did happen, although the emergence of prosecution societies, the *raison d'etre* of which was often to counter horse-theft, is suggestive. Secondly, it is possible that, because of changes in prosecution practices, the indictment figures are an unreliable indicator of long-term trends in horse-stealing.

Annual fluctuations in recorded horse thefts probably provide a more reliable indicator of short-term movements, although even these may have been affected by the impact of panics on prosecution rates.[97] Horse theft figures displayed considerable amplitude from one year to the next, pointing perhaps to the importance of casual opportunists. The figures also display a degree of bunching, which is likely to reflect changing economic conditions. There is considerable evidence from the nineteenth century that short-term fluctuations in property crime were positively related to both food prices and unemployment.[98] Both Beattie and Hay have offered a similar explanation for fluctuations in property crime in the eighteenth century too. Thus, they show that the number of thefts tended to increase when either grain or consumer prices were high, with a correspondingly high cost of living.[99] They also show that crime figures

[97] Some historians have suggested that at times when crime is rising, or is anticipated to rise, prosecution rates will rise as a deterrent. As a result, prosecutions may not tell us much about real changes in criminal activity. This, however, is only partially convincing. In particular, the argument makes no allowance for the possibility that at such times property owners will become more security-conscious, protecting their property more intensively as well as prosecuting more readily. Under such circumstances, at least part of the rise in prosecutions is likely to reflect higher levels of criminality.

[98] The evidence is summarized in S. Hurwitz and K. O. Christiansen, *Criminology* (1983), pp. 147–62.

[99] This interpretation may need to be modified. Periods of high food prices were often, although not always, due to harvest failures. These, in turn, simultaneously created both high food prices and unemployment. Harvest failures were equivalent to what an economist would refer to as a supply-shock.

TABLE 10. Correlation matrix

| | Horse theft | Sheep theft | Food theft | Food theft –(1) | Mobili-zation | Consumer prices –(1) | Wheat prices –(1) | Horse prices |
|---|---|---|---|---|---|---|---|---|
| Horse theft | 1.00 | | | | | | | |
| Sheep theft | 0.186*** | 1.00 | | | | | | |
| Food theft | 0.200** | 0.413* | 1.00 | | | | | |
| Food theft –(1) | 0.225** | 0.287** | 0.440* | 1.00 | | | | |
| Mobili-zation | –0.201** | –208** | 0.19 | –0.05 | 1.00 | | | |
| Consumer prices –(1) | 0.16 | 0.08 | 0.12 | 0.488* | –0.16 | 1.00 | | |
| Wheat prices –(1) | 0.241** | 0.11 | 0.274** | 0.363* | –0.30 | 0.691* | 1.00 | |
| Horse prices | 0.384* | 0.230*** | 0.20 | 0.480* | –0.54 | 0.464* | 0.449* | 1.00 |

*Note*: *, **, *** denotes statistically significant at 1, 5 and 10% level. Consumer, wheat and horse prices were measured as the per cent deviation from a seven-year moving average; mobilization is the number mobilized deflated by an index of the total English population.

*Sources*: Grain prices, BPP, Population Census, 1831, 1833, XXXVI; consumer prices, B. R. Mitchell and P. Deane, *Abstract of British historical statistics* (1971), pp. 486–9; population, E. A. Wrigley and R. S. Schofield, *The population history of England, 1541–1871* (1981), pp. 533–4; number in armed forces, BPP, *Annual armed forces manning levels based on numbers borne into navy and number of men voted for army*, 1868–69, XXXV, pp. 1177–86.

were low during periods of war, which they attribute to the impact of mobilization on male unemployment, although they suggest, too, that recruitment may have been selectively targeted at those with high levels of criminality.[100]

Did horse theft follow this general pattern? There is some evidence that horse-stealing was influenced by the level of mobilization. As Table 9 shows, horse-stealing tended to be less common during wartime periods than in the surrounding peacetime years. There is also a negative correlation between the degree of mobilization and horse theft (Table 10). It is

[100] This interpretation too may be partial. Some authors, such as J. Innes and J. Styles, 'The crime wave: recent writing on crime and criminal justice in eighteenth-century England', *J. British Studies* 25 (1986), pp. 391–93, and P. King, 'War as a judicial resource. Press gangs and prosecution rates, 1740–1830', in N. Landau (ed.), *Law, crime and society, 1660–1830* (2002), pp. 97–116, have suggested that the relationship may be at least partially spurious because impressment was often used as an informal sanction against thieves. Another complication is that, during wartime periods, the supply of potential targets declined as wartime finance diverted resources from the household to the military sector. There is some empirical evidence to support this hypothesis. See P. Deane, 'War and industrialization', in J. Winter (ed.), *War and economic development: essays in memory of David Joselin* (1975), p. 99.

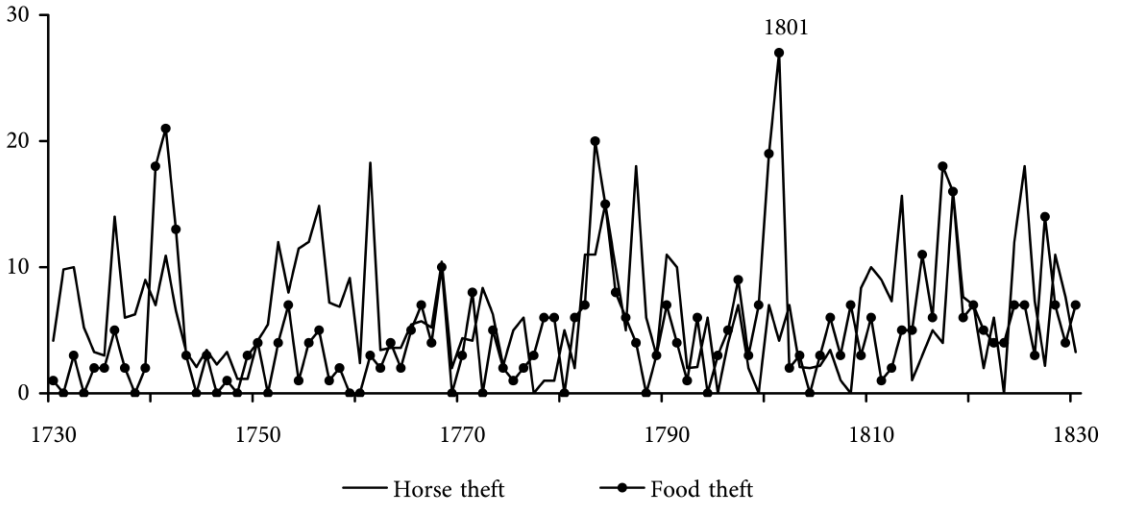



FIGURE 5. Indictments for horse and food theft

*Note*: Food theft excludes indictments committed under riot conditions.
*Source*: NLW Gaol Files database.

interesting to note, however, that there was no tendency for horse theft to rise in immediate post-war years – with the exception of the American Revolutionary wars. The evidence also suggests that numbers of horse thefts tended to be higher in years of high food prices; both lagged consumer and wheat prices are positively correlated with horse-stealing. Thus, it seems that the crime tended to be highest in peacetime periods when prices were rising; the least propitious conditions were during wars when food prices were falling.[101] It is also interesting to note that there was a positive association between horse-stealing and horse prices, which points to the possible strength of the resale motive.

We can also gauge whether horse-stealing was common in periods of acute distress by examining the relationship with food theft. In contrast to sheep-stealing, the correlation between horse and food theft, although positive, is quite weak. Nevertheless, as Figure 5 shows, there were four periods when indictments for food theft were exceptionally high: the early 1740s, the years immediately following the American Revolution, the early years of the nineteenth century and in 1817–18. It may be significant that three of these peaks coincided with high levels of horse-stealing. The exception is 1800–01. However, this may simply reflect a shortage of suitable targets, the demand for horses being exceptional during the French wars.[102]

[101] The average number of horse thefts were as follows: peace, rising prices (i.e. above trend), 8.30; war, rising prices, 6.46; peace, falling prices, 6.17; war, declining prices, 4.13.

[102] K. Chivers, 'The supply of horses in Great Britain in the nineteenth century', in Thompson (ed.), *Horses in European economic history*, p. 33

## V

Thus there is some evidence that horse-stealing tended to rise in years of distress, although the figures for food theft prosecutions display considerably greater amplitude than those for horse-stealing.[103] As both Beattie and Hay imply, one possible explanation for this is that horse-stealing was dominated by professional criminals. This is plausible; it is generally assumed that professionals tend to gravitate towards the most lucrative crimes and are less likely to be affected by the measures introduced by security-conscious property owners and by economic fluctuations.[104] Unfortunately, legal records are far from ideal for examining whether this was the case.[105] Complications also arise from a general tendency to exaggerate the role of the hardened criminal[106] and confusion over the term 'professional criminal', which is often used to describe men who were totally dependent on crime. It is doubtful whether many property criminals satisfy this criterion today[107] and it was even less likely in the eighteenth and early nineteenth centuries.[108] Egmond has suggested that a better definition might be someone with a long-term involvement with crime.[109] Such people, of course, were more likely to be habitual criminals, to be part of criminal networks, or even possibly part of a gang or a more sophisticated organization, and to be relatively proficient thieves. If horse-stealing was dominated by such people, not only would the crime be less sensitive to economic conditions but it would have been difficult for horse owners to protect their property.[110]

Nevertheless, although professionals played a part in horse-stealing, it is doubtful whether they dominated the crime. As Patrick Colquhoun put it, 'In some instance, this offence is committed by persons not proselytes to vice, and in others, by persons of the most depraved character'.[111] It would have been surprising if many were members of sophisticated organizations. Criminal organization will adapt to the realities of the situation so that the thief can secure respectable returns with low risks of detection and prosecution.[112] It will be influenced by the existence of entry barriers, such as skill or capital requirements, the advantages of specialization, and the

[103] The coefficient of variation for horse-stealing over the period was 71.0. For food theft it was 102.5.

[104] BPP, XIX, *Report of Royal Commission on Constabulary Forces* (1839), p. 8, offers some support for this view. However, the evidence referred to certain major urban centres.

[105] Morgan and Rushton, *Problem of law enforcement*, pp. 77–86.

[106] For example, the question was posed in meetings of the *Select Committee on the Capital Convictions (*1819), pp. 40–1, of whether there was an organized trade in the export of stolen horses. This view received short shrift from those who gave evidence.

[107] See, for example, H. R. Holzman, 'The serious habitual property offender as moonlighter: an empirical study of labor force participation among robbers and burglars', *J. Criminal Law and Criminology* 73 (1983), pp. 1774–92.

[108] C. Emsley, *Crime and society in England, 1750–1900* (1987), pp. 129–37.

[109] F. Egmond, *Underworlds: organised crime in the Netherlands* (1993), p. 43.

[110] P. Tremblay, Y. Clermont and M. Cusson, 'Jockeys and joyriders: changing patterns in car theft opportunity structures', *British J. Criminology* 34 (1994), pp. 307–21, have shown that, in Canada, in response to new security methods, such as steering column locks and new lock buttons, amateur car theft declined, while professional theft continued to rise.

[111] BPP, *Select Committee on Capital Convictions*, p. 26. He was referring to both horse- and sheep-stealing. However, rather stronger support for the claim that horse thieves were relatively professional, at least in urban areas, comes from the 1839 *Royal Commission on the Constabulary*, p. 22.

[112] J. J. Tobias, 'The crime industry', *British J. Criminology* 8 (1968), pp. 247–58; M. McIntosh, *The organisation of crime* (1975).

importance of backward and forward linkages. Coining, which enjoyed fairly extensive linkages, centered around a limited number of skilled coiners who would employ trusted associates to supply the metal (sometimes clippers) and dispose of the coin (utterers).[113] The poaching of game birds, by contrast, did not require many skills, but the concentration of game, the employment of gamekeepers and the nature of the activity required the employment of teams, composed of look-outs as well as men to drive, dispatch and sell the birds.[114] Horse-stealing, however, was a more prosaic crime. Apart from an ability to work with horses, it did not require many skills; there were few linkages or advantages from specialization; and, with the possible exception of assistance to catch a difficult horse, the employment of accomplices offered few advantages. We might assume that most horse thieves worked alone and had few criminal connections.

The database suggests that slightly less than 90 per cent of those indicted were unaccompanied, although this is probably an overestimate. Some principal offenders may have tried to protect their accessories, and prosecutors may have been more inclined to deal with them informally. Thomas Jenkin, who was believed to have stolen a horse in Llanfigen, Brecon in November 1737 was known to have had an accomplice who was not indicted.[115] That most horse thefts were committed by solitary individuals is not to say that criminal gangs were never involved.[116] Thus, Henry Thomas, a Carmarthenshire shoemaker, who was convicted in 1810, was part of a gang that committed a series of both highway robberies and horse thefts.[117] Another gang was associated with John Astley, an established Bristonian criminal who was in league with a publican, John Morris, who had had the idea that it would be profitable 'to steal small horses from the mountains of Wales, that it might easily be done and kept secret'. Astley, in the company of different men, went on at least three forays into Wales. A third gang, a fairly sophisticated one, was associated with Edmund Marsden and Reece Morris, who were involved in reciprocal cross-border thefts and exchanges.[118] Such activity, however, seems to have been unusual.

There is also evidence that some horse thieves were rogues.[119] There are examples of horse thieves who were suspected or even convicted of other crimes, such as William Bound (1732), already under a death sentence for burglary, and John Martin (1825), for larceny.[120] Some thieves were also part of wider criminal networks. Thus, one Breconshire thief was, by his own confession, 'intimately acquainted with several thieves',[121] while another came from a family of known horse-stealers.[122] The finding that a considerable number of the horses were stolen by habitual horse thieves provides a stronger argument for professional involvement. The database suggests that slightly more than a fifth of the horses were stolen by criminals who had

[113] Morgan and Rushton, *Problem of law enforcement*, pp. 83–4. See also the fascinating account of the 'yellow trade' in John Styles in '"Our traitorous money makers". The Yorkshire coiners and the law, 1760–83', in J. Brewer and J. Styles (eds), *An ungovernable people. The English and their law in the seventeenth and eighteenth centuries* (1980).

[114] On poaching gangs, see Munsche, *Gentlemen and poachers*, pp. 65–9.

[115] NLW, Great Sessions, 4/376/2.

[116] For some discussion of gang activity in Wales, see Howell, *Rural poor*, pp. 200, 233–35. Edwards, *Horse trade*, pp. 120–22, also discusses horse-stealing gangs.

[117] NLW, Great Sessions, 4/758/1.

[118] *Hereford J*. 7 Nov. 1829.

[119] NLW, Great Sessions, 4/374/2.

[120] NLW, Great Sessions, 4/376/4; 836/5.

[121] NLW, Great Sessions, 4/374/2.

[122] NLW, Great Sessions, 4/180/5.

stolen two or more horses. For example, Thomas Davies, a Cardiganshire yeoman, who was sentenced in 1783, was implicated in separate horse thefts in Cardiganshire, Radnorshire and Montgomeryshire.[123] Similarly, Thomas Sheen, a 28 year old Radnorshire yeoman, was charged in 1824 with stealing 11 horses.[124] Most of these horses were stolen locally and sold at various places over the border in Shropshire. The most spectacularly habitual horse stealer, however, was Henry Richard Robert, a yeoman from Llangollen, Denbighshire, who was accused of stealing 19 horses in the years between 1756 and 1762. He usually stole his horses, unaccompanied, in the border counties, particularly Montgomeryshire, Radnorshire and Shropshire, before selling them nearer to his home. Robert seems to have had a preference for horses of fairly low value, which were stolen from fields at dusk or at night.[125]

It would seem that, in terms of their professionalism, horse thieves were a mixed bunch; although some warranted the description 'professional horse thief', many others did not. The impression is that most would be described as opportunist or middle-range criminals.[126] Few were violent men, David Rosser being one exception. He stole a horse in Radnorshire in 1741 and was latter arrested in Llanidloes, Montgomeryshire, armed and described as a highway robber.[127] Owen Jones, who stole his father's horse, was known to be guilty of family violence.[128] These men seem to have been unusual. It is possible that horse thieves were generally averse to violence, and were attracted to horse theft because, like burglary, it offered high rewards with little risk of physical danger.[129]

## VI

It is evident that most horse thieves were fairly cautious criminals, often adopting tactics that would reduce the chances of detection.[130] They opted for soft targets, preferring to steal horses off the hills or from fields rather than from stables or yards. Newspaper advertisements suggest that thieves stole a disproportionate number of mares, which were more likely to be pastured. They would make use of inside knowledge, stealing from employers and neighbours.[131] William Peter, a yeoman from Cellan, Carmarthenshire, was sentenced to death in 1811 for stealing a horse from his neighbour, a farmer who was at a chapel meeting at the time of the theft. Samuel Watts, a Pembrokeshire clothier, stole a horse from a previous employer.[132] Most horse thefts took place within a radius of ten kilometers from the thief's home (Figure 6).[133] In those cases

[123] NLW, Great Sessions, 4/387/3.

[124] NLW, Great Sessions, 4/537/2.

[125] The average value of horses stolen was £3.76. For the database as a whole, the average for 1756–62 was £3.60.

[126] The distinction between professionals, casual opportunists and middle-range criminals is one made by D. A. Cohen, 'A fellowship of thieves: property criminals in eighteenth-century Massachusetts', *J. Social Hist*. 22 (1988–9), pp. 65–92.

[127] NLW, Great Sessions, 4/519/7.

[128] NLW, Great Sessions, 4/254/5.

[129] Woodward, 'Burglary in Wales', p. 55.

[130] This was implied by Edwards in *Horse trade*, pp. 112–13.

[131] J. E. Archer, 'Poaching gangs and violence', *British J. Criminology* 39 (1999), pp. 26–8 suggested that a high proportion of poachers were urban, industrial workers. A similar view was expressed in 1839 *Royal Commission on the Constabulary*, p. 13. This was not the case with Welsh horse-stealers.

[132] NLW, Great Sessions, 4/823/3.

[133] A road map planner was used to calculate these distances. Inevitably the estimates, although indicative, are not strictly accurate, the biases being greatest in upland areas where the planned routes are more likely to be circuitous.

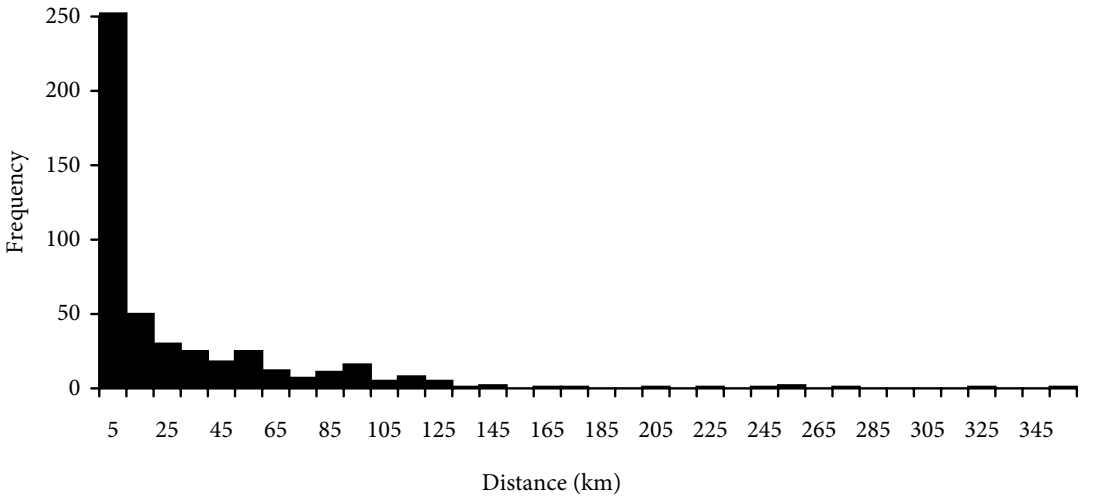



FIGURE 6. Distance between parish of residence and parish of offence

*Note*: N = 500; mean = 28.8; standard deviation= 46.5.
*Source*: NLW, Gaol Files database.

where the crime was committed at a distance from home, the thief was often well-informed. Henry Robert, the habitual horse thief mentioned above, travelled widely in the border counties, committing a number of his crimes in the same locality. James Roberts, a London-based livestock dealer who was convicted in 1829 for stealing a horse, returned to the area of his upbringing to commit his crimes.[134]

Having stolen the horse, the thief would occasionally attempt to confuse his pursuers by changing the characteristics of the animal. Sometimes he would use lamp-black to cover up markings.[135] On other occasions he would dock or shorten the horse's tail. The obvious way to avoid detection, however, was to take the horse well away from the scene of the crime.[136] Sometimes the thief adopted all of these practices. One interesting case is that of William Taylor, who is one of the few servants in the database. He was persuaded to steal a horse by his employer, William Jones, a farmer from Builth Wells, Breconshire.[137] Thus, Taylor was given a guinea to cover his expenses, and told to go a considerable distance from home. The following night he reached Canon Norton, Herefordshire, where he caught a cart mare, valued at £15, in the yard of a local farmer. The following day he returned to Builth with the mare. Jones' intention, it seems, was to disguise the horse, using lamp black to conceal a blaze, to hide the mare in Skethrog, almost forty kilometers to the south, and then either sell or use her. However, as Jones and Taylor were indiscrete, the crime soon became common knowledge; Taylor was found guilty and sentenced to death, later commuted, while Jones, the architect of the crime, was sentenced to seven years transportation for receiving.

[134] NLW, Great Sessions, 4/538/6.
[135] NLW, Great Sessions, 4/614/1.
[136] Styles, 'Print and policing', pp. 57–77.
[137] NLW, Great Sessions, 4/537/2.

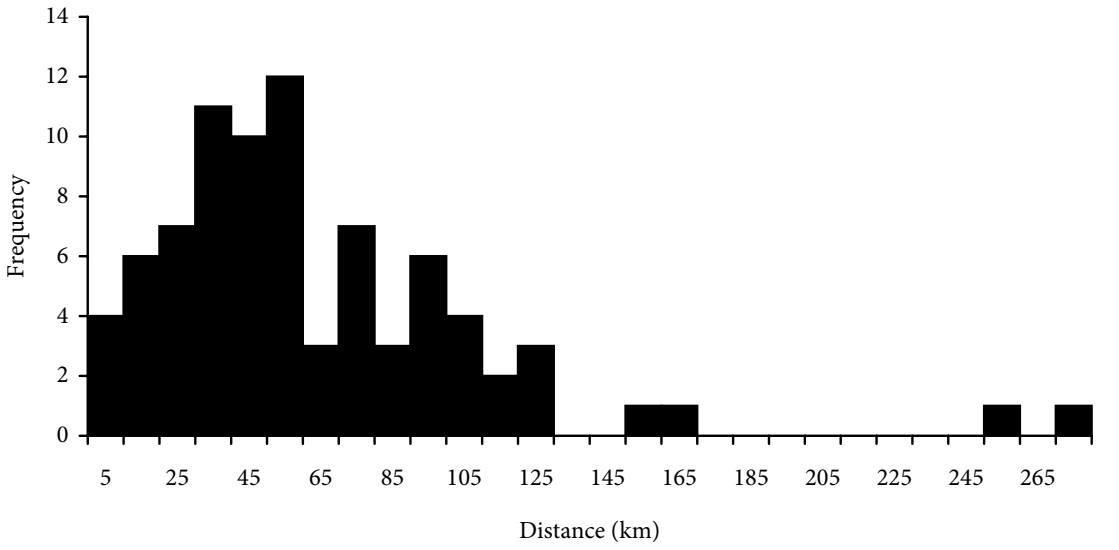



FIGURE 7. Distance between parishes of offence and disposal of horse

*Note*: N = 83; mean = 64.9; standard deviation = 46.8.

The practice of moving the horse a considerable distance from where it was stolen seems to have been a common practice. Information about such distances has been recovered for 83 cases. As Figure 7 shows, over half the horses were sold or disposed of more than 50 kilometres away, and some were moved quite spectacular distances. In the case of John Astley (1784), already mentioned, the horses were stolen in either Montgomeryshire or Radnorshire and sold in Bristol. Another Bristonian, Zacariah Jones (1770), stole ponies from the Merionethshire mountains,[138] while John Francis, a Carmarthenshire yeoman, was accused in 1745 of a stealing a horse in Wells, Somerset.[139] The need to move the stolen horse a considerable distance explains why certain types of animal were more likely to be stolen.[140] Usually, they stole broken horses, although occasionally they may have been only halter-broken. The theft of working horses, although it took place occasionally, was quite unusual. No doubt this was partly because draught horses and to a lesser extent, pack horses, were less mobile and flexible in upland areas than the smaller riding horses that thieves seemed to prefer.

The most crucial decisions the thief had to make related to the disposal of the animal. First, he had to decide whether to sell the horse or keep it. As the latter increased the risks of detection, it is not surprising that most thieves opted to sell. The second decision was whether to use the services of a fence. Although one or two horses were sold this way, most thieves chose to sell the horse themselves.[141] This was because relatively few horse thieves were part of

[138] NLW, Great Sessions, 4/302/1.

[139] NLW, Great Sessions, 4/614/1.

[140] These arguments are based on adverts appearing in *The Cambrian* and *Carmarthen J.* from their inception until 1830.

[141] This was not always the case. See BPP, *Report on Commons' Inclosure*, pp. 215–6.

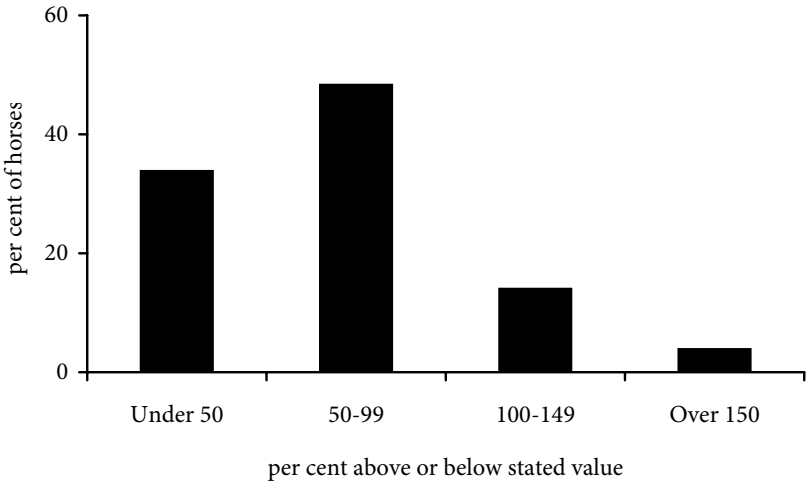



FIGURE 8. Negotiated price of stolen horses relative to value (Old Bailey)

*Note*: N = 207; median = 57.1; mean = 65.6; minimum = 4.6; maximum = 336.7; standard deviation = 40.4.
*Source*: www.oldbaileyonline.org.uk.

criminal networks and would have had little information about potential fences. For their part, fences would have been reluctant to deal with casual opportunists or thieves of whom they had little knowledge. The incentive to use a fence is strongest when the turnover of stolen goods is slow and the risks of detection are high.[142] But, as we have seen, the market for horses was an active one and the thief could expect to dispose of his animal quite quickly.

The thief then had to decide what price he would accept. Occasionally the sale took the form of a swap, although usually it was a cash transaction.[143] Nevertheless, the thief faced a trade-off. If he sold the horse at or near its market value he could earn a considerable amount from his crime, but it might take a long time to dispose of the animal, which would increase the risks of detection. If he sold at discount, the returns would be lower but the speed of disposal would be greater. This trade-off, however, was complicated by the possibility that too low an asking price would arouse the suspicion of a potential purchaser.

What sort of prices did thieves secure? Unfortunately, the gaol files include very little information on this matter, although one or two cases surfaced. For example, Catherine Lloyd, mentioned above, was prepared to accept a discount of 50 per cent. Similarly, Henry Thomas, the Llandeilo gang member, stole a horse worth £15 15*s*.; his initial asking price was £3 3*s*., although eventually he settled for 30*s*., a discount of 90 per cent. The Old Bailey Session Papers include further evidence on this matter and broadly support the conclusion that thieves usually sold at a considerable discount. They suggest that occasionally thieves secured a price above the estimated value of the animal (Figure 8). More often than not, however, they sold at discount.[144]

[142] M. McIntosh, 'Thieves and fences: markets and power in professional crime', *British J. Criminology* 16 (1976), pp. 257–66.

[143] NLW, Great Sessions, 4/517/2; 376/1.

[144] The descriptive statistics were as follows: mean 66; median 57; minimum 5; maximum 340; standard deviation 43.

On average, this was 40 per cent, although roughly one third accepted less than half the value of the animal.[145]

Although most horse thieves were cautious, like most criminal groups they displayed varying degrees of proficiency. Some were unlucky, some were too cavalier or too incompetent to make good felons.[146] For example, Jones and Taylor, mentioned above, were overheard discussing their crime, while William Peter, also mentioned earlier, was traced by following the horse's hoof-prints. On some occasions the thieves were identified at the scene of the crime and even in the act of commission. Thus, James Ellis, a Glamorganshire labourer, was accused of two crimes in 1738 – one of cattle maiming, the other of horse theft; on both occasions he was observed.[147] Sometimes thieves aroused suspicion because they did not establish their credibility as horse owners. Thus, one thief was brought before a magistrate because he had been seen riding a horse 'meanly appareled', another because he rode the horse without a saddle.[148] Suspicion could also be raised by the behaviour of the criminal, who might underprice the horse, appear nervous, or push the horse too hard in an attempt to distance himself from the scene of the crime.

## VII

We can gauge roughly who were the victims of horse theft from the status of the prosecutors (Table 11), although it should be noted that prosecutors and victims were not always the same person. For example, land agents sometimes acted on behalf of their employer, and men sometimes prosecuted on behalf of a female relative. It is also possible that relatively affluent victims had a higher tendency to prosecute.[149] Maybe this partly explains why a high proportion of the recorded prosecutors were well-to-do. Farmers, gentlemen and those in trade, commerce and the professions accounted for 49 per cent of the prosecutions. However, because they owned relatively valuable horses, their value share was even greater (58 per cent). There was often a marked social distinction between the thief and his victim.[150] Table 11 also reaffirms the importance of the farming community as the main victims of theft. Sixty-one per cent of prosecutors were farmers, yeomen or husbandmen. The value of the horses stolen from them was about the same percentage of the total, with the value of horses owned by farmers being greater than the other two groups.

Did owners take effective action to protect their horses? Insurance was not an option, because livestock insurance did not emerge until the 1840s.[151] Hiring a watchman would have been expensive. The efforts of horse owners seem modest compared with the steps taken

[145] There are a number of cases in the Old Bailey Session Papers of thieves who stole perfectly good horses but who tried to make a quick sale by selling directly to a horse-slaughterer.

[146] J. A. Mack, 'The able criminal', *British J. Criminology* 12 (1972), pp. 44–54.

[147] NLW, Great Sessions, 4/376/5.

[148] NLW, Great Sessions, 4/611/7; 181/1. See also 4/757/4.

[149] King, *Crime, justice and discretion*, pp. 17–81.

[150] There are too many missing occupational labels to construct a meaningful defendant-prosecutor occupational matrix.

[151] B. Supple, *The Royal Exchange Assurance: a history of British insurance* (1970), p. 226.

TABLE 11. Prosecutors by status (per cent)

| *Status* | *By count* | *By value* |
|---|---|---|
| Farmer | 33.0 | 38.1 |
| Yeoman | 24.7 | 20.7 |
| Husbandman | 3.6 | 3.1 |
| Gentleman | 13.0 | 14.9 |
| Trade, Commerce and Professions | 3.0 | 4.8 |
| Women | 6.1 | 5.0 |
| Craftsmen | 9.7 | 8.3 |
| Labourer/Miner | 3.6 | 2.5 |
| Innkeeper/Aleseller | 1.7 | 1.6 |
| Other | 1.7 | 0.9 |

*Note*: N = 391.
*Source*: NLW, Gaol Files database.

by the owners of large estates to deter poachers.[152] Earmarking and branding were the main forms of protection. Some owners used to secure their horses in stables, sometimes locked. Occasionally, guard dogs were used. *The Cambrian* reported a case in which an owner left the stable door open at night to ensure the circulation of air for his sickly horse and, as a precaution against theft, fastened a large dog to one of the stalls. When a thief tried to steal the horse, the dog barked, the owner was warned and hastened to the stables in time to recover the animal.[153] Horses in fields were more difficult to protect, but sometimes field gates were padlocked. Pasturing the horse near to the farm or residence might also reduce the risk of theft, but not all horses could be protected in this way. It was difficult, in particular, to protect many of the indigenous ponies that were often pastured on the hills.[154] Indeed, one pessimistic entry in a probate inventory recorded: 'three mountain horses (value fifteen shillings) if they be found.'[155]

Not surprisingly, owners were only partially successful at preventing theft. Thieves were invariably active during the late evening or at night and it was difficult to foil a determined thief. Earmarks and brand-marks could be changed and distorted, and it was relatively easy for a thief to ignore a padlocked gate by removing it from its hinges or breaking through the surrounding hedge. Even locked stables could be broken into relatively easily. Thieves often went for the soft option. Although horses were stolen from a range of locations – fairs, markets, stables, even off the street – the vast majority were less-valuable animals, taken from open land or fields. As Figure 9 shows, the gap between Ludlow horse prices and the value of the horses

[152] Munsche, *Gentlemen and poachers*, pp. 71–5; King, 'Prosecution Associations', p. 196, has shown that the oyster-fishing industry also employed watchmen. Very occasionally Welsh farmers employed watchmen too. See BPP, *Report on Commons' Inclosure*, pp. 142–3.
[153] *The Cambrian*, 31 May 1818.
[154] BPP, *Report on Commons' Inclosure*, p. 143.
[155] NLW, Wills, BR/1768/85.

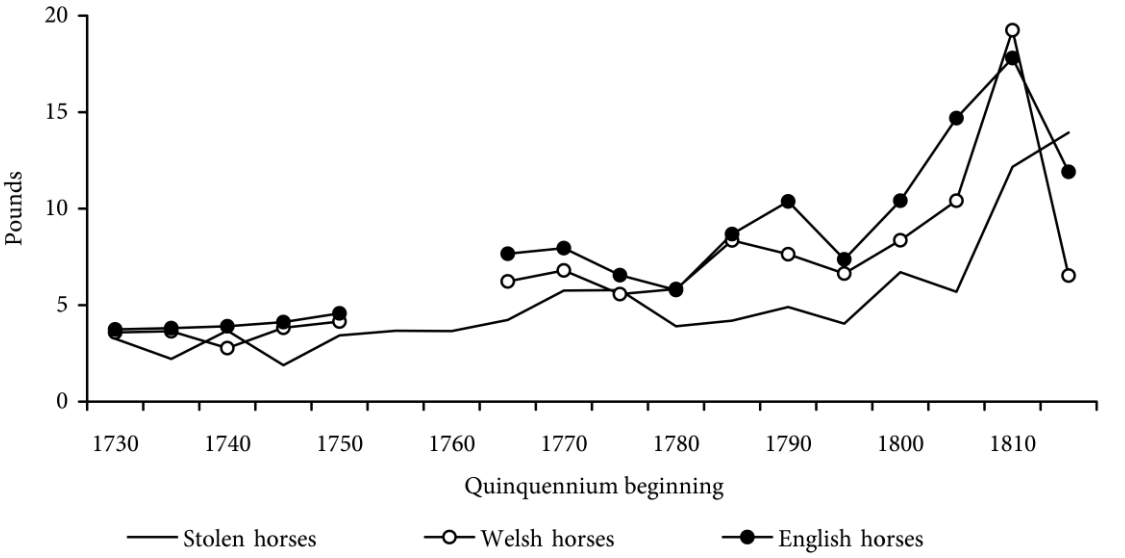



FIGURE 9. Value of horses stolen and average quinquennial prices at Ludlow

*Source*: NLW, Gaol Files database; Ludlow prices: see Figure 1.

stolen was between 26 and 36 per cent, depending on whether Welsh or English prices are used as the comparator.[156]

Why did owners not invest much more heavily in protecting their horses? Although horse theft was relatively common, the risk of experiencing a theft was low.[157] Some owners may have thought that a stolen horse would be easily recovered. They may have been too sanguine, but there is no doubt that occasionally this was true. Horses were sometimes recovered a considerable distance from the place of the crime. For instance, a horse stolen in Brecon was reclaimed in Abingdon, 240 km away.[158] Another horse, stolen in Stoke on Trent, was recovered in Chirk, Denbighshire (72 km).

Stolen horses were found in a number of ways. Many victims simply relied on making person-to-person inquiries. Sometimes they pre-empted the movements of a thief. In 1748, for example, one thief who stole a horse in Shropshire was apprehended at Welshpool fair, where it was anticipated he might try to sell.[159] Some of the methods outlined by Edwards for the sixteenth

[156] The latter were probably quite accurate, but, even if they were not always precise, there was no systematic reason why they should have been biased. This is in contrast to certain other types of theft, such as housebreaking, the proceeds from which were sometimes deliberately undervalued so that the crime did not become a capital offence.

[157] A crude piece of arithmetic will illustrate the relatively low risks. In 1811 there were 80 committals for horse theft in England and Wales. If we double this to allow for Scotland and (arbitrarily but pessimistically?) multiply the product by 8 to allow for hidden theft, we arrive at 1280 stolen horses. For the same year, Thompson has estimated that the horse population was 1,287,000, which implies that less than 1 per thousand horses were stolen in that year.

[158] NLW, Great Sessions, 4/385/4.

[159] NLW, Great Sessions, 4/183/1.

and seventeenth centuries were used to good effect in eighteenth and nineteenth centuries too.[160] For example, some victims used the horse-toll books to recover their animals.[161] Another tactic was to proclaim the loss. Thus, one Montgomeryshire farmer, who had a valuable horse stolen in 1741, had the loss announced in Shrewsbury, Oswestry and Welshpool; this resulted in both the recovery of the horse and the apprehension of the criminal.[162] A similar function was performed by the circulation of handbills. For example, Robert Scott, a labourer who stole a horse in Welshpool, Montgomeryshire, was arrested in Northallerton, Yorkshire, following the distribution of handbills in Manchester.[163]

Edwards also drew attention to the use of newspaper advertisements as a tactic for recovering horses. This method was used even more extensively in the eighteenth and nineteenth centuries, although it was not until the early nineteenth century that the first newspapers were published in Wales.[164] From their inception, the first of these, *The Cambrian* (established in 1804) and the *Carmarthen Journal* (1810), published advertisements about missing horses. Prior to this, advertisers had to rely on English newspapers, such as the *Hereford Journal, Shrewsbury Chronicle* and *Gloucester Advertiser*. Adverts were placed by owners who lived a considerable distance from the place of publication. The *Carmarthen Journal* occasionally carried advertisements from owners in north Wales,[165] while the *Hereford Journal* occasionally took advertisements from Pembrokeshire.[166]

The advertisements invariably included detailed descriptions of the horse and, occasionally, the thief. Their potential effectiveness was enhanced by the offer of rewards. The generosity of these varied, depending on whether the information led to the recovery of the horse and whether it also led to a conviction. In the 1770s, the going rate for the former was between a half and two guineas; for the latter it was about five guineas. It is difficult to put this in context, however, because only occasionally did advertisers mention the value of the stolen horse. One owner from Bromfield, near Ludlow, who lost a black gelding worth £15, offered two guineas for intelligence and five for a conviction.[167] Another owner from Baglan, Glamorgan, offered £5 on conviction, for an animal worth £30.

Occasionally, advertisements were successful. For example, a Shropshire saddler successfully recovered a stolen horse in 1741 after advertising in the Birmingham and London papers.[168] On another occasion, a yeoman-labourer from Anglesey was convicted as a result of an advertisement in the *Chester Chronicle*, which was seen by a local druggist who had purchased the horse.[169] Even so, we should not exaggerate the effectiveness of the press. For Essex, the issue has been examined by King, who concludes that although occasionally they were successful, in

[160] Edwards, *Horse trade*, pp. 109–12.

[161] See, for example, NLW, Great Sessions, 4/185/2.

[162] NLW, Great Sessions, 4/181/1.

[163] NLW, Great Sessions, 4/201/5.

[164] Styles, 'Print and policing', pp. 55–111.

[165] For example, *Carmarthen J.*, 12 May 1810, published an advertisement from a Denbighshire horse owner.

[166] For example, *Hereford J.*, 18 July 1771, advertised the loss of a 14.2 black horse from near Pembroke town on 12 July.

[167] *Hereford J.*, 28 Feb. 1771. In the same year (27 June 1771), an advertisement from a Radnorshire farmer offered a reward of two guineas for information (and five on conviction) about a pair of stolen oxen with a value £20. The advertiser anticipated that the thief would put the cattle into a drove which would pass through Leominster and Hereford. On 15 May 1802, a reward of 20 guineas was offered for the apprehension of a named sheep-stealer.

[168] NLW, Great Sessions, 4/385/3.

[169] NLW, Great Sessions, 4/425/1.

only about ten per cent of cases did newspaper advertisements result in a prosecution.[170] This is not surprising with horse theft, because inevitably there was a lag between the time of the theft and the appearance of the advertisement, which was bound to test the memory of the reader, unless the characteristics of the either the horse or the thief were remarkable. Most owners made every effort to place the advertisement soon after the theft, and most appeared within five or six days. Sometimes, when a horse was taken from pasture, the owner could not be sure whether the animal had been stolen or had strayed. This probably accounts for one advertiser from near Presteigne, Radnorshire, whose advertisement for the theft of a mare from a meadow appeared six weeks after the event.[171]

## VIII

County figures have been used to examine geographical patterns. The county is a clumsy unit of analysis but, given the limited number of thefts involved, it would not have been feasible to disaggregate the data further. The gaol files show that less than ten per cent of the horses were stolen in either Monmouthshire or the English border counties. Within the Great Sessions counties, Anglesey and Caernarvon accounted for only four per cent of the thefts, while at the other extreme Breconshire and Glamorganshire accounted for approximately 15 per cent each. Glamorgan's ranking, however, is a reflection of its large population. To correct for this, county representation coefficients have been calculated, multiplying the quotient of each county's share of thefts to its population share by 100. As Figure 10 shows, the central eastern counties – Brecon, Montgomery and Radnor – were subject to exceptional horse theft. Overall, they accounted for 40 per cent of the horses stolen. The southern counties – Glamorgan, Carmarthen, but not Pembroke – had moderately high coefficients. They accounted for roughly 28 per cent of the horses stolen. The remaining counties – in particular Angelsey and Caernarvon – had relatively low coefficients, the northern counties accounting for 11 per cent of the horses stolen, and the western central counties 20 per cent.

This raises the question: why was the level of horse-stealing so much higher in eastern central Wales? Any discussion is inevitably speculative. One possibility, which cannot be resolved in the absence of appropriate sources, is that, because the border counties were subject to greater population mobility and less social cohesion, the victims of horse theft were more inclined to prosecute. The apparently high level of theft in these counties may be a consequence of local differences in the operation of the criminal justice system. However, although this may explain some of the differences in measured crime rates between the eastern and the western central counties, it is unlikely to account for much of the difference between the eastern central and northern border counties, namely Denbighshire and Flintshire. It is also unlikely to explain why measured horse theft was lower in the more industrial counties, such as Glamorgan.

To sustain high levels of horse-stealing, the eastern central counties must have had a plentiful supply of potential offenders. Why there were so many is not clear. The characteristics of the offenders were quite similar across Wales, although it is true that in the eastern central counties thieves were slightly younger than average. It is possible that the financial attractions of theft

[170] King, *Crime, justice and discretion*, p. 60.

[171] *Hereford J.*, 24 Jan. 1771.

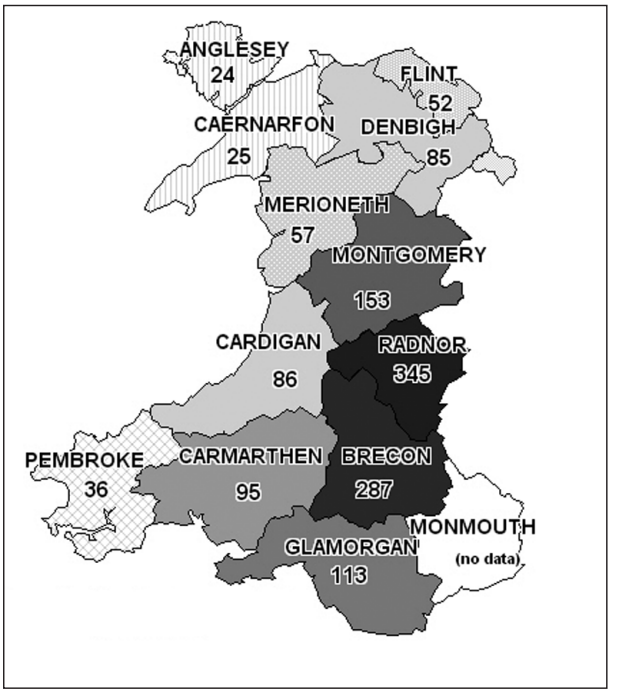



FIGURE 10. County representation coefficients

were greatest in these counties. The *per capita* Poor Law returns suggest that these counties were subject to a high incidence of poverty (Table 12) but, as we have seen, the links between poverty and horse-stealing are tenuous. It is also true that both Montgomery and Radnor had a high dependence on agriculture, and consequently were low-wage counties. This was also the case for much of Breconshire, although there were pockets of industrialization on the southern border with Glamorganshire. However, the *General Views* of the 1790s do not suggest that farm workers – the main perpetrators of horse-theft – in these counties earned particularly low wages. At the same time, the gaol files do not suggest that the stolen horses were particularly valuable. In other words, horse-stealing was no more profitable in the eastern central counties than elsewhere. Thus, the data suggest that in the western central counties the theft of a horse in the 1790s was equivalent to 109 days work. In the southern counties it was 83, and in the eastern central counties 79.[172]

A more plausible explanation, therefore, is that horse-stealing was common in these counties because, in the absence of extensive urbanization and industrial diversification, there were only a limited range of alternative criminal opportunities. Indeed, apart from horse-stealing, the main criminal outlets seem to have been sheep theft and burglary (including housebreaking) and, as Figure 11 shows, there is a fairly strong correlation between county horse-stealing coefficients and the incidence of these other crimes.[173] But sheep theft and burglary were less lucrative. For example, the average summer daily wage in the eastern

[172] There were too few thefts in the north in this decade to make meaningful estimates.

[173] The links between rurality and burglary have also been noted by King, *Crime, justice and discretion*, p. 139.

TABLE 12. Poor law expenditure and summer wages: Welsh counties

| *County* | *Poor law expenditure per head* | | | *Summer Wages (d) 1790s* |
|---|---|---|---|---|
| | *1750* | *1775* | *1803* | |
| Anglesey | na | 0.6 | 19.3 | 16 |
| Brecon | 3.6 | 7.8 | 32.3 | 14 |
| Caernarvonshire | na | 1.3 | 17.2 | 12 |
| Cardigan | 0.5 | 2.1 | 17.8 | 8 |
| Carmarthen | 3.5 | 5.7 | 20.0 | 10–12 |
| Denbigh | 2.4 | 10.0 | 33.1 | 16 |
| Flint | 2.9 | 11.7 | 34.1 | na |
| Glamorgan | 4.0 | 8.4 | 32.6 | 18 |
| Merioneth | 1.0 | 3.4 | 26.9 | 12 |
| Montgomery | 3.7 | 12.9 | 43.3 | 14 |
| Pembroke | 2.3 | 6.0 | 26.7 | 10 |
| Radnor | 5.0 | 11.8 | 48.2 | 14 |

*Source*: Poor Law expenditure, D. W. Howell, *The rural poor in eighteenth-century Wales*, p. 96; county population totals, J. H. Williams *Digest of Welsh historical statistics* (1985); wages, Board of Agriculture Surveys, various counties.

central counties during the 1790s was 14*d*. Over this decade, the average value of horses stolen was 93.03*s*., equivalent to just under 80 days' earnings. By contrast, a sheep-stealer would have earned on average just under 13.5*s*. from his crime, equivalent to 11.5 days' work, and a burglar would have earned just over 29*s*., equivalent to 25 days. It is hardly surprising that the would-be thief sometimes opted for horse theft, despite the likelihood that the victim would pursue him more enthusiastically.

In fact, given the low population densities of these counties, the likelihood that a horse thief would be observed, and hence detected, was probably quite low.[174] A thief in this area could dispose of the horse easily. He invariably lived within striking distance of some of the big English markets or he could choose to take his horse westwards to take advantage of the plentiful number of Welsh fairs and markets. By contrast, problems of disposability and escape may explain why horse-stealing was uncommon in Anglesey, a county with a large number of horses but from which it was difficult to escape quickly, at least until 1826, when the Menai Bridge was opened. Problems of disposing of stolen horses may also help explain why the level of theft was lower in the western counties, where there were a high proportion of Welsh-speaking monoglots whose ability to sell stolen horses in the east may have been constrained by linguistic difficulties. Nevertheless, we probably should not take this argument too far.

[174] Using the 1871 Returns, Radnorshire and Breconshire, followed by Merionethshire and Montgomeryshire, had the lowest population densities in Wales. The correlation between acres per head and the horse theft coefficient is 0.65.

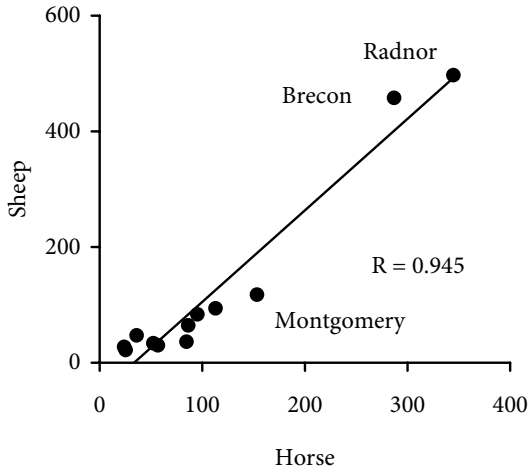



FIGURE 11a. Horse and sheep representation coefficients: Welsh counties

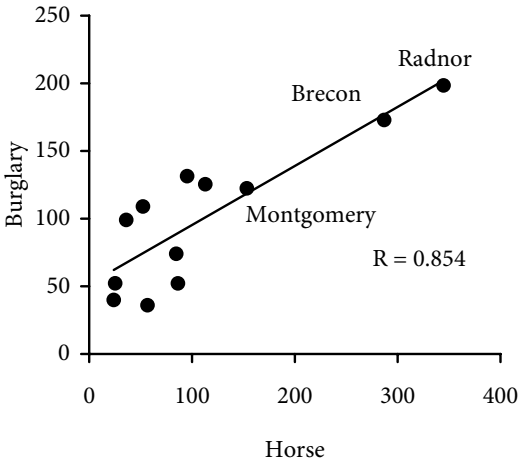



FIGURE 11b. Horse and burglary representation coefficients: Welsh counties

*Source*: NLW Gaol Files database.

Welsh was still spoken quite widely in eastern counties, particularly at the beginning of the study period. Furthermore, it is evident that Welsh monoglots did not always feel inhibited from stealing horses. This is illustrated by the case of Henry Williams, a Flintshire horse thief who required an interpreter at his trial but who had managed to dispose of his horse in nearby Liverpool.[175]

Thus, a number of factors probably contributed to the plentiful supply of offenders in the eastern central counties. Furthermore, we can be fairly sure that these counties provided the horse thief with plenty of opportunities for crime. For example, the probate inventories suggest that these counties had an above average number of horses per farm and, it seems, there was a positive, if modest, correlation between this figure and the county horse-stealing coefficients (Figure 12). The 1871 Returns suggest, too, that, although these counties did not have particularly high horse population densities, they supported a large number of horses *per capita*, and the correlation between this figure and county horse theft coefficients was quite high (r = 0.6). Nevertheless, the tenor of the earlier discussion was that the best indicator of criminal opportunities may have been the number of pastured horses, rather than the number of horses *in toto*. Unfortunately, the probate inventories do not allow us to measure the importance of such horses on a county basis. However, the 1871 Returns suggest that these counties, Radnorshire in particular, had a large number of breeding horses *per capita*. Moreover, the correlation coefficient between this figure and the horse theft coefficient is high (r = 0.8).

It is possible, too, that opportunities in the adjacent counties may have played a minor role. Although thieves seemed to have preferred to steal horses from the immediate area in which they lived, they did occasionally steal horses elsewhere and the Welsh border thieves may have been in a good position to take advantage of conditions on the other side of the border.

[175] NLW, Great Sessions, 4/1005/6.

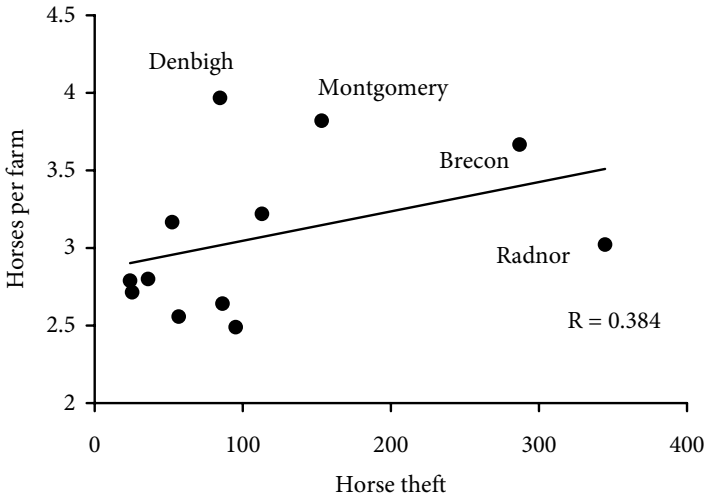



FIGURE 12. Horse representation coefficients and average number of horses per farm: Welsh counties

*Source*: NLW Gaol Files and wills and probate inventory files.

The cross-border opportunities were greatest for those counties adjacent to either Hereford or Shropshire, two English counties that supported a relatively large number of horses. The 1871 Returns, for example, show that Herefordshire had both high horse population densities and high *per capita* holdings, higher than for Wales as a whole. For Shropshire, the density was quite low but, *per capita*, the number of horses was relatively high. In fact, the level of cross-border theft was quite low. Only 6.5 per cent of the Welsh indictments relate to horses stolen in either England or Monmouthshire, and the figure for Radnorshire was almost identical. However, for Breconshire (8 per cent) and Montgomeryshire (11 per cent) it was higher, and cross-border theft was even more attractive in another border county, Denbighshire, 20 per cent of whose defendants had stolen horses in adjacent Shropshire.[176]

## IX

Despite impressions to the contrary, serious crime was quite common in rural areas in the eighteenth and early nineteenth centuries.[177] In Wales, for example, burglary and particularly livestock theft were common. Assuming indictments can be used to approximate the relative importance of various crimes, the latter was dominated by sheep-stealing. But horse-stealing was also quite prevalent.

Why was horse theft so common? It partly reflected the fact that horses and ponies were

[176] This figure includes the serial horse thief, Henry Richard Robert, who lived in Llangollen.

[177] For example, from the appropriate volumes of the *Agrarian History of England and Wales* we might be left with the impression that much rural crime was in the nature of a protest, that – with the possible exception of poaching – predatory crime was less prevalent, and that – when it did occur – it was driven by rural poverty, taking the form of subsistence crimes such as field theft. However, as Emsley, *Crime and Society*, pp. 78–97, has shown, criminality in rural areas was high.

one of the traditional exports of Wales, especially from the eastern counties. As a result there were plenty of potential targets for the criminal. Horses proved quite attractive to thieves. They commanded relatively high prices and were particularly marketable, at least by mature males. Moreover, when broken – not always the case in upland areas – they were, unlike cattle, extremely mobile. The opportunities for theft also depended upon the extent to which they were protected. Welsh horse owners do not seem to have had a strong incentive to protect their less valuable horses. The risk of theft was not that great and high levels of security expenditure felt to be unwarranted. High-value horses were relatively well-protected and liable to be scrutinized more carefully by potential purchasers, making them less attractive to the thief.

Horses were stolen for a number of reasons. Some thieves stole because of grudges, some for excitement, and some because of economic distress. Thus, it is clear that theft rose in years of high food prices and unemployment, when labourers were on the move, a condition that seems to have been conducive to horse-stealing. But there is no reason to suppose from either the seasonal patterns or the histories of most horse thieves that immediate distress was that important. This is hardly surprising. Horse flesh was not consumed extensively in Britain and horses were, at best, moderately liquid assets. Most horses were stolen as a means of making some easy money. In general, horse-stealing was quite lucrative with low rates of detection, and this may have attracted some professional criminals. But, once allowance is made for the need to sell at discount, the returns seem less attractive and this is why the crime was dominated by the casual and middling-sort of offender.

# Annual list of publications on Agrarian History, 2007*

*Compiled by* Peter McShane
*Museum of English Rural Life, University of Reading*

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REVIEW ARTICLE

# Simply a better class of people? The Clark thesis assessed*

*by* Jan Luiten van Zanden

It is not easy to review Gregory Clark's book, *A farewell to alms*. Let's begin with the good news. It is a very good read, it addresses the big issues in economics and economic history in a challenging way, it is based on new research, offers fascinating insights, and has attracted a lot of attention from outside the profession. As the cover claims (citing the *New York Times*), it is 'the next blockbuster in economics'. What more can we wish, as a profession, than that our members draw so much attention to our kind of research?

The book is based on two basic ideas. The first one is that living standards (of the majority of the population) did not change substantially (and perhaps not at all) in the centuries and even millennia before the Industrial Revolution, because population growth tended to compensate for any technological change that might occur. Clark is a Malthusian 'fundamentalist', who even goes so far as to state

> the economic laws we have derived … for the pre-industrial economy are precisely those that apply to all animal, and indeed plant, populations. Before 1800 there was no fundamental distinction between the economies of humans and those of other animal and plant species (pp. 32–3).

In short, modern man did not exist before 1800.

This brings me to the second hypothesis. Clark's book can be read as a new creation myth, which explains how 'modern man' emerged in the early modern period in England. Due to the stability of society, differential reproduction – the rich had more surviving children than the poor – led to the emergence of a species with bourgeois features: thrifty, hard working, disciplined, literate and numerate. This new species then broke through the Malthusian constraints and created industrial society. This explanation also implies that continued underdevelopment – even in the twentieth century – can be explained by the lack of the right values and attitudes. The simple message of the last chapters of the book is that poor people are poor because they are not working hard enough.

A lot has already been said and written about these ideas by other reviewers, many of whom have not found them entirely convincing. (See, for example, the reviews by McCloskey, Voth and Grantham in the August 2008 issue of *European Review of Economic History*, or by Bob

* Gregory Clark, *A farewell to alms. A brief economic history of the world* (Princeton University Press, 2007).

Allen in the December issue of the *Journal of Economic Literature*).[1] Here I only add a few additional doubts.

First, I am a bit concerned about the link between the historical statistical underpinnings of the book and its grand ideas. In the preface Clark refers readers who wish to know more about the underlying estimates and statistical sources to a working paper (cited as 'Clark 2007b'), which, when I asked for it in early 2008, simply did not exist (and checking his website again in early 2009, I was still unable to find it). So we cannot discover, for example, the basis of Figure 1.1, which gives estimates of income per person between 1000 BC and the present, a figure used to 'prove' that some kind of Malthusian trap did indeed exist during this extended period. This is just one example; many figures and tables in the book are without sources, and are therefore supposedly in 'Clark 2007b'. It is an interesting procedure first to tell the grand story and then to start worrying about the underlying data, but I would not recommend it to my students. It is also typical that somebody who presents a time series of world income per capita covering three millennia without caring to inform us about the underlying data should refer to Angus Maddison as the 'much-quoted creator of pre-industrial economic data'.[2]

Another concern is the rhetorical strategy of the book. Clark is a brilliant and witty critic, who excels in showing the weaknesses and inconsistencies of theories developed by others. His strategy is basically to destroy the explanations offered by other scholars, for whatever phenomenon he deals with (i.e. the decline of interest rates in the late Middle Ages, the Industrial Revolution, why the rest of the world remains underdeveloped, etc.). His desire to be novel and to shock the reader with his brilliance leads him to come up with a new and daring explanation of the phenomenon involved. Often the argument to support this new interpretation is basically negative: all other theories cannot explain what happened, so it must be the outrageous explanation offered by Greg Clark. If he were to apply only a tiny fraction of his ability to be critical of his own explanations of these phenomena, they would probably all end up in the waste basket too. But he does not do so. Perhaps he is not really interested in explaining what happened, and instead wants to play with new ideas and surprise the reader with his audacity. The result is a good read, but one which is unconvincing. The paradox of the book is therefore the direct outcome of Clark's rhetoric.

His most innovative idea is that differential rates of reproduction may have caused the genesis of another kind of human being during the early modern period. (It is not entirely new though. A few papers in 'unified growth theory' have also played with the idea, and one can argue that this should have been acknowledged more firmly by Clark.) The mechanism is that the rich raise more children than the poor. Moreover, the rich had 'good' values, and the poor 'bad' ones, as a result of which, in the long run, as parents transferred their values to their children, the 'good' values became dominant. The victory of good over bad is read from the developments in interest rates (which declined as a result of increased savings by thrifty people), the rise of literacy and numeracy, and the increase in working hours. Clark is never completely clear

[1] Clark kindly offers a list of all the reviews on his website at http://www.econ.ucdavis.edu/faculty/gclark/a_farewell_to_alms.html).

[2] A. Maddison, *The world economy: a millennial perspective* (2001).

[3] J. de Vries and A. van der Woude, *The first modern economy: success, failure, and perseverance of the Dutch economy, 1500–1815* (1997).

whether this is brought about by genetic changes (the genes of the rich are supposedly superior to those of the poor, and differential reproduction does the trick), or by the transfer of values between parents and children. He mentions both but seems unable to make up his mind, which is a major problem for those who wish to test his idea.

The society that almost certainly preceded England in terms of developing the 'right' bourgeois values was the Netherlands. Here, interest rates fell even further (and earlier) than in England, the work force was disciplined, and literacy and numeracy were much higher than on the western shores of the North Sea (see the seminal work by De Vries and Van der Woude).[3] It is a pity that Clark did not investigate this case to test his ideas about differential reproduction. The Netherlands, the pioneer of bourgeois values, was very much dependent on large scale immigration of labourers and merchants from Flanders, Germany and Scandinavia, implying that its gene pool was almost constantly being renewed by the new arrivals. Yet, bourgeois values thrived. This suggests that processes other than the ones put forward by Clark may have caused the predominance of those values. A possible hypothesis would be that it is linked to socio-economic status; the processes of specialization and urbanization that occurred in Dutch and English society led to the rise of middle-class groups with, unsurprisingly, middle-class values.

Clark cannot deal with such changes, as he assumes, given his Malthusian starting point, that the social structure of society did not change before the Industrial Revolution. This is almost certainly wrong. When, for example, we compare the social table recently constructed by Bruce Campbell for medieval England with the famous social table of Gregory King, the changes become immediately apparent. (See Table 1. I have explored the details of this comparison elsewhere.)[4] The share of the middle classes in the population more than doubled (from 19.8 per cent in the 1290s to 42.8 per cent in 1688) in the four centuries before the Industrial Revolution, and the estimated per capita real income of this group more than doubled. Such a comparison also demonstrates how misleading it may be to only concentrate on the real incomes of wage labourers and incomes of the poor (as Clark often does). Real wages may indeed have declined in this period, but the incomes of all other social groups went up sharply, and average income about doubled.

Another, perhaps even more pertinent question, is whether or not Clark is right that the poor had the wrong values and the wealthy the right ones. The book does not offer much of an analysis of this crucial point. That the rich were investing more in human capital than the poor (and that therefore their level of literacy was higher) is not a big surprise. It does not tell us a lot about their values, or their propensities to save and invest from a given level of income. The mistake he makes reminds me of an older literature about agrarian change, where Marxist scholars especially tended to conclude that, because the big farmers produced a larger surplus than the small ones, big farmers were also more efficient. Detailed analysis at the micro level showed however that as a share of income, small peasants saved and invested more, and

[4] B. M. S. Campbell, 'Benchmarking medieval economic development: England, Wales, Scotland, and Ireland, *c.*1290', *Economic History Review* 61 (2008) pp. 896–945; Gregory King, (ed. G. E. Barrett), *Two tracts by Gregory King* (1936); J. L. van Zanden, *The long road to the Industrial Revolution. Institutions and human capital formation in Europe in a global perspective, 1000–1800* (2009).

TABLE 1. Estimates of the social structure and level of income in England, 1290 and 1688, according to Campbell and Lindert and Williamson (per cent).

| | *Share of households* | | *Share of income* | | *Real increase income per household, 1290–1688* |
|---|---|---|---|---|---|
| | *1290s* | *1688* | *1290s* | *1688* | |
| Landowners, aristocracy, gentry, high clergy | 2.3 | 2.9 | 15.8 | 22.0 | 132 |
| Tenants, smallholders | 41.8 | 16.4 | 43.6 | 22.4 | 175 |
| Cottagers, (rural) labourers, vagrants | 36.2 | 37.9 | 19.4 | 9.1 | –6 |
| Non-agrarian sector (commerce, professionals, craftsmen, etc.) | 19.8 | 42.8 | 21.2 | 46.4 | 112 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 110.0 |
| Total population (millions) | 4.3 | 4.9[a] | | | |

*Notes:*
[a] according to Lindert and Williamson; more recent estimates are generally slightly higher, up to 5.06 million.
*Source*: Campbell, 'Benchmarking medieval economic development', p. 940; P. H. Lindert and J. G. Williamson, 'Revising England's social tables 1688–1812', *Explorations in Economic History* 19 (1982) pp. 385–409.

produced more per hectare than the large landholders. Clark makes the same mistake. He assumes that because rich people save more than poor ones, they are thriftier. But this does not tell us a lot about the underlying values of different social groups.

Let us look at savings behaviour first. We do not know a lot about the differential savings of different social groups, but there is one source that gives some estimates that are indicative of underlying structures. Gregory King in his famous social table estimates the income and the expenditure of the different social classes. It is possible to infer the savings ratio from this (see Figure 1). Obviously, savings as a share of income increases with income – very poor people have a savings deficit, but already the lower middle classes save up to 10 per cent of their income. Beyond the income level of £20 (per person) the savings curve tapers off: the very rich do not save more than 10 to 15 per cent of their income. King's data suggest that the *marginal propensity to save* is the same among the middle classes and among the labourers, explaining the increase in the savings ratio when one moves up the income ladder. However, the rich tend to save much less than would be expected on the basis of the savings behaviour of the poor and the middle class. Therefore, the rich are apparently less thrifty than the lower and middle classes.

Another way to test this idea is to try to find a historical situation in which a radical change in income distribution occurred. After the Black Death, incomes of landlords fell a lot, and real wages went up strongly. If King's ideas about the savings behaviour of different social groups is correct, this income redistribution must have led to an increase in net savings, whereas Clark's

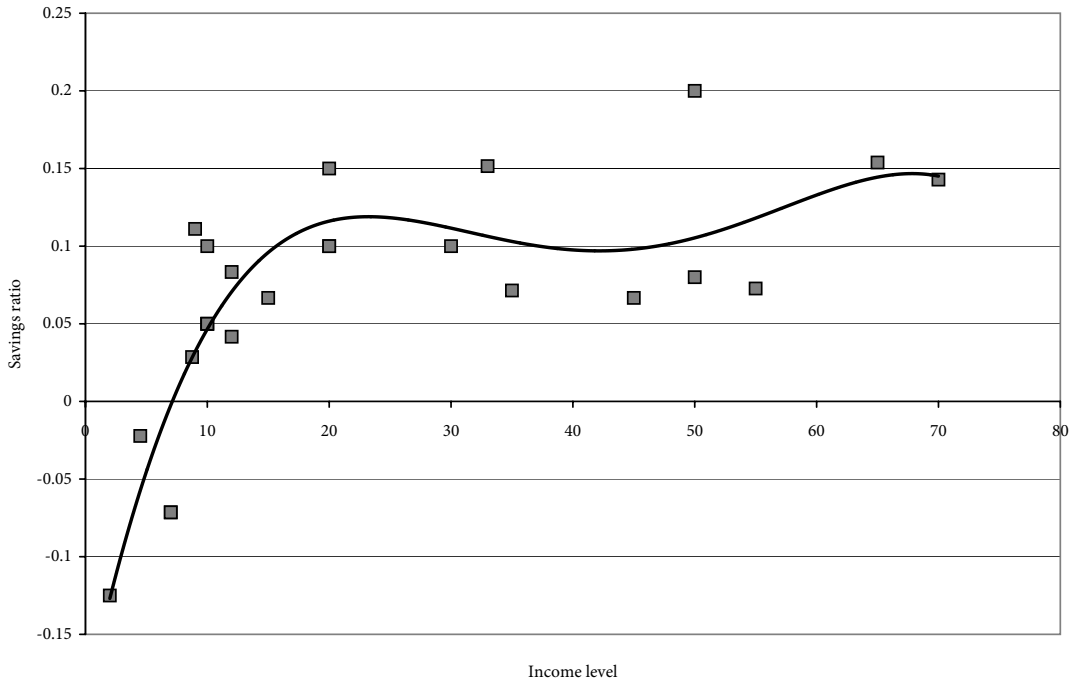



FIGURE 1. Savings ratio and income level of different social groups according to Gregory King.

*Source*: G. E. Barnett (ed.), *Two tracts by Gregory King* (1936).

hypothesis would imply a strong decline in savings. We do not know exactly what happened to net savings in this period, but the fact that this was the period in which interest rates fell dramatically all over Europe suggests strongly that the capital market became characterized by large surpluses of savings – exactly as predicted by Gregory King's data.[5]

What we know about working hours suggests something similar. Clark makes a big point about the increase in labour inputs during the (second half of the) eighteenth century, and indeed, the labourers and craftsmen whose working hours have been estimated, increase their efforts quite a bit.[6] But do they, by doing so, emulate the rich? There is not much evidence pointing in this direction – in fact, the upper middle classes and the rich probably put in far fewer working hours than the poor, as Linder suggested some years ago. The official working hours of merchants, government officials, professors and other members of the elite were very modest by modern standards – often no more than a few hours per day – and the really wealthy did not work at all.[7] Only during the twentieth century did the negative link between income level and labour input disappear, and labour input become positively related to income level, as has been demonstrated by Costa for the United States.[8]

[5] ibid.

[6] H.-J. Voth, *Time and work in England, 1750–1830* (2000).

[7] S. B. Linder, *The harried leisure class* (1970).

[8] Dora L. Costa, 'The wage and the length of the work day: from the 1890s to 1991', *J. Labor Economics*, 18 (2000), pp. 156–181.

Another modern value, about which Clark is less clear, also develops in sharp contrast to his predictions. At one point in his argument, the European Marriage Pattern is hailed as the modern institution that stabilized population growth in early modern Europe through a low fertility regime, which in turn led to the maintenance of relatively high levels of income. But there is evidence to suggest that this marriage pattern developed out of what Barbara Hanawalt has called 'the dubious privilege of the poor', and gradually climbed up the social ladder.[9] For the really rich, marriage remained dominated by family strategies, and the free choice of a marriage partner, which is a characteristic of the European Marriage Pattern, was accepted only much later. It demonstrates that new values, and new attitudes, may well arise among the poor as among the rich.

It is a rather suburban idea – perhaps not more than a common prejudice – to assume that the 'right' attitudes and values are first developed by the rich and then trickle down to the poor. Clark has produced a book based on it, which has reached a mass audience (at least by comparison, because 35,000 copies have now been sold). Apparently there is a market for an academic book – with theories, figures and tables – making the points that the poor are poor because they are lazy and undisciplined, and that a superior species, English (or British?) modern man, created the modern world. In a way Clark's book reminds me of David Landes' *Wealth and poverty of nations*, which also, by arguing that in an economic sense Islam was a failure, and that Catholics (or was it the French?) were backward, served an audience who preferred to read books on economics telling them what they already knew – or would like to know.[10] This does not mean that I think we should reject such ideas completely or that we should be opposed to including genetic change or differential rates of reproduction into our narratives of long term economic and demographic development. It is a topic which has not received the kind of attention it probably deserves, and Clark's book contains interesting ideas about what the importance of genetic changes may have been. But I would suggest we research these issues first, before writing an airport book.

[9] B. Hanawalt, *Growing up in medieval London: the experience of childhood in history* (1993); T. de Moor and J. L. van Zanden, 'Girlpower. The European Marriage Pattern (EMP) and labour markets in the North Sea region in the late medieval and early modern period', *EcHR* (forthcoming, 2009).

[10] David Landes, *The wealth and poverty of nations* (1998).

# Book Reviews

## Britain and Ireland

EDWARD MARTIN and MAX SATCHELL, '*Wheare most inclosures be'. East Anglian fields: History, morphology and management* (East Anglian Archaeology, 124, Suffolk County Council, 2008). xviii + 276 pp., 44 figs., 72 illus., 38 tabs., 19 maps. £30. Available from Phil McMichael, Essex County Council Archaeology Section, Fairfield Court, Fairfield Road, Braintree, CM7 3YQ.

This book emanates from the project, funded by English Heritage, to characterize fields according to the Historic Landscape Characterisation (HLC) developed by Roberts and Wrathmell. It does so by offering detailed reconstructions of the historic layout of fields in twelve selected parishes distributed around five eastern counties. Evidence gleaned from a variety of sources – mainly early maps, surveys, field walking and archaeological finds – is used to create 'an interpretation of the climax medieval land types' for each of the twelve case studies, which is then superimposed upon the first edition of Ordnance Survey map (1889–91): so, for example, the map produced for Frenze (Norfolk) reveals the location and extent of block demesne (occupying 16 per cent of the parish area), tenement blocks (4 per cent), common fields (57 per cent), demesne meadow (14 per cent) and so on, in a clear manner. The case studies are then used to draw wider conclusions.

Martin and Satchell, both archaeologists, thus extend our knowledge about the variety of fields that existed within pre-industrial East Anglia, all of which were very different to the classic Midland system. In particular, they provide a wealth of information about the complex ways in which fields were laid out – such as the compact nature of many landholdings, and the intermingling of closes with subdivided fields – and their evidence for, and discussion of, block demesnes is important. They also provide very good and accessible summaries of field terminology, of ploughing methods, and of hedgerow formation and management. Consequently they create a good academic foundation for recommending a number of future conservation initiatives that would 'secure the survival of an essential part of the historic landscape of East Anglia' (p. 234). It therefore looks helpfully forward.

Although the reconstructions of the layout of fields are imaginative and innovative, they are more speculative than the authors admit. Extant sources simply do not permit a definitive reconstruction of the form and function of irregular field systems in their 'climax medieval' formation, and so the confident presentations of the exact location and proportion of each category of land type in each parish, summarized in a series of maps, tables and pie charts, actually conceal numerous assumptions about, and extrapolations from, (sometimes much) later documents. Nor is it clear when the medieval 'climax' was reached, nor what it actually means, and the facile use of this term underplays the capacity of irregular fields to change their form and function, even within the medieval period. The evolution of fields receives little direct attention and, on occasions, is ignored: the detailed case study of Walsham-le-Willows (Suffolk) does not mention the compelling and important evidence for the piecemeal enclosure of its open fields during the fifteenth and sixteenth centuries, documented separately by Dymond, and by West and McLaughlin.

Those with a close interest in how fields *functioned* will be disappointed. Martin and Satchell recognize that communal regulations over East Anglian fields were less formal than in the Midland system, but make little attempt to reconstruct them systematically in their case studies or, by extension, to draw contrasts between them. Hardly any use has been made of the documents which provide exactly this sort of information, namely manorial court and account rolls. Of the 114 sets of documents consulted by the authors in seven county record offices, only five are accounts or court rolls and the overwhelming majority are maps, surveys and terriers.

Hence this is really a reconstruction of the historic *layout* of some East Anglian fields, rather than of field *systems*, which is consistent with an attempt to characterise them according to the aims of the HLC project. Martin and Satchell do not question the various assumptions underpinning the wider project, nor do they

engage with the increasingly sceptical academic literature in this regard, yet their work provides evidence of some of the difficulties of subjecting complex irregular field systems to relatively simple characterization. Their own system of categorization does not engage with Bruce Campbell's important work on this subject. In addition, some of their claims are insufficiently documented, as when they argue for the presence of a highly distinctive and significant category of field system in south Suffolk, without the support of a detailed case study or any other compelling evidence: moreover, the case study of Walsham overlooks both an important medieval survey and some of the detailed evidence in court rolls for the operation of its medieval fields. The book is informative, provocative and stimulating, but it must be handled with care.

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B. K. ROBERTS, *Landscapes, documents and maps. Villages in northern England and beyond,* AD *900–1250* (Oxbow Books, 2008). xvi + 336 pp., 83 figs., 7 tables. £48.

Planned villages form a key character-defining feature of the landscape of northern England, and have attracted the attention of historical geographers for many years. In the past, there has been a strong tradition of studying the morphology of village plans – seen most notably in the work of Brian Roberts – and a key question for this reviewer as he embarked upon reading this latest book on the subject was whether the debate has moved on. It has.

The focus of this study is County Durham where around 80 per cent of villages have a regular or part-regular plan (compared to just 30 per cent in Warwickshire, for example). Other parts of northern England receive rather briefer treatment, but in many ways this book is of far wider significance, not least for its discussion of planned villages across England and mainland north-west Europe in the later chapters. The opening chapters are also of great methodological value to anyone interested in landscape history. Chapter one discusses the nature of rural settlement in general, and specifically ways that it can be studied morphologically and mapped against other datasets such as a characterization of natural topography into a series of terrains. Chapter two starts to focus in on northern England with a case study of the North Yorkshire Moors that identifies a series of 'preferred settlement zones'. The discussion of settlement form embraces dispersed as well as nucleated forms, but while some illustrations extend to include their associated field systems, this aspect of the landscape is sadly neglected. The emphasis is also very much on examining settlement plans as recorded on nineteenth-century maps, and makes little reference to archaeological remains such as earthworks that could indicate that a post-medieval plan was significantly different to that in the medieval period.

Chapters three to five provide a detailed discussion of plan analysis. The problem of dating is discussed, and this remains a key problem, such is the lack of archaeological excavation of northern English villages. The following three chapters use documentary sources to try and find a way forward, and, in doing so, provide the book with its wider focus. In chapter six Roberts discusses ancient territorial divisions of the landscape that are larger than a parish but smaller than a county: contemporary sources refer to them as 'shires', although the term 'small shires' has been developed by historians to distinguish them from modern shires. They appear to have been similar to the 'multiple estates' that Glanville Jones has studied in Wales, and it was their fragmentation that led to the formation of the parishes and townships into which the landscape was divided in the later medieval period.

These 'small shires' provide the context for a discussion of the tenurial relationships of people and settlements within the landscape, such as a small group of places that were described in 1183 as being 'in drengage', that is to say that they were held by an individual tenant who rendered to the Bishop of Durham particular and specified services. It is suggested that the 'drengs' acted in a similar way to *locators* on the continent, that is as land agents who acted on behalf of a superior lord in supervising the plantation of new villages. This section of the book culminates with a discussion of the context in which this replanning could have taken place: the series of occasions when documents tell us that rampaging armies devastated the landscape. The best known of these is the 'harrying of the north' in 1067–70, although there are others recorded as far back as the early tenth century. Indeed, the conclusion that Roberts arrives at – something he confesses was contrary to his original expectations – is that while some planned villages were almost certainly created after the Norman Conquest, 'there are ambiguous hints that amid the large numbers of plans there could be significant numbers of pre-Conquest settlement plantations'.

Much of the detail of this book is about County Durham, and there is a lot about village plans. As I said earlier, there is, however, much in this book that is of far wider interest including Roberts's methodology and the way that local case-studies in the northeast of England are placed in their wider regional, national, and in the final chapter, international context. The hypothesis that many planned villages are pre-Conquest, and that

'drengs' may have acted as *locators*, is a fascinating one, that certainly needs to be tested through further research across Britain.

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BEN DODDS and RICHARD BRITNELL (eds), *Agriculture and rural society after the Black Death. Common themes and regional variations* (Studies in Regional and Local History 6, University of Hertfordshire Press, 2008). xv + 265 pp., 21 figs., 29 tables. £18.99.

This collection of essays confronts issues surrounding regional diversity in agriculture in a European context following the arrival of the Black Death. In a period characterized by conflicting interpretations of decline, contraction or re-distribution, it is very useful to have works of synthesis alongside detailed case studies. The volume is divided into three sections, each introduced by a comparative essay that draws together the common themes and regional variations and provides the context for the subsequent case studies. It is here that the European dimension is strongest and here too where the editors draw out the significance of the detailed research.

Part one 'Markets, incentives and the role of prices', begins with a contextualizing essay on the current state of research into agricultural change across western Europe. To this Britnell adds his own insights so that, whilst fully accepting the impact that the decline in population had on agriculture, especially the shortage of labour, he gives prominence to the effects it had on production for the market. In 'English agricultural output and prices, 1350–1450' he argues that the period was characterized by fluctuations and regional variations in agricultural performance with a series of upswings (usually led by pastoral husbandry rather than arable) and troughs with the general trend downwards in agricultural output. Schofield examines 'Regional price differentials and local economies in north-east England, *c*.1350–*c*.1520' by employing price data from Durham Cathedral Priory in comparison with data from southern England and finds that there were certain national high price years in the south which were not reflected in the Durham data. Regional differences were sufficiently divergent to carry implications for productivity and welfare in the different localities. In particular, the North was more vulnerable to dearth because the population was more heavily market-dependent, although it was surprising that the impact of attacks by the Scots is not mentioned. Gemmill contributes a meticulous case study of 'Town and region: the corn market in Aberdeen, *c*.1398–*c*.1468', describing the strategies adopted by the town's council to provision its inhabitants through the regulation of its corn market. The significance of this in a European context is established in the introductory essay.

The innovative use of evidence drawn from tithes lies at the heart of this volume. Part two, 'Output, productivity and the evidence of tithes', is introduced by Dodds, the current authority on the subject, in a contextual essay that focuses on the English evidence and trends in the period before the Black Death. This is balanced by his comparative case study of 'Patterns of decline: arable production in England, France and Castile, 1370–1450' where sensitive comparisons reveal differences in the chronology of recovery, stagnation and decline which are linked to demographic change. The discussion of the evidence drawn from tithes is strengthened by Swanson's contribution, 'A universal levy: tithes and economic agency'. He w,rites with the authority of an ecclesiastical historian who engages with economic activity and questions whether religious institutions adopted a commercially-motivated policy towards tithes, suggesting instead that there may have been other moral and ethical considerations. Hare's study, 'Lord, tenant and the market: some tithe evidence from the Wessex region', involves a direct comparison between production and output from demesne and tithe. He finds that whilst these tended to follow similar trends, there were some notable differences in the relative balance of crops between lords and tenants. Local and regional differences were accounted for by the nature of environmental and commercial factors.

Part three, 'Land, lordship and peasant communities', begins with Britnell's authoritative discussion of the Europe evidence. The choice of themes permits comparisons of the impact and consequences of population decline: deserted sites, labour costs, entrepreneurial activity, response to market opportunities, lord-tenant relationships, land tenure and the distribution of holdings. Throughout, he is keen to demonstrate the differences, in addition to the similarities, and highlights the significance of power relationships and social institutions. This pan-European essay is necessary because the three case studies in this section are all based on English evidence. In 'Changing land use in a moorland region: Spennymoor in the fourteenth and fifteenth centuries', Harris provides a careful reconstruction of the trends in the development of 'marginal' land in response to depopulation and market demand. Mullan makes a comparison of customary landholdings on the manors of Taunton and East Meon in 'Accumulation and polarization in two bailiwicks of the Winchester bishopric estates, 1350–1410: regional similarities and contrasts' and explains them with reference to trade and additional employment opportunities. Conflict is

the theme that permeates Larson's 'Rural transformation in northern England: village communities of Durham, 1340–1400' where he compares conditions on the estates of the Priory and Bishopric. He argues for a pro-active peasantry who ordered their communities, struggled with their lords and neighbours, and initiated a new social order in the aftermath of the Black Death.

The volume's concluding essay draws together the differences and commonalities and suggests ways in which these aid our understanding of widespread historical change. Together these essays provide us with a fresh look at the evidence for agricultural change in this challenging period and suggest directions for future research.

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C. DYER, P. COSS and C. WICKHAM (eds), *Rodney Hilton's Middle Ages. An exploration of historical themes* (Past and Present Suppl., 2, 2007). 341 pp., 6 figs., 3 tables.

Mention of Marxist history seems to elicit more groans than excitement in present-day university seminar rooms. This collection of papers addressing the intellectual legacy of Rodney Hilton makes a fascinating case for the continued importance of aspects of Marxist history in ongoing work on the middle ages. The volume contains eighteen essays, an introductory discussion of Hilton as a historian by Dyer, a concluding overview by Wickham, and a bibliography of Hilton's work.

Conflict between lords and peasants was central to Hilton's understanding of historical change and is the subject of many of the essays in this volume. There has been much debate about the significance of unfree tenure in medieval England and its role in economic development. In particular, it has been argued that unfree peasants enjoyed certain economic advantages over their free counterparts. This view is tackled head on by Razi who argues that it is not sufficient to consider only the economic dimensions of relations between peasants and lords. Schofield uses an individual case study to great effect in examining peasants' views of lordship. Dyer makes an exciting case for the weaknesses of the seigneurial regime in England but is clear that, despite its limitations, lordship continued to arouse the resentment of those subject to it. Papers by Müller and Cohn address issues of class consciousness and revolt. Müller argues that, despite stratification within the peasantry, solidarity did exist and Cohn has used a wide survey of revolts to argue for important changes over the course of the fourteenth century. Müller's discussion of divisions in English peasant communities is accompanied by Alfonso's use of complex and often scant Spanish source material in which she demonstrates the importance of dependence within peasant society.

In addition to these valuable contributions to debate, there are also wider discussions of the origins and later history of seigneurialism. Davies' discussion of tenth- and eleventh-century Spain uses evidence from an area very different from England to shed light on what is meant by 'seigneurialization' and its association with royal power. Likewise, Whittle's paper compares peasant resistance in 1381 and 1549, finding differences but also some illuminating similarities. Finally, Wickham's concluding comments provide a helpful international framework for these discussions, emphasizing the unusual situation in England.

Many of the essays in this volume are prefaced by a discussion of the conceptual basis of Hilton's work and the development of these ideas in later historical scholarship. Hilton became increasingly interested in urban development and this is reflected in a number of contributions. The importance of the urban property market is explored by Goddard. Dimmock indicates the importance of the network of small towns in England in the transition from feudalism to capitalism, providing not only a theoretical framework but also a case study. Similar themes are explored by Sánchez León who takes up Hilton's discussion of the different social relations in town and countryside and argues that, in Spanish towns, social relations were more comparable with those found in the countryside than elsewhere. Theory and historiography are deployed in a thought-provoking and nuanced way in Epstein's paper in which the transition of feudalism to capitalism is also considered. This demonstrates the development of Hilton's ideas on the influence of towns and markets and uses more recent work on the role of the state to provide a stimulating overall explanatory framework.

Contributions by Coss and Justice demonstrate the importance of Hilton's concern with social relations in areas of present-day historiography seemingly far removed from his work. Coss demonstrates the importance of a broad cultural history of the English gentry in the late middle ages which will shed light on the context in which political ideas emerge. This, he argues, cannot be achieved without knowledge of the gentry's relations with other groups in society. Justice examines the relationship between religion and the Peasants' Revolt of 1381 and uses evidence for the vibrancy and depth of lay religious practice and belief to demonstrate that the clear religious imagery used by the rebels need not have been associated with heresy.

One of the aspects of Hilton's work and legacy which emerges most clearly from this collection of papers is the role of international comparison. Not only did

Hilton himself undertake comparative work on England and elsewhere, but Birrell's bibliography shows that his publications were widely translated. This influence is shown by the use contributors working on continental Europe make of his work. Roberts bases her paper on Hilton's last monograph on English and French towns and extends the chronological scope into the sixteenth century, revealing important continuities and evaluating their significance. One of the main difficulties with comparative history is created by differences in the available source material. This is surmounted in this collection by clear and helpful discussions of surviving documents and their contents, especially in Bourin's paper on Languedoc in which she describes the problems of working without the sources familiar to historians of other areas. Holt's stimulating paper uses work on a part of Europe unfamiliar to many scholars to show how differences in social relations and markets reinforced each other and led to low levels of urbanization and economic development in Norway. Van Bavel makes sharp international and inter-regional comparisons to examine the significance of waged labour in the transitions from feudalism to capitalism.

Many contributors to this volume recall fondly their personal acquaintance with Hilton. All have been influenced by his use of theory and development of conceptual approaches, by his achievements in opening up our understanding of history from the point of view of peasants, by his concern to remain close to the source material and by the sheer scope of his interests. All reflect on the way in which Hilton's ideas and methods have been taken up and developed in recent and current research. In short, this book represents an outstanding contribution to the field. It will be of great interest to those engaged in research and is presented in such a way as to convince students of the continued relevance and excitement to be found in the social history of the middle ages as Hilton conceived it.

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DEBORAH YOUNGS, *Humphrey Newton (1466–1536). An early Tudor gentleman* (The Boydell Press, 2008). xii+ 257 pp., 2 figs., 8 illus., 2 maps. £50.

Humphrey Newton is unusual among early Tudor gentlemen in that his commonplace book survives. He may even have been unusual in that he kept a commonplace book. From this book, often cryptic and sometimes barely legible, Deborah Youngs has recreated a wonderful impression of the man and his affairs. He was an upwardly mobile Cheshire gentleman, who moved from the ranks of the mere gentry to the squirearchy. A landowner, local lawyer and part-time poet, he enjoyed a successful career through his own skill, tenacity and good fortune. His somewhat down-market and cut-price effigy still lies in Wilmslow parish church to remind us that he made it into the upper reaches of society.

The foundation of Newton's position in eastern Cheshire was the management and exploitation of his property. He inherited the family estate of Newton, worth some £10 p.a. in 1498 and his wife, the co-heiress of the Fittons of Pownall, entered her inheritance in 1506. This tripled his landed income and involved a move from the large farmhouse that was Newton Hall to the more substantial manor house at Pownall. The commonplace book contains 25 folios, almost a quarter of its total, concerning the management of the Newton estate between 1498 and 1506. These pages, originally a separate notebook, contain rentals and accounts in the form of a series of annual summaries of key incomings and outgoings. From these, Youngs reconstructs its agrarian history over one short period. Newton was a compact estate of less than 500 acres. There were few tenanted properties; the primary resource was the home farm which Humphrey managed himself. It was a mixed economy of arable and pastoral husbandry. The principal crop was oats, supplemented by inferior barley and rye. Cattle and sheep were kept. Produce was primarily for consumption, though Humphrey also bought and sold regularly in the market. He employed a core of around five full-time general labourers in any one year, identified as servants, and a fluctuating number of casual workers, as many as twenty at harvest time. They were almost all local people. Women were paid less than men. The accounts reveal a personal relationship between Humphrey and his employees, all members of his extended household. He attended the wedding of one of them. Here then is the hands-on gentleman landowner.

He was also an improving landlord. He carried out and extensive and costly marling of his land between 1498 and 1502. He rebuilt his corn mill at considerable expense; and he developed a fishery and fulling mill. As a result he increased the output of his farmland by a third to a half and his rentable income from £11 to £14. But he was not only concerned to improve: he was also determined to extend his property. There was a deserted village at Newton, the tenements of which, he claimed, his ancestors had held. There had been, if not a manor, then an independent vill there. As he noted in his book, 'ther fell the pestilence and was a deth of people … called the greate deth; after whose decessez the londes of Neuton wer in decay'. The abandoned tenements lay on Newton Heath to the east of the Hall. He spent a good deal of his time and money acquiring land that he claimed his ancestors once held, establishing five or six new tenements and building a chapel on the Heath. Not many landlords set

about restoring a lost village in the early sixteenth century: most hastened the destruction of what remained.

After 1506 Humphrey's main interest shifted to Pownall; he no longer preserved his Newton accounts. Should we call him an entrepreneur, or a capitalist? How typical was he? There is a view that the small, personally-managed single estates of the lesser gentry were in the later fifteenth and early sixteenth centuries more efficiently managed to benefit from market opportunities. Maybe, but we tend only to know of a very few like Humphrey Newton whose accounts have survived. Is it the keeping or the survival that is unusual? But in Humphrey's case, as Youngs shows, the management, extension and improvement of his ancestral estate was but one aspect of a busy life. Other chapters on his family, his legal career, his religious beliefs, his lifestyle and cultural interests reveal him to be typical of the gentleman bureaucrat that emerged in the later middle ages. He is portrayed in his effigy in a fur-lined robe, not armour. To this extent he was of a new age rather than the old. This is an important study for all historians of early Tudor social history, not just those interested in agricultural history.

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W. G. HOSKINS, *The Midland Peasant. Economic and social history of a Leicestershire village* (Chichester: Phillimore, 2008). xviii + 322 pp., 5 maps, 4 plans, 4 plates. £18.99.

W. G. Hoskins' book on Wigston's peasant farmers has become a fundamental text, describing what happened when a rural population, rising in numbers, turned to an industrial occupation – framework knitting – to augment its income in the seventeenth to nineteenth centuries. At first, this was a welcome supplement to their living, but it led to increasing poverty, as the rewards for knitting were squeezed by economic pressures into meanly paid work that enslaved whole families.

Hoskins wrote it in the later 1930s and 1940s, as David Hey explains in an instructive new Foreword. But it was not published until 1957 when historians were taking more interest in the distinctive history of local regions. R. H. Tawney suggested that Wigston's story should be given a bolder, broader title as the history of *The Midland Peasant*. Thus it appeared, a telling example of industrial innovations that occurred elsewhere also, though each varied in the measure of poverty inflicted on one-time farming communities.

Regrettably, this re-issue of Hoskins' book does not interpolate anything of the more recent additions to our understanding of such developments. Historians in 1957 knew little or nothing about the way stocking knitting became a major new occupation in the sixteenth to seventeenth centuries. At first it was a handicraft, but when William Lee invented – and others improved – the knitting machine, knitting became a machine industry as well, and that is how it arrived in Wigston. Hoskins gave no thought to the impact on women's earning power. As a handicraft at first it gave them an important chance to earn cash to contribute to family budgets. They could pick up hand knitting in almost any situation, in free moments at home, or when walking to the fields with their animals. Even when men took charge of the knitting frame, that still left many hand-working jobs that women could do at home. In 1957, however, historians disregarded women's contribution to industrial processes, and the early days of knitting await more research; Hoskins' text moves swiftly from the introduction of framework knitting to 1845, when the government investigated the depressed condition of framework knitters.

A criticism voiced in 1957 concerned Hoskins' meagre footnotes; that criticism remains. Nevertheless, the chronology of industrialization is clearly, indeed vividly traced out in Hoskins' story, and David Hey correctly underlines the originality in Hoskins' use of his sources. This is a welcome reprint.

JOAN THIRSK
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JENNIFER MUNROE (ed.), *Making gardens of their own: advice for women, 1550–1750* (Essential works for the study of early modern women, series III, part three, volume 1, Ashgate, 2008). 460 pp., £85; JENNIFER MUNROE, *Gender and the garden in early modern English literature* (Ashgate, 2008). viii + 137 pp., 7 figs. £45.

Academics with their zest for specialization have separated agricultural history from the history of gardening for food, to the detriment of both; our scholarly studies will benefit when those links are forged again. Such reflections are prompted by these two books on gardening, though they touch only briefly on practical gardening and veer quickly away.

Before 1500 gardening was the women's job: they grew the food to eat, and all male writers took it for granted that women attended to the herbs, greenstuff, roots, and soft fruit; much of the tree fruit came wild from the hedgerows. In the next hundred years gardening was transformed into a professional skill, and in public discussion it was firmly appropriated by men. Women were deemed unskilful, needing to work under male guidance.

At two different levels, these volumes under review present and analyse the evidence on the gendering of gardening; Jennifer Munroe is editor and author of

both. The first offers facsimile texts of relevant sections of farming/gardening books printed between 1574 (by Tusser) and 1718 (by Charles, not John, Evelyn), all (inevitably) written by men. Some of the facsimiles disconcertingly end in mid-sentence, but they readily offer a spread of viewpoints through a century and a half.

The reader sees the men-folk gradually becoming more and more confident of their superiority as gardeners, claiming to be the 'curious, cunning' ones, and cheerfully dismissing the skills of women, since, as Evelyn proclaimed, 'common observation, easily acquired' was enough to cope with kitchen gardening.

In the second book, Munroe closely examines the words and experiences of certain well-to-do, literate women who were enthusiastic gardeners, and voiced their discontent at being thus sidelined. It is a finely executed literary analysis, and extremely instructive in its information about these particular women. Munroe does not tackle directly the fact that gardening has two faces: one may garden for food or for the aesthetic satisfaction of designing a space filled with beautiful flowers. These women found their satisfaction in flowers. Historians are familiar with the differences between the two kinds of gardening yawning into a chasm in the seventeenth century.

Masculine viewpoints, claiming for men the dominant authority, are numerous. Munroe presents many examples, though she gives overmuch space to Edmund Spenser's critical words about Queen Elizabeth's policy in Ireland, which is interesting, but a diversion from the main theme. More relevant is the way women in general were praised for expressing their creativity in embroidery, depicting gardens on canvas. Thereby they kept themselves occupied in the house, and removed themselves from the public world. But the literate women fretted, feeling themselves caged, made invisible, their creativity ignored.

The four protesting women brought into view here were the Ladies Margaret and Anne Clifford, Lady Mary Wroth, daughter of the Sidney family at Penshurst, and most outspoken of all, the poet Aemilia Lanyer. It is likely that the Clifford ladies and Lanyer had had some sympathetic debates among themselves on the injustices of their lot; at some time, probably between 1604 and 1609, they had enjoyed close companionship in a country house with a fine garden, and, likely as not, they had discussed their frustrations at the status of women in their world. A second grievance vexing them was the injustice of having their legally owned land appropriated by the men in their families. The Cliffords fought long legal struggles to keep their property, and Anne Clifford did recover her lands in the end through the convenient deaths of male claimants; Aemilia Lanyer, on the other hand, found comfort in her poetry, persuading herself that, while dispossessed on earth, the women would inherit the kingdom of Christ in heaven.

Sensitively interpreted by Munroe, these women's writings illuminate strands in the cultural/social background of the early seventeenth century that plainly troubled gender relationships. Tensions crystallized around gardens and gardening, when that activity was clearly expanding and opened new opportunities both to men and women. Indeed, Munroe could have delved even deeper into this turmoil about new chances frustrated, for it seems to have been unusually tempestuous among the upper classes in the period between about 1590 and 1630.

Agricultural historians do not ordinarily fasten on such literature, of course, but since the frustrations of upper class women have a place in the cultural canvas of the seventeenth century, their story enlarges our perspective on the age; moreover, professional women nowadays recognize the scene when they fret at 'the glass ceiling'. So it may console them to know that those seventeenth-century tensions did fade somewhat in a couple of generations, while workaday women meanwhile surely continued their routines unperturbed.

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*Yorkshire West Riding Hearth Tax assessment, Lady Day 1672*, edited by David Hey, Colum Giles, Margaret Spufford and Andrew Wareham (British Record Society, Index Library 121, Hearth Tax ser. 5, 2007). xiv + 730 pp.

This, the fifth volume to appear in the Hearth Tax series published by the British Record Society arising out of the larger Hearth Tax project initiated by Professor Margaret Spufford at Roehampton, is a notable achievement. The West Riding is, for these purposes, one of the largest English counties and the book is correspondingly big in the hand at nearly 750 pages. At its heart is the transcript of the Lady Day 1672 return which, printed in three columns, fills 365 pages of text. The exhaustive tabulation of the return fills a further 103 pages. There are, in all, 39,267 households enumerated in the return. The index of persons fills 104 pages in two columns. Besides the editors, seven assistants are named on the title page. Congratulations are surely due to all of them.

There are some oddities about this volume though. The 1672 return has been published once before, in a series of stapled booklets by the Ripon Historical Society in 1990–94, based on a contemporary copy held at the Wakefield Metropolitan District Library. This copy is used to provide the return for the Ainsty in the present

edition and provides additional details of the poor, but it has not been collated with the Exchequer copy in the National Archives from which the remainder of the present text is taken. It is therefore too soon to throw away the pamphlets with their rusting staples for all local historians will wish to compare both lists. A quick check of Settle reveals that Roger Crombleholme (who the Ripon transcribers misread as Grombleholme) with six hearths is entirely missing from the new text, whilst the new edition misreads William Paley as Rayley. A bit of checking suggests that there are more than 'minor discrepancies' between the two texts. And whilst the return is described as being for 1672, the return for Osgoldcross is actually that for 1673 taken from a text in the National Archives and not the Wakefield version.

In addition to the transcript, there is an introduction by Professor Spufford describing the project to date, and a discussion of wealth and poverty in six counties by John Price. This gives Margaret Spufford great satisfaction as it shows a gradient nationally from north to south in the proportion of one-hearth households. But Spufford has yet to overtake Arkell's 2003 figures for the distribution of hearths and I might suggest that the county is far too blunt a unit for a discussion of this sort. Overall, the West Riding has 57.4 per cent, but the riding shows its own marked gradient. The southern wapentakes of Strafforth and Staincross have 50–52 per cent households with one hearth. The textile wapentakes of Skyrake and Morley have 52.0 and 52.1 per cent respectively but the northern wapentakes of Staincliffe, Ewcross (roughly the area of the Yorkshire Dales) and Claro (the area to the east, including Ripon in the north and towards York, have respectively 63.6 per cent, 65.6 per cent and 65.0 per cent. More puzzling is the extremely high level of one-hearth households in the Ainsty, at 71.9 per cent. This is roughly comparable with the average for County Durham (69.6 per cent), but even Ewcross is, on this measure, far more prosperous than Westmorland, which has 80.4 per cent one-hearth households.

David Hey contributes an account of the West Riding in the late seventeenth century, which focuses more on his end of the county than mine. Colum Giles writes an account of 'Wealth distribution, the Hearth Tax and housing', which concentrates exclusively on the metropolitan county of West Yorkshire and is derived from work undertaken on that county some twenty years ago. The problems of finding someone to write a discussion like this are not to be understated, but this is disappointing, given the amount of work undertaken in recent years on the vernacular architecture of North Yorkshire, including the northern part of the old West Riding. This matters, because the poorer parts of the Riding are those in which the vernacular rebuilding was getting underway in the 1670s. There are then accounts of the administration of the Hearth Tax by Elizabeth Parkinson (whose monograph on the first phase of the tax has recently appeared), an appendix of surviving West Riding Hearth tax documents and a selection of exemption certificates. The bones of the return is presented in an elaborate statistical appendix. Some of the data is also presented in a series of gorgeous colour maps, although it would be churlish to complain that they are a little bit small and working out which township is which (which requires getting the key number from the rear end papers, then using the tabular key) is not easy. I might add that Settle has also by moved by some cataclysm six or seven miles eastwards on Map 12, possibly the same calamity which has headwaters of the river Aire going in the wrong direction. The photographic illustrations of the documents are welcome, but uniformly poor.

The index is a major achievement in itself, but is an exact index, with no attempt to bring together variant forms of surnames under a single head surname. At some moment past or present, the name of Hugh Armitstead of Twistleton and Coldcoates was misread as *Arnistead*. He is indexed as the sole Arnistead in the volume, but Armistead is indexed, as is also Armitstead. Three entries then for the one surname, but five for Appleyard: Apeleyard, Apleyard, Apleyeard, Appleyard and Appleyeard. This practice is justified in a headnote to the index, but I think that it is mistaken and an abdication of editorial or indexers' duty. If it is an economy, then it is a false one. One might add that an indexer ought to have queried the misreading of Rayley for Payley mentioned before, and perhaps others too.

Reviewer's gripes of this sort apart, the whole book is attractively designed and a joy to use. Having it is a great boon for future work. I look forward to the appearance of the other Yorkshire ridings and a few further southern counties for comparative purposes, Essex for instance.

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LARRY PATRIQUIN, *Agrarian capitalism and poor relief in England, 1500–1860. Rethinking the origins of the welfare state* (Palgrave Macmillan, 2007). ix + 254 pp. £50.00

This book seeks to argue that English poor relief was unique, developing from the sixteenth century as a direct product of the 'exploitative social relations' (p. 4) of agrarian capitalism. It is intellectually stimulating, and to the unwary or misinformed might be a convincing account of the rise of capitalism in England and the role of the coercive forces of the capitalist state in this process. It is argued that state-controlled social welfare first developed in England as a product of the class

relations of agrarian capitalism. State-controlled welfare is portrayed as being the corollary of privatized exploitation, and a means by which to remove the economically 'useless' from the labour market. By providing this economic safety net, poor relief delivered long-term social and political stability within which capitalism could flourish, marking England out as singularly unique.

Patriquin writes from a decidedly Marxist perspective. Chapter one briefly introduces and summarizes the main arguments of the book. Chapter two provides the theoretical basis, not least of which is a summary of Brenner's thesis regarding the emergence of agrarian capitalism – discredited by some, but clearly not by Patriquin. Chapter three reviews the development of capitalism in England from 1300 to 1860, discussing the rise of agrarian capitalism, the decline of customary law, tenurial systems, the impact of enclosure, and the advent of industrial capitalism. The chapter finishes with a discussion comparing the 'capitalist state' of England with the absolutist state of France. Chapters four and five review English poor relief from *c.*1350 to 1834, within the context of the theoretical framework, agrarian capitalism, privatized exploitation and the capitalist state. It is argued that poor relief was compensation for the loss of common land, and for the 'landed classes … was the price to be paid for an "improved" method of exploitation' (p. 115). The loss of status, detachment from the means of production, and the subordination of the working class were confirmed by the 'crowning achievement' of capitalism: the New Poor Law. Chapter six emphasizes the uniqueness of the English experience by drawing comparisons with Ireland, Scotland, France and Germany. The conclusion summarizes the main argument, briefly discusses the post-1860 period, makes some observations about America's social welfare reforms of recent years and speculates about the future of social welfare.

As an empiricist, I value historical evidence and the careful construction of evidential arguments; as a theoretician Patriquin is less concerned about balanced evidence, and concentrates instead on *thinking* through his grand narrative, drawing on selected secondary texts when deemed to be available or appropriate. My concern is that many (but by no means all) of these secondary texts are either elderly, or would not be considered mainstream by most British scholars. Indeed, there are some very notable gaps in the literature, leading to conclusions and statements that readers of this journal might find somewhat surprising, simplistic or dismissive of wider debates, including statements such as: 'All enclosures … had a detrimental effect on the village economy' (p. 56); or that 'Large farms … meant that a subsistence crisis would never happen again' (p. 60).

In the discussion on enclosure, the work of Neeson is prominent, but no mention is made of Leigh Shaw Taylor's criticisms, or of Michael Turner's contributions. Alan Macfarlane's work on English individualism is not acknowledged, and the output of many British agricultural historians too numerous to mention is simply not referred to at all. Such omissions are unforgivable and are not mere oversights. Patriquin simply does not engage with any literature that detracts from his argument.

My criticism here is not merely a form of intellectual xenophobia. Patriquin's version of the rise of agrarian capitalism in England out of which emerged the first industrial capitalist nation is simplistic; his understanding of rural social structures and agricultural change are unconvincing; his awareness of the complexities of English society and economy simply not sufficiently demonstrated. The role of the market and of demography is largely unacknowledged. There is no real coverage of the debate over the periodization, scale and pace of agricultural change; and no attempt at all is made to understand the significant regional variations in the development of rural society, agricultural practices, and, crucially, in social structure. In common with much Marxist history, people are represented as classes who either act, or are acted upon by others, according to predetermined economic functions.

Thus, the emergence of agrarian capitalism is deemed important, but the processes of agricultural change, the nature of the agricultural revolution, and the role of landlords, farmers and labourers (and servants) in agricultural change, are poorly developed. This leaves us with largely meaningless statements such as '[after 1650] Improvements were made in husbandry, drainage, irrigation, fertilizers, crops and breeds of animals …' (p. 59). This skirting over the surface of much of the detail of agrarian development is a major weakness of the book. Indeed, Patriquin generalizes in ways that are entirely unconvincing, even though to the unwary or misinformed they might be seductive.

It is undeniable that the welfare system formulated in the sixteenth century strived to serve the welfare needs of society until the early nineteenth century. However, Patriquin's explanatory framework is based entirely on an unquestioning assumption that Robert Brenner was right both in terms of the agrarian origins of English capitalism and the periodization of English (and European) history. This argument might be more convincing if Patriquin had addressed the concerns of the Brenner's detractors. That he did not is much to his discredit.

Similarly, there is sleight of hand in the discussion of the emergence of industrial capitalism. Even if we accept

(and many do not) that England could be considered a fully-fledged agrarian capitalist economy in 1600, this does not in any way apply to the northern half of the country. However, a causal link is made between early modern agrarian capitalism and the emergence of modern industrial capitalism without any discussion of the nature of this link and the intervening developmental stages. There is a lengthy discussion on enclosure, suggesting that this was a crucial aspect of this process by establishing private ownership and eradicating common rights. However, when put under close scrutiny, comments such as '[The] massive reorganisation of the economy, concentrated in the years 1830–1880, was made possible by the capitalization of agriculture that had been taking place since the sixteenth century' (p. 68) are not convincing.

Enclosure is clearly an important aspect of English rural history in the period 1750 to 1850, and Parliament's involvement in this is crucial to Patriquin's argument, but the chronology, nature and location of parliamentary enclosure shows that it had almost no connection at all with the emergence of industrial capitalism. Patriquin simply fails to provide a convincing account of exactly how agrarian capitalism developed into industrial capitalism. In the literature generally there is little evidence for the large-scale transfer of surplus food, capital or labour, or even political ideas, welfare systems (i.e. Speenhamland) or culture, from southern counties of 'agrarian capitalism' to northern counties of 'industrial capitalism'. Despite the discussion on welfare systems and protest (ch. 5), Speenhamland was confined to a relatively small region; Swing had no northern counterpart; anti-poor law protest was largely confined to the north of England; the industrial regions of Lancashire and Yorkshire were sustained by thriving, commercial family farms; farm service flourished as part of northern capitalist farming long after it had been virtually eradicated from the south. Within this context, it is difficult to sustain an argument about the direct relationship between the emergence of a fully-fledged agrarian capitalist economy in 1600 and industrial capitalism in 1800.

What is more convincing is Patriquin's argument regarding the role of the state in economic development. Indeed, whereas his understanding of British economic history is greatly hampered by his theoretical perspective (and his lack of original research), it enhances his insights into the role of the state, providing much food for thought about the role of the state in economic development. However, whether or not the English state was simply a tool of the capitalist is open to question:

> The English state changed over the course of a few centuries, from a body that allowed for the possibility of capitalist development, to one that was more eagerly involved in clearing away the social impediments to this new mode of production … [The] English state was also, especially at the local parish level, an active participant in helping those who bore the brunt of socioeconomic changes. (p. 78)

The idea that fulfilling ones parochial duty by serving a period as an overseer of the poor made a ratepayer an extension of the state is not convincing to anyone who has spent any time with parochial records. True, overseers *may* have been unwitting (and, in some cases, unwilling) agents of the state, but most had very narrow horizons, and were concerned with parochial affairs and fulfilling their duties of office. These 'middle sort' undoubtedly saw themselves as being part of parochial 'society', but I doubt that many of them saw themselves as being part of even regional 'society' and certainly not members or representatives of a local state: unpaid parochial office simply does not make an individual a state official.

There may, of course, be a dissonance between the capitalist state's requirement for a system of social welfare and the aims of the local individuals charged with implementing national policy. Indeed, with the latter there is considerable scope for welfare to be altruistic, theologically based, humanitarian, paternalistic, or simply motivated by a desire to preserve social stability. Nevertheless, the above quote suggests that social welfare provided by capitalist states is by necessity underhanded, dishonest and self-serving. Analysis of the old poor law has long been subject to the vagaries of the political outlook of the historian, but it is undoubtedly the case that the lot of the English poor, both before and after 1834, would have been considerably worse had a system of social welfare not been in existence.

Overall this book is intellectually stimulating, if only for the profound sense of disagreement I find with the overall argument. It is a book that encourages reflection, and I would recommend it to anyone with an interest in economic development and social welfare, but I would urge that it ought to be read with great caution. The unnecessary explanations that litter the text, such as the definition of what a settlement examination is (p. 130) or even the fact that Patriquin feels it necessary to define for the (American?) reader that a stile is 'a series of steps on each side of a fence' (p. 114) should not detract from the fact that there is much else within this book that requires considerably more detailed explanation: 'Poor relief was an important component of the transition to capitalism, notably in southern England' (p. 203). The appended qualifying comment comes a little late in the book, but for Patriquin's argument to be convincing

he needs a conclusion, and a theoretical model, that holds true for England as a whole – and one that can be supported through empirical research. If agrarian capitalism provided the basis for the transition to industrial capitalism, with poor relief being instrumental in that process, then why is it that the economic fortunes of much of southern and eastern England in the period 1600 to 1850 contrasts sharply with that of much of the north of England in the same period? Rather than industrial capitalism springing from agrarian capitalism, counties which might be regarded as more advanced in 1600 de-industrialized over the following two centuries. It was the fragile economic system of northern counties, with a population vulnerable to harvest failure, very low capitalization of farmers, and poor internal communications that was to witness the emergence of industrial capitalism alongside commercial small farms and extremely low levels of pauperization. So, as an intellectually stimulating book, this is worthwhile reading. But as a contribution to our general understanding of the agrarian economy and the role of social welfare within economic development, this book offers little. Indeed, there is empirical research not referenced by Patriquin that does this job much better.

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PETER RAZZELL, *Population and disease: transforming English society, 1550–1850* (Caliban Books, 2007). xviii + 314 pp., 3 figs., 84 tables. £45.

For a considerable period of time Peter Razzell has continued to make important contributions to English historical demography, specifically in relation to the role of mortality in determining demographic change in the period from the mid-sixteenth century onwards. This volume brings together ten separate essays, together with a brief conclusion, structured around four interrelated themes: methodology; the structure of demographic change; causal factors in mortality decline; and the consequences of population change. Three of the papers were originally co-authored by Christine Spence; two have appeared in *Local Population Studies*; two were published in the *Social History of Medicine*; chapters four and seven were initially book contributions (in the latter case the introduction to the revised edition of Razzell's *The conquest of Smallpox*). Inevitably, particularly in the current economic climate, both individual scholars and university librarians will question whether such a collection of papers offers any significant value-add, but some of the new material certainly develops ideas and hypotheses which might repay further investigation, even if the general thrust of the book is already well known.

The core of the book is devoted to refuting the findings of the Cambridge Group and rehabilitating the earlier belief that the process of demographic change between 1550 and 1850 was 'largely shaped by mortality patterns and the disease environment'. As might be expected, Razzell's approach is predicated on a deep scepticism towards mathematical models and theoretical constructs, particularly when they are not based on detailed empirical research using local sources and rely on data 'too uneven to be reliable'. Indeed, one of the implicit strengths of Razzell's case is the incorporation of a wide range of alternative source materials, including, for example, marriage licences, apprenticeship records, and the reconstitution schedules of Quaker communities. But an underlying problem throughout this collection of papers is a strong degree of overlap between individual essays and a rather eclectic approach to data derived from other studies which are seldom analysed in sufficient depth. This is particularly evident in the treatment of the relationship between poverty and disease, where the case for the existence of an inverse social class mortality gradient in the period between 1600 and 1750 is attributed to environmental factors, rather than negative life-style influences. The wealthy were 'forced to reside in unhealthy disease environments for economic reasons', while a higher travel frequency, whether a result of business considerations or leisure choices, resulted in an inflated exposure to epidemic disease. But the later decline in adult mortality among élite groups is simply explained by residual arguments, including improvements in sanitary conditions and public hygiene, the more effective washing of both furniture and clothes, and the increasing use of brick-built housing. Unfortunately, none of these are examined in any detail. Razzell does offer a more focused assessment of the impact of poor personal hygiene and adverse environmental factors on the mortality of members of the royal family, but again the evidential base is relatively thin and the need for more research in this field only too apparent. Nor does it appear realistic to claim that the new standards of hygiene in the eighteenth century were disseminated throughout the country by the domestic servants of the aristocracy visiting their relatives, particularly when this is based on a single (and rather dated) secondary source. However, the relationship between adult mortality and life-style choices is re-examined in an interesting discussion of the hazards of wealth using some of the savage cartoons of Gilray and Rowlandson which, by definition, were intent on exaggerating some of their victims' characteristics. But the emphasis on the adverse effects of 'status stress' or the excessive consumption of alcohol and tobacco on life expectancy of the aristocracy and

other élite groups within English society is difficult to sustain in a context where the available data are limited in scope, both in sample size and geographical coverage, and the evidence for the adverse health consequence of wealth-holding is essentially anecdotal.

Overall, this collection of papers offers some promising insights into wider debates relating to the process of demographic change in England between the mid-sixteenth century and the late-nineteenth century. But it would be overstating the case to argue that it contains 'a number of unexpected and new findings' which subvert the 'current consensus on England's demographic history'. Razzell's critique of the work of the Cambridge Group is well known and some of his arguments undoubtedly merit further consideration and debate. But the evidential basis for some of the hypotheses advanced in this volume is seldom substantial enough to sustain his conclusions and although considerable use is made of alternative source material and local case studies, there is no opportunity to examine the evidence in sufficient depth or to extend its geographical coverage in a systematic manner. Moreover, the publication of collected papers is seldom a straightforward undertaking. There is too much overlap between the various essays and no real attempt has been made to restructure the available material in order to generate a more cohesive and focused argument. But even if the volume as a whole has its faults, Razzell should be commended for highlighting a number of areas which would undoubtedly repay further analysis and exploration.

ROBERT LEE
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AVIS R. WILSON, *Forgotten labour. The Wiltshire agricultural worker and his environment, 4500 BC–AD 1950* (Hobnob Press, 2008). x + 306 pp., 115 illus., 2 maps. £14.95 from Hobnob Press, PO Box 1838, East Knoyle, Salisbury, SP3 6FA.

In attempting to trace the history of agricultural labour in Wiltshire over more than seven millenia the author has set herself a remarkably ambitious task. This is agricultural history for the non-specialist, with information and examples culled from numerous secondary sources which are listed in the bibliographies, but without detailed references to any other sources. The long time-scale means that each period has had to be considered briefly. Prehistoric, Roman and Saxon agriculture in the county is inevitably dealt with rapidly, although with good examples and numerous illustrations, as well as considerable supposition. The wealth of surviving archaeological evidence which Wiltshire possesses has been carefully considered, and there is interesting discussion of Saxon landscape developments and estate boundaries, with examples drawn from all parts of the county.

Detailed examples from a range of secondary sources are provided for the medieval period, with examination of manorial farming systems, the effects of the Black Death in the county and labourers' discontent, protests and riots during the fourteenth and fifteenth centuries. The influence of the church on the social and economic life of rural communities is discussed, again with numerous examples. This recognizes the fact that much of Wiltshire was dominated by the estates of the west-country monastic houses. The importance of the large sheep flocks and the sheep fold in the farming of the county, especially on the chalklands is discussed.

For later periods the author can provide much more local detail and includes material on the part played in labourers' lives by the parish church, seasonal festivities and the poor law. Again, it would have been useful to have references to some of the sources. The labourers' lot from the sixteenth century onwards is depicted as a slow inexorable decline, until the county became notorious for low wages, poor housing and a demoralized work force. There are numerous illustrations and examples, with material drawn from the author's detailed study of Cocklebury, near Chippenham, her earlier study of cheese production in the county and personal experience of farm work, The bibliography for the modern period is more selective than for the earlier chapters and does not mention such crucial sources as John Aubrey or Thomas Davis, although both are referred to several times in the text, and there are no detailed references to other sources. More use might have been made of the authoritative *General view of the agriculture of Wiltshire* by Thomas Davis (1794).

The life of rural workers during the seventeenth and eighteenth centuries is discussed, together with the influence of religious nonconformity, especially in the 'cheese' area of north Wiltshire. The author provides details of workers' lives on the large tenant farms of the chalklands during the nineteenth century, with discussion and examples of rural housing, village schools and allotments. This includes material culled from the numerous reports of parliamentary commissioners on many aspects of Wiltshire farming and rural society. More stress might have been laid on the profound changes in chalkland farming during the later nineteenth century as grain prices collapsed and farmers turned to milk production, using the recently-built railways to transport the produce to the towns. The account is continued up to the mid-twentieth century with illustrations and descriptions of the author's own experiences of farming, working alongside Land Girls and Italian and German prisoners-of-war.

This is a clearly-written general overview of farm life in Wiltshire, based on a mass of secondary sources which will appeal to local readers and others interested in the long story of what has always been by far the most important economic activity in the county. The well-produced book is published by the Hobnob Press, based near Salisbury which, during the past few years, has produced an impressive list of books on aspects of the history of Wiltshire.

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MARTIN BODMAN, *Devon leather. An outline history of a lost industry: nineteenth-century tanners and tanneries* (Leat Press, 2008). 165 pp., £22.

Tanning was by far the most common method of turning skins into leather in post-medieval times. Martin Bodman's study identifies 180 sites in the larger cities, market towns and villages of Devon. Tanneries once relied on hides and skins from the stock farming of the county but increasingly made use of imports from Ireland, western Europe and South America. Other local linkages were with woodland management – each hide required twice its weight in bark in processing – lime-burning and the local foundries that provided plant.

Martin Bodman came to industrial archaeology as a spare-time pursuit and has been particularly energetic in searching old newspaper files, often un-indexed, to augment our understanding of the physical evidence of past industry. His previous publications have been concerned with watermills in the west, but an earlier interest in the Woollard Tannery near Bath has now been extended to Devon.

*Devon Leather* does not intend to provide a business, industrial or technical history of tanning in Devon in the nineteenth and early twentieth centuries. Neither does it deal with the associated trades of the fellmonger, currier, harness-maker or cobbler. Brief chapters introduce the history of the trade, the operation of a Devon tannery and a case-study of one family, the Sharlands, who produced 13 tanners over three generations. The bulk of the book is a gazetteer of sites from Alphington to Woodbury. Sale notices and occasional reports from newspapers provide much of the detail in these entries, with use of census data, trade directories, local histories and such primary sources as the journals of Bodley's Foundry in Exeter that supplied bark mills and steam engines to some of the larger concerns.

Good use is made of tithe maps and apportionments, and the Ordnance Survey 25-inch and 1:500 plans from the 1855–7 Plymouth survey onwards. Parts of the 25 inch plans have been redrawn to show the location of the sites and a brief highlighted summary for each entry provides a six-figure grid reference, date of closure, the number of bark mills, tan-pits and staff, and output wherever this is possible. The fate of the buildings and the present state of the site, or details of surviving buildings in a few cases, are described and illustrated with photographs. Some tanneries worked until quite recently – Swimbridge closed in 1965 and the one at Colyton remains as a unique example of a traditional oak-bark tannery at work.

The book concludes with a brief list of nineteenth-century sites that could not be identified and earlier tanneries with the date of the earliest known record. There is also a useful glossary of technical terms and an appendix which lists, by parish of origin, Devon-born tannery workers living in Bermondsey, the major centre of the trade, in 1871. Some 31 men were born in Bow and the exodus seems to have started after the death of a long-serving tannery foreman here in 1854. There is a detailed index and end-notes for each chapter.

Great care has been taken with the production of this A4-format book which can be strongly recommended to local historians and archaeologists working on the history and evolution of their communities. It will also serve as a good starting point for scholars working on the business, technical or industrial history of a once widespread and important industry that has been somewhat neglected by historians of our rural economy.

MIKE BONE
*Bristol*

JONATHAN BROWN, *Steam on the farm. A history of agricultural steam engines, 1850 to 1950* (The Crowood Press, 2008). 190 pp., 120 illus., 1 table. £19.95.

The history of the steam engine exerts a powerful fascination on the public mind, and that of the agricultural steam engine especially so. However, previous work on the subject, largely concerned with technical and engineering aspects, has fought shy of answering the central and most interesting question. This is, in Jonathan Brown's words '… the story of the application of steam power to British agriculture – its use and extent, and how the promise of the new technology of steam was turned into reality' (p. 6). To answer these questions is his aim, and he succeeds triumphantly in doing so.

The story of the agricultural steam engine may be said to have begun in the first decade of the nineteenth century, when some fixed engines were used for threshing. But this was a false dawn, and interest in steam threshing waned thereafter, to resurface in the 1840s. By then, some manufacturers were developing the wheeled 'portable' engine, which could be moved around the farm by horses, and was capable of powering a threshing machine, and performing ancillary operations

(feed preparation, drainage, sawmilling). Many of the leading firms in the business had begun in earnest by the end of the 1840s. Thereafter, the portable achieved astonishing success, and by the early 1870s almost all the farmers who were going to use one had bought their engines.

Steam ploughing was a particular, although limited, success story. This had been a dream of many inventors, and the holy grail of some of the early steam enthusiasts such as Alderman Mechi. However, in the damp climates of northern Europe, the use of the heavy steam engines to plough directly on the land would have been very harmful to the soil. The solution to the problem was the cable ploughing system, chiefly that sold by John Fowler of Leeds, whereby one or two engines on the field boundary hauled a plough or cultivator across the field using an iron or steel cable. This was operational by the early 1860s, although it was much improved in later years.

By the 1870s almost all hand threshing by flail had disappeared, to be replaced by the fixed or portable engine and threshing box (usually operated by threshing contractors). The portable engine had won an indispensable place in the stackyard and barn of the larger farm; many acres (chiefly in the Fens, eastern and south Midland counties, and in Sussex) were now worked by steam plough. Steam power seemed to have conquered British farming.

But there were limits to its success. As Brown remarks (p. 36), given the enormous output of steam engines in the late nineteenth century (what was probably the largest manufacturer, Clayton and Shuttleworth of Lincoln, had produced 40,000 by 1914), '… one might expect farming to have been awash with steam engines … the reality was different'. He estimates that there might have been about 20,000 on British farms around 1880 (so that about 10 per cent of all farms may have had a steam engine), before the agricultural depression weeded out some, finishing up with the 16,959 recorded at the 1912 British farm census. In addition, there must be counted the engines used by the threshing contractors, amounting to a (roughly) estimated 15,000. There were only about 700 cable ploughing sets by the late 1870s (almost all double-engined by then), which were used to plough (and especially cultivate) about one million acres. This sounds a lot, but was only about seven per cent of the cultivated land of England and Wales, so, as far as field operations was concerned, the farm horse still reigned supreme.

The apogee of steam's success was in the 1880s. Thereafter, a saturated home market and the financial depression in arable farming led to a slowly declining domestic stock of engines, and the manufacturers turned to export markets. The First World War provided a short-term boost, but after 1918 the story was one of steady decline, as the tractor made halting headway in British farming. The manufacturers' horizons were sometimes brightened by the odd special order; Mussolini's famous drainage of the Pontine Marshes in 1927 was done by eight very large Fowler engines. But the shrinking domestic stock of steam engines was ageing, and was not being replaced. The Second World War would not be as profitable for the steam contractors and manufacturers as the First had been. In 1939 the Ministry of Agriculture's officials needed to be reminded as to what the 'Steam Cultivation Development Association' stood for. It was the Fordson tractor which was the preferred technology in 1939–45, and not the double-engined steam ploughing system.

The appearance of Jonathan Brown's book is to be warmly welcomed, as being the first to address seriously the question of the actual role and significance of the steam engine in British farming. His treatment is judicious, pithily written, and full of knowledge lightly worn, drawing extensively on the rich collections of steam engine makers' records held at the Museum of English Rural Life at Reading University. These have been augmented by many excellent and apposite illustrations from the MERL collections. In all, this is a book which will become indispensable reading for all historians of modern British farming, and will undoubtedly be the standard by which future work on the subject is judged.

PETER DEWEY
*Oxford*

P. BARTRIP, *Myxomatosis. A history of pest control and the rabbit* (Taurus Academic Studies 2008). xii + 288 pp., 11 illus., £52.50.

This informative study reviews the history of Myxomatosis, a highly infectious sub-cutaneous viral pox disease specific to the rabbit, and unparalleled in the annals of agrarian history. This was only the second animal virus identified after Foot and Mouth disease. Following the introduction of Myxomatosis to Britain in September 1953 at Bough Beech, near Edenbridge in Kent, mortality rates in excess of 99 per cent were recorded.

The text starts with a critique of the pre-Bough Beech period, outlining the history of the disease before investigating various methods which have been used to control the rabbit, as well as considering changes in the legal status of the species. These introductory sections are possibly the least satisfactory parts of what is otherwise a very impressive book. There are a number of issues which might have merited more detailed consideration, for example, the reasons for the long term

increase in the rabbit population. Here we may identify the consequences of declining game preservation and rabbit trapping, which both contributed to reducing the rabbit's natural predators. Similarly the work of the internationally renowned, Oxford-based Bureau of Animal Populations which, during the 1930s and Second World War period, had undertaken extensive research into methods of rabbit control, merits a more evaluative appraisal.

In the pre-Myxomatosis era the rabbit population was determined by a number of interrelated factors including the demand for rabbits as a source of meat, and the perceived effect of the damage caused by the species. As the text illustrates, quantifying the magnitude of the damage was problematic, resulting in considerable variations in the estimates, and this is again worthy of more detailed attention in the future.

The main focus of the text, the history, transmission and effects of Myxomatosis, are analysed in a thorough and persuasive way. It is in these sections that the author really begins to show his extensive knowledge of the subject. The chapter dealing with the 'Narrative of the Disease' is particularly impressive. It provides a comprehensive review of the explanations for the influx of the disease from France and its subsequent spread across the country. The book makes a valuable contribution to enhancing our understanding of Myxomatosis and, in particular, addresses a number of key questions about how the disease initially reached Britain, and the controversy surrounding the dissemination of the disease. As the author acknowledges, many of these issues remain shrouded in mystery. Given the paucity of reliable primary sources and the multitude of unsubstantiated allegations which have obfuscated these hotly debated issues, the author should be congratulated for his impressive summary of the existing evidence. A minor reservation is that in places it reads more like a synopsis of the explanations which have been previously suggested, rather than a synthesis of the author's own views. Such a criticism is, however, of minor significance given the vast amount of literature which has already been produced the subject.

The author should be congratulated for the detailed analysis he provides of the Myxomatosis Advisory Committee and, in particular, the debates which took place about the ethics of the deliberate transmission of the disease. I would, however, take issue with the author's claim that the extinction of the rabbit by deploying virulent strains of Myxomatosis strategically to wipe out the surviving colonies of rabbits was ever a feasible option. Technical and logistical constraints would have prevented the total destruction of the ubiquitous rabbit.

The chapter dealing with 'Agriculture and the Environment' draws attention to the effects of Myxomatosis on agricultural output, an issue which has been largely ignored by most agricultural historians. While his evidence about the effects of the decline in the rabbit population on productivity is circumstantial rather than conclusive, this issue too merits further research. The chapter also provides a perceptive critique of the multi-faceted consequences of the reduction in the rabbit population.

Overall this is an impressive account of the history of the most devastating animal disease ever reported. Extensive endnotes bear witness to the controversial nature of the incidence and transmission of the disease. It is an account which will provide an invaluable source not only for rural historians and scholars from a wide variety of disciplines including politics, biology and veterinary science, but also for those with a general interest in the countryside. In order to ensure more effective dissemination to a wider readership, a paperback copy of the text is a desiderata.

JOHN MARTIN
*De Montfort University, Leicester*

1. ROBERTS, *Telling tales out of school. A history of education and school life in North Tyneside and Redesdale from 1870 to 1944* (Northern Heritage Publishing, 2008). 208 pp., 1 fig., 53 illus., 1 tab., 1 map. £12.99.

Before the local education authorities took over most aspects of elementary school finances under R. A. Butler's celebrated 1944 Education Act, schools were supported by church foundations (of various denominations), local families and charities, school boards and County Councils. Between 1860 and 1902, when the school leaving age was raised to fourteen, elementary school grants were awarded on the basis of attendance and the ability of children to pass tests administered by Inspectors on their regular visits. There is little new, then, in the notion of payment by results. A generation later, efforts were made to extend the activities of the larger 'Type B' elementary schools to embrace such excellent subjects as needlework and hygiene for the girls and science classes for the boys in which gardening played a prominent part. While Dr Roberts' finely illustrated book does not offer a picture of the lads at work in the garden or out on an improving 'nature walk', there is an edifying photograph of the spotless girls of Otterburn School making what appear to be good wholesome mince pies. The illustration of the tawse in use at Billingham Council School in the 1930s and the discovery that the highly-respected headmaster of Otterburn School steeped his strap in vinegar to harden it remind us, like the cookery and nature lessons, that common sense rather than

expediency dominated educational thought at primary level. A couple of generations ago the idea of 'pupils' rights' would have been dismissed as absurd beyond belief while the prospect of sex education and 'civics' would have been greeted with incomprehension, if not horror. You learned about the former in the farmyard and the latter in your history lessons.

Preceded by two brief introductory chapters setting out the geographical and educational background, the book comprises detailed sections covering the history of seventeen schools. Files from the National Archives, Inspectors' reports, school Log Books, Admissions Registers and Managers' Minute Books have been trawled to provide data, while structured interviews with surviving scholars offer fascinating detail of the daily life of the schoolchild in the inter-war and wartime years. Each school has been researched by Roberts' WEA students, a cohort of mainly middle-aged and older people, who, under their tutor's watchful eye, have produced a volume which will be of interest both to historians of the North and to students of education more generally.

Virtually every aspect of school life is covered, from curriculum to playground games and from morning prayers to evening hymns. We read of scanty resources, earth closets, seasonal absences linked to the farming year, of slates and 'dip' pens, and of epidemics of measles, scarlet fever and diphtheria. There were teachers of varying degrees of eccentricity and competence, some of them loved and others passionately loathed. Either way, they often had to deal with uncomfortable situations as they confronted petty rivalries and rural jealousies linked to local management of the school. If teaching itself could be a challenge, so was the almost daily problem of working in buildings, many of which remained relatively primitive even into the 1950s. Hott School had no flush lavatories or wash basins before 1958; Kielder School was so cold in January 1945 that ink froze in bottles, as did the Elsan lavatory and its contents. As the children snuffled with colds, the east wind blew beneath the floorboards with such keenness that lessons had to be regularly interrupted so they could exercise and warm their feet. But everyone soldiered on; they were tough up North. Perhaps tobacco helped? In 1914, the headmaster of Plunkett's Colliery School managed to get hold of a football and he fervently hoped that enthusiasm for the game might 'counteract cigarette smoking which is still prevalent among the boys'.

Books like this should be read by trainee teachers and those in post who are in the habit of moaning about their working conditions. In common with teachers in many less-developed countries who manage extraordinary feats with negligible equipment, the old-style village teacher understood not only how to instil respect among his charges, but how to get the best out of them despite limitations of resources and a tough working environment. This worthy study has much to teach us, and, in supporting the publication, the National Lottery is to be congratulated on allocating funds to so admirable a cause.

R. J. MOORE-COLYER
*Aberystwyth*

PAUL READMAN, *Land and nation in England. Patriotism, national identity and the politics of land, 1880–1914* (Royal Historical Society, Studies in History, new ser., 64, Boydell, 2008), xiv + 242 pp. £50.

Until fairly recently it was quite commonplace to suggest that the English, whether politicians, intellectuals, writers, wealthy industrialists or the 'common man', were uncomfortable with modernity, and tetchy with urban, industrial, capitalist Britain. Martin Wiener's book, *English culture and the decline of the industrial spirit, 1850–1980* (first published in 1981), was the most influential book amongst this literature, a cultural analysis of economic history that placed the prevalence and popularity of nostalgic arcadian versions of national identity at the heart of its explanation of Britain's decline. Wiener's conclusions spawned an industry in cultural history aimed at uncovering this reactionary form of 'Englishness'. A number of historians have undermined this argument from various angles. In cultural history Peter Mandler has constructed a more nuanced and persuasive interpretation of 'Englishness' and raised serious questions about the prevalence, meaning and significance of 'rural nostalgia' in British culture. Paul Readman's impressive volume on the politics of land enriches this debate (which he rightly points out has often been neglected by political historians) as well as a number of other key discussions in modern British history.

Readman's main argument is that political discussions on the land question, whether on the part of Liberals, Conservatives or the left, were 'deeply coloured' by patriotic rhetoric and discourse. He finds a significant connection between the politics of land and the politics of 'Englishness'. Political engagement with the land question and rural England interacted closely with ideologies of national identity. However, such discourse was not reactionary but rather a means of preserving links with the past in the context of rapid and profound change, a source of social cohesion in the face of a broadening electorate and the rise of radical political philosophies. The importance of the rural in the public articulation of national identities reflected a desire to find a way forward whilst avoiding radical upheaval, providing a political

anchor in a period of realignment. Although some of those on the left sought just this type of upheaval, the focus on cohesion and continuity was as true of radical liberalism as it was of conservatism. For instance, Liberal policies were not based on collectivist or 'socialistic' principles. Instead, much of this discourse was framed as an appeal to a national tradition stressing the primacy of the state in ultimate responsibility for landed property, articulated in patriotic terms. Such socially conservative, yet progressive, aims lay behind the discourses of a diverse range of thinkers and politicians, from Brodrick and Arnold to Collings and Chamberlain.

Readman's thesis is set out in a clear and incisive introduction and developed over eight chapters. The first chapter provides a chronological discussion of the main events in the history of rural society and politics. The further seven chapters are divided into two thematic parts. Part one focuses on four key 'national issues' in the politics of land as they were articulated by politicians and pressure groups; the importance of land reform for 'national stability', the 'English national character', agriculture and property rights. Part two provides an analysis of the development of thinking and policies on agriculture, property and rural society by the three main parties. Readman finds a range of discourses on the land question, both between the different parties and within them, perspectives that developed across the period in response to broader events as well as shifts in their own fundamental principles. Consideration of the full range of political discourses on the issue is one of the strengths of this volume.

A further strength is the way that Readman imbricates high politics with extra-parliamentary agitation and pressure, in a manner reminiscent of the late Ewen Green. The relationship between Conservative policy and broader conservative thinking on agriculture as 'the national industry' is a particularly interesting case of this. Under Lord Winchilsea the National Agricultural Union was one amongst a number of organizations in the late nineteenth century seeking to protect agriculture and bolster the tri-partite rural social order. This approach was popular amongst mainstream Tories, including Lord Salisbury, and the wider public since the NAU sought the same objective as the parliamentary party, to effect 'national renewal' through 'agrarian means' (p. 88). In the later 1890s, however, as Conservative politicians sought a more progressive means of attracting the lower orders, they focused on smallholdings rather than large-scale farming, a policy priority that fed into the Edwardian Conservative focus on tariff reform. As a result the NAU declined from 1896 onwards and Conservative policy moved towards more radical policies such as smallholdings.

There are several criticisms to be levelled at this volume. The structure of the book, in particular the slightly cumbersome first chapter, leads to a disappointing level of repetitiveness in the argument. At points the author draws over-simplistic distinctions between 'socialism' or 'collectivism' and 'patriotism', which slightly undermine his argument on both the traditionalism of Liberal politics and the peculiarity of British radicalism in a European context. Also, whilst Readman emphasizes the range of opinions in the political culture of rural society and the land, he does not always clarify the social range of such discourses, particularly in reference to radicals. For instance, he often refers to the landed origins of Conservative politicians and thinkers but fails to identify the gentry origins of radical Liberals such as Arthur Herbert Dyke Acland, scion of a wealthy gentry family with over thirty thousand acres and protagonist for radical change articulated, for instance, through his reference to the 1894 Local Government Act as a 'charter for self government' in rural parishes (p. 65). These, however, are generally minor points. Readman's volume makes important contributions to a range of crucial debates in modern British history. It will interest a range of scholars and students of politics, rural society, agriculture, national identity and land reform and provide them with a thoroughly good read.

MARK ROTHERY
*University of Exeter*

ANDREW G. NEWBY, *Ireland, Radicalism and the Scottish Highlands, c.1870–1912* (Scottish Historical Monographs, 15, Edinburgh University Press, 2007). vii + 224 pp. £45.

In the 1880s the Scottish Highlands were characterized by unrest amongst the crofters or small tenants, with direct action and resistance giving rise to the Crofters' War or Highland Land War. An organized political movement pushing for land reform and centred on what became known as the Highland Land League quickly spread and, following extension of the franchise, achieved the election of several Crofter MPs. The long term grievances of the crofters included the (often forcible) loss of land, overcrowding, and lack of compensation for improvements. Government recognition came in the form of a Royal Commission and the Crofters Act of 1886 (the first of a series of measures intended to benefit the crofters).

The role of external agitators in rousing the crofters was played up by the enemies of land reform. Recent studies of the period have mainly pointed to a varied group of outside sympathisers, many of Highland descent. Newby's study focuses on the activities of a loosely associated group of radicals comprising Irish,

city-based Highlanders, and lowland Scots, mainly based in Glasgow.

In the 1870s it was not at all obvious that there would be common ground on the land question between Ireland and Scotland, although the development of Irish political organization in Glasgow was to be crucial for what followed. Between the Battle of the Braes in 1881 and the 1885 General Election there was significant activity in the Highlands by external agitators who maintained links with Ireland, although these often had to be downplayed given its associations with agrarian outrage and Catholicism.

A fierce debate arose amongst land reformers as to what the future should look like. There were some who supported dual ownership under which the existing system of landownership would be retained but the crofters would be allowed to own whatever improvements they made. Such men had little time for any connection with the Irish agitation. Then there were some who supported free trade in land, condemned the continuance of entails and primogeniture, and supported peasant proprietorship. Others looked rather vaguely to land nationalization. For many, Henry George's *Progress and poverty* and his 'single tax' approach were, for a time at least, very influential. As Newby points out, it was support for George which linked the radicals in the early 1880s but which, in turn, alienated them from mainstream Irish nationalism.

Agitation continued after the 1886 Act and the radicals maintained an interest in the Highlands. The anxiety about support for the Irish cause was partly overcome and enthusiasm for home rule grew amongst the crofters. As Newby stresses, there was a complex relationship between home rule and land reform politics, and home rule was to be a significant factor in creating splits amongst Highland land reformers.

The influence of 'Land Leaguism' was, as Newby points out, felt in the first county council elections in 1890. However, the success of crofter candidates was varied and the League was soon to become a declining force. For the crofters, the 1890s were to be a decade of peace, and urban Highland societies also pulled back from political activity. For the radicals, broad labour questions were becoming of greater interest. The elimination of the Irish element meant that in the twentieth century, debates over land reform could take on a broader aspect.

In assessing the impact of external agitators on the crofters, Newby notes the inspirational influence of Ireland but acknowledges that the crofters were well aware of Irish developments. The arguments put forward by the radicals may well have encouraged consideration of how the crofters' grievances should be addressed and helped to identify a range of options. However, the crofters turned down radical solutions in favour of the provisions of the 1886 Act.

Newby concludes that the agitation was essentially maintained by local communities. Certainly it is notable that the county of Caithness, where there was a strong and active Land League, hardly figures as a scene of radical endeavour. On the other hand, it is difficult to accept fully Newby's argument that one of the radicals, Angus Sutherland, alone awoke the politically dormant Sutherlandshire crofters. Not only did anti-landlord activity pre-date Sutherland's involvement but there were other influential figures at work, unconnected with the Glasgow radicals. Newby largely views events from the perspective of the external agitators: local political developments require further consideration.

Newby rightly alludes to the difficulties in examining the nature of the Irish and radical dimensions, especially given the confusing retrospective statements by some of the protagonists. Furthermore, the radicals left little account of themselves in the form of personal papers. However, the author has managed, mainly by drawing on a wide range of newspapers, to identify what was a diverse group, neither wholly Irish, nor wholly concerned with the rural land question in Scotland, and uncover the complex motives of the leading members. They were not, as Newby emphasizes, seeking only a solution to the Highland land problem, rather they also looked to bring about social reform in Ireland, lowland Scotland, and Britain as a whole.

This book unquestionably breaks new ground and provides by far the most thorough and sophisticated analysis yet attempted of any aspect of the Crofters' War.

MALCOLM BANGOR-JONES
*Achfary, Sutherland*

JONATHAN BELL and MERVYN WATSON, *A history of Irish farming, 1750–1950* (Four Courts Press, 2008). 344 pp., 127 figs., 17 illus. £30.

In the last decade or so there has been a mass of books about Irish history and Irish agriculture. In many, perhaps in most, there has been a concentration on the famine of the 1840s, and the lead up to that famine, but particularly the immediate causes and then the far-reaching consequences for the wider economic and social well being of Ireland. Other studies have looked less at the famine crisis *per se* and more at the underlying economic structures, for example as illustrated through the study of prices. Those that take the longer view look at externalities such as the international consequences through the migration of not only displaced famine victims and their families, but also

those with a spirit of adventure in the late nineteenth and early twentieth century who willingly, optimistically, emigrated. Yet other studies have looked at the internal long term recovery of the Irish rural economy and some of the difficulties it faced, not least the land wars that culminated in greater Irish land independence as tenants replaced their former Anglo-Irish landowners, and the extremes of poverty through the Congested Districts legislation which identified many of the western counties as the most deeply impoverished sections of the rural community.

Yet there is something missing from these studies, or at least it is missing in terms of technical detail. While touching upon farming as the context of the underlying bigger picture, they do not tell us very much about the business of farming – the day-to-day grind of waking up, going to the fields, tending the animals, marketing the produce. It is true that there have been studies of some elements of Irish farming society, such as the creamery industry, and of spade cultivation, but the broad business of farming is largely absent. This study nicely fills that space. Not many other studies have chapter headings that are so simple yet so descriptive of the art of farming. We have 'Hay-making' (chapter nine). 'Ridges and drains' (chapter three), and 'Harrows, rollers and techniques of sowing seed' (chapter seven). The book and its chapters uncover and explain the history of Irish farming between 1750 and 1950. It derives from the authors' collection, interpretation, and synthesizing of work they conducted over three decades at the Ulster Folk and Transport Museum. They have a special knowledge and insight of that particular collection having been respectively head curator and curator at the museum. The authors openly admit that the weight of evidence derives from the nine counties of the historic province of Ulster. Nevertheless, all 32 counties, and many individual places within those counties, are represented in the index, to a greater or lesser degree. In addition, many of the illustrations and items of evidence come from collections in the Irish Republic.

The book is sponsored by the Irish Food Board which again says something about filling a need in the literature, but this is also a book that raises academic or scholarly issues. Besides, the changing structure of the plough and of the spade and the virtues of labour-intensive relative to capital-intensive means of production are all factors in the more technical measurement of agricultural output and productivity. Elements of this book will allow agricultural and economic historians to marry some of these relatively mundane developments to the more technical objectives and assessments of economic and agrarian history research. Finally, the book is lavishly illustrated with nearly 150 photographs and illustrations, though the squeamish might beware of the slaughter of the pig in county Antrim in *c.*1900 which is portrayed on p. 274!

MICHAEL TURNER
*University of Hull*

S. SHEEHAN, *Jack's world: Farming on the Sheep's Head Peninsula, 1920–2003* (Cork University Press, 2007). xi + 228 pp. £39.

This lyrical post-modern biography set against the quiet beauty of Bantry Bay is much more than the mere chronicle of a virtuous life on the land. The author, who is the nephew of the principal character John Sheehan, sees his subject's life and fate as being intimately connected with the fate of Ireland herself and accordingly, homely agricultural images soon become metaphors for incisive social comment. In describing the rites of passage of Jack's farming life, which was generally untouched by the cultural issues preoccupying the Irish intellectual classes, Sheehan offers a critique of three generations of modern Irish history and of the shifting values underlying it. His farm was the result of Jack's labours and the embodiment of what he did, while he himself was the product of centuries of geographical and historical processes. The Anglo-Irish War, the creation of the chaotic Free State with its obscurantist alliance with the Catholic Church, the class divisions and social attitudes of the western Irish community and, much later, the venality and corruption at the heart of the late twentieth-century Irish body politic, were principal 'contexts' for the quiet drama of Jack's bachelor life. But, as befitted a man who wisely eschewed both television and telephone before 2001, these issues seemed of less importance than the daily farming round. Jack was on the land and *of* the land and imbued with a deep spiritual understanding of its history, rhythm and mysteries. Revolutions, guerrilla warfare and de Valera's concepts of romantic nationalism were all very well, but like Falstaff, Jack was a realist, knowing perfectly well that radical change usually has little relevance to the essentials of working the land.

As one might expect from the author of a guide to anarchism and a student of Lenin's writings, Sheehan's book is richly larded with the language of class warfare. Commercial farmers, the ten per cent of Irish society controlling more than half of its wealth, the builders of holiday homes and 'the canker of consumerism', all come under attack in a work which sees capitalism at the root of so many social ills. In stark contrast, Jack's non-materialistic, non-capitalist world was based upon a system of values which accorded wealth not to the accumulation of material things, but to the quiet contemplation of nature and a deep immersion in the land itself. For Sheehan, Jack's world fell into decay

when 'all that was solid (was) melting into property prices' and the countryside of western Ireland became commodified. As the farmer became both physically and psychically separated from the land that had nurtured him, so the soul of the land itself was in danger of perishing. But perhaps there remains something left to recover? As Sheehan puts it, in terms not unlike those used by the English ruralist Right of the 1930s, there may be 'survivors of a peasantry with values that now acquire a new value and provide an axis of hope'. Jack himself rejected the idea of embracing the market and selling to speculators once his small farm became unviable. He probably agreed with his nephew, though he might have put it a little more simply,

> … that history is not so linear as to make this the only possibility and that in the whirligig of time a new dialectic may emerge, when the viability of life on a small mixed farm like Jack's will reassert itself, redeeming the principles on which he made some of his choices.

This is a truly happy thought, doubtless shared by many a middle-class good-lifer and many a part-time organic/organicist hobby farmer. Sadly I suspect that Jack's world and the values it embodied have disappeared beyond recovery.

This is a wholly delightful and charming book. It is a brilliantly written and lusciously illustrated account of a man whose life began in dire poverty and ended in ease and contentment, but who never deviated from the principle that duty to the land and those relying upon its bounties was a fundamental to the farmer's existence.

R. J. MOORE-COLYER
*Aberystwyth*

## Europe and elsewhere:

JEREMY HAYHOE, *Enlightened feudalism. Seigneurial justice and village society in eighteenth-century northern Burgundy* (University of Rochester Press, 2008). 309 pp. £45.00.

This book attempts to explore the workings of seigneurial justice in rural France on the eve of revolution. It aims to rebut notions that the seignuerial system was in decline or had been replaced by more central, royal courts. In doing so it offers an interesting analysis of social relations in the French countryside. There are similarities and differences with the administration of justice in Bourbon France and Hanoverian England and Hayhoe's study offers an interesting comparative perspective for any scholar working in the field of criminal justice history in both countries.

*Enlightened feudalism* is structured in two main sections. The first sets out to demonstrate the role of seigneurial justice in rural affairs while the second looks at the ways in which the system changed or developed in the late eighteenth century. One of the central conclusions that Hayhoe reaches is that 'seignueurial justice functioned effectively to allow village communities to regulate themselves', and that villagers preferred the mediation of their local lord to that of the central state. This localized view of 'justice' – where individuals choose to bring their complaints before a respected authority figure who was connected to them (by long established ties of fealty and patriarchy) rather than some distant, and distinctly *urban*, outside authority – echoes very loudly with the role of justices of the peace in England at this time.

The peasants of northern Burgundy were also very familiar with the process of 'going to Law' as Hayhoe's careful study of individual villages reveals. He rightly points out that the numbers of cases that reached the courts represents but the tip of a legal iceberg, for most people would have attempted to resolve their differences without recourse to the formality of law. However, as the author makes clear, most 'property-owning families could expect to be involved in a court case at least once or twice per decade, and virtually everyone [was] likely [to have] had a friend or relative who [had] been to court within the previous year or two'. Hayhoe might find it interesting to look at comparative caseloads from English petty sessions in the period, especially in Bath, London and the Essex countryside. Here too lower middling and plebeian persons were very familiar with the process of restorative justice and the mediation of disputes.

Hayhoe's work demonstrates that rural communities in Burgundy in this period were keen to regulate their own affairs as much as possible. Thus we see that they made important decisions about the use of common land, taxation and the election of local officials. They appeared at the assizes to prosecute and participate in the judicial process and were, like their contemporaries in England at this time, seemingly well versed in the intricacies of the law. Villagers welcomed the authority that the courts could bring, recognizing that the factional nature of village life could be divisive and hamper less formal attempts at conflict resolution. However, when attempts were made to impose unwelcome policies on rural communities (such as the prohibition on drinking alcohol in public), these were strongly resisted. As France neared revolution in 1789, it would seem that relations between the seigneurs and the village communities were more strained, with less acceptance of the right of these aristocrats to use the justice system to control and tax their populations.

This a well researched and impressive study which offers a fascinating view of rural France in the mid-to-late eighteenth century.

DREW GRAY
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JAN BIELEMAN, *Boeren in Nederland. Geschiedenis van de Landbouw, 1500–2000* (Boom, 2008). 671 pp., 45 figs., 84 illus., 72 tabs., 18 maps. €39.90.

Historically, the Dutch economy is mainly known for its commercial success. Names like the Dutch East India Company (VOC), and the Amsterdam Exchange Bank may come to mind, more recently (and perhaps less favourably) ABN Amro Bank. Less obvious, but perhaps even more remarkable, however, are the achievements of Dutch farmers. Despite their nation's small surface and high population density, the Dutch are still among the world's largest agricultural exporters, at least in terms of value. Jan Bieleman's book traces the history of this extraordinary success over the past half millennium.

Population densities, which were already high in the Low Countries during the middle ages, were in fact one of the main reasons why Dutch farming became so productive. Urban markets, first in Flanders and Brabant, later in Holland, provided opportunities for farmers in their immediate hinterlands. The soils in those hinterlands were not particularly suited for grain growing, and, as a result, the agricultural sector in these parts switched at an early stage to industrial crops, such as hops, flax and madder, as well as cattle breeding and dairy farming. All this helped to make Dutch agriculture highly commercialized at a relatively early stage. Dutch farmers in the sixteenth century managed to achieve yield ratios that were attained only in the nineteenth century in many other parts of Europe. During the Dutch Golden Age the impact of the urban markets was felt not only in Holland itself, but also in the landlocked provinces that Jan de Vries, in his well-known *The Dutch rural economy in the Golden Age* (1974), pictured as peasant territory.

Bieleman goes on to demonstrate that the improvements of the Golden Age were maintained after prices declined during the second half of the seventeenth century. Dutch farmers sought their way out of problems through innovation. This would prove to be a recurring pattern. In the nineteenth century, when the Netherlands industrialized late, agriculture was, together with colonial profits, the mainstay of the Dutch economy, and Dutch industrialization was in many regions an off-shoot of the agricultural sector. In that era the early commercialization of Dutch agriculture proved to be an asset once again, as the effects of American grain imports had relatively little impact on Dutch farming, much of which had already moved into other products. The whole idea of applying new technology in farming practices was, moreover, already well-established in the Netherlands' village communities.

During the nineteenth century, a plethora of public-private initiatives also created a network of institutions devoted to the improvement of Dutch agriculture. One outcome was the establishment of a Veterinary School in Utrecht in 1821, later incorporated into the local university, and a special Agricultural Polytechnic in Wageningen in 1918, which would obtain university status in 1986. These two institutions were to provide cutting-edge knowledge and technology, as well as breeding specimens, for Dutch farmers. In 1935 a Department for Agriculture was created, providing the farming interest with a voice at the Cabinet table.

This produced more government intervention after World War II, when farmers were confronted with mounting labour costs and stagnant prices. Mechanization and increased business sizes were the two main strategies to combat this scissors effect on farmers' finances, supported by the government and farmers' organizations. The book has, on pages 354 and 482 two tell-tale pictures. In the first we see the labour force on a 100-hectare farm in 1905, which amounts to over thirty people. On the second we see a farming family of four, including two boys of primary-school age, who together with one hired hand managed to run a 75-hectare farm in 1980. The transformation of farms into agribusinesses was actively stimulated by the government, which in the 1960s took the lead in this process through massive *ruilverkavelingen*, or 'plot swaps', in which plots of agricultural land were re-distributed between farms to create large-size units suited for combines and other machinery, and also ruining the historical landscape in much of the country. The policy was repeated at European Union level by Sicco Mansholt, EU-commissioner 1958–1973, a former Dutch Minister of Agriculture, and one-time farmer himself. It was so successful that soon after all kinds of quotas had to be imposed to limit agricultural production, not mention the dumping of EU farm products on world markets.

*Boeren in Nederland* 'Farmers in the Netherlands' is a new edition of a book first published in 1992 as *Geschiedenis van de landbouw in Nederland, 1500–1950*. It contains a 100-page additional section on the post-war period, but the rest of the text has also been substantially revised. In many ways this is a new book, superseding its predecessor in all areas. The author is one of the Netherlands' best-known and most knowledgeable rural historians, much of whose work is unfortunately only available in Dutch. He has been employed in the Department of Agricultural History at Wageningen

University, a university devoted exclusively to agricultural studies, home of the famous Wageningen School of rural history, and the *AAG Bijdragen* with which many readers of this journal will be familiar. Bieleman was able to use a goldmine of books and articles, produced by his current and former colleagues. His own book, as a result, abounds with tables and graphs and detailed analyses of the agricultural developments in the various regions that Bieleman has used to subdivide his material. Although this regional focus allows him to do full justice to the variety of developments, it also somewhat obscures the larger patterns. Some might find the author's focus on farming methods and business models somewhat narrow. In spite of its title, this book about farmers is definitely not a social history of the farming community.

Nonetheless, this is the only comprehensive study of Dutch agriculture. Given the unique features of the sector in the Netherlands, and the excellent quality of the text, a translation into English would be most welcome. Perhaps some of the detail could be skipped, in favour of a more systematic discussion of the European background, against which this story so clearly stands out.

MAARTEN PRAK
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*De l'estime au cadastre en Europe. Les systèmes cadastraux aux XIXe et XXe siècles. Colloque des 20 et 21 janvier 2005 sous la direction scientifique de Florence Bourillon, Pierre Clergeot et Nadine Vivier* (Comité pour L'histoire Économique et Financière de la France, 2008). 423 pp., 20 figs., 16 illus., 9 tabs., 18 maps. €35.

It is about 45 years since I first set eyes on a French cadastral map. It was housed in the old taxation offices in Rouen and depicted the early nineteenth-century pattern of property units for a *commune* in the Pays de Bray whose marshes and uncultivated land had been divided, reclaimed and converted into improved pasture after the Revolution. That cluster of processes, set in a wider context, became the centrepiece of my first piece of research in historical geography. It also made use of cadastral revisions dating from the early and middle years of the twentieth century, as well as summaries for two dates in the second half of the nineteenth century. Detailed registers, indicating ownership, land use, land quality and tax to be levied, were complemented by cadastral maps. With a measure of patience that I now find unbelievable, I waded through vast amounts of cadastral data to chart the emergence of the Pays de Bray as a focus of livestock husbandry, dairying and cheese making. In later years, cadastral information entered into other projects but my youthful patience, which allowed information to be plotted parcel by parcel, had become very much a thing of the past.

In 1992, Roger Kain and Elizabeth Baigent edited *The cadastral map in the service of the state* (University of Chicago Press), which traced the history of land-ownership mapping in various parts of Europe and in colonial territories overseas. Their handsome book is now complemented by three volumes under the general title *De l'estime au cadastre en Europe*, which examine medieval, early modern, and nineteenth- and twentieth-century cadastral surveys, and assemble the proceedings of conferences held in June and December 2003 and in January 2005. The 20 essays that comprise the third volume explore the diversity of cadastral surveys in Europe, chart the 'invention' of the new cadastre in France after 1789, offer examples of land-ownership surveys in selected cities, and present wide-ranging reflections on cadastral experience.

Between 1718 and 1757 a cadastral survey, incorporating detailed investigation and recording of individual plots and buildings, was undertaken in the Duchy of Milan as part of the fiscal reforms introduced by Charles VI, Emperor of Austria. The Duke of Savoy instigated a comparable survey in adjacent territories between 1728 and 1738. Modern cadastral activities in continental Europe partly owe their origins to these enterprises but also to rather more generalized attempts to link taxation to land quality, use and ownership instigated in the Paris Basin, Corsica and many other parts of Europe during the eighteenth century. Napoleonic conquests brought versions of the French cadastral system to the Low Countries (F. K. Buisman), the German lands (W. H. Stein) and Italy (A. Buccaro). Projects to introduce cadastral surveys *à la française* in Spain (M. Perez Picaza) and Bosnia (A. Y. Kaya) were not successful, and the continental style of cadastral survey was not implemented in England and Wales, although tithe records and maps offer interesting points of comparison (R. Kain, E. Baigent and D. Fletcher).

The second cluster of essays traces French experience in some detail from the initial need to devise new forms of taxation to replace the diverse fiscal systems of the *ancien régime*, through very early nineteenth-century surveys of land use and quality from which tax levies were to be projected, to the harsh realization that every plot of land and every building in the country would have to be surveyed if this method for raising revenue were to be equitable and efficient. This massive task was completed in every *commune* in the land between 1828 and 1845 (N. Vivier) but soon became out of date as property changed hands or was consolidated or fragmented, as land uses changed, and as land was improved or abandoned. After lengthy debate, intricate revisions were introduced in the early twentieth century and after 1950, with new maps and registers being drawn up (S. Devigne).

Current cadastral information is now computerized in France and is subject to constant revision. Lawyers and property developers may undertake their enquiries at the click of a mouse (and payment of a fee) but for historians and historical geographers the muscle-building days of working with enormous registers that relate to earlier times are not over (P. Jaillard, M. Kasser).

The six essays that make up the third and final sections of this volume focus on early nineteenth-century cadastral surveys in Paris, Bordeaux, Naples and Rome, and revisit the on-going challenge of generating an accurate land-ownership record in France and Spain. The text of *De l'estime au cadastre* is complemented by an array of maps and facsimiles, eight of which are in full colour. The editors are to be congratulated for drawing an array of conference papers into a fairly cohesive book that will provide good service to researchers as a reference volume.

HUGH CLOUT
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LISA H. SIDERIS and KATHLEEN DEAN MOORE (eds), *Rachel Carson: legacy and challenge* (State University of New York Press, 2008). ix + 287 pp. $24.95.

Rachel Carson's final book, *Silent Spring*, deserves its reputation as a key text – if not *the* key text – of the environmental movement of the late twentieth century, at least as it developed in the western/developed world. Published in 1962 and serialized in *The New Yorker*, public reaction to Carson's warning about indiscriminate use of bio-accumulative and environmentally persistent pesticides forced governments in North America and Europe to acknowledge scientific concerns about ecological and human health risks. Lest we forget, to this day wild bird populations remain lower and cancer rates in humans higher (to mention just two of many impacts) thanks, in part, to persistence in the global environment and contamination of all food chains by the organochlorinated compounds against which Carson railed so eloquently.

The underlying premise of *Rachel Carson: legacy and challenge* is a sound one; essentially, that Rachel Carson matters. As Sideris and Dean Moore state in their introduction, 'It is difficult to overestimate the importance of *Silent Spring* in shaping our environmental consciousness'. However, the approach taken by Sideris and Dean Moore to demonstrate the significance of Carson and her writing is, at times, too woolly to be of much use to historians. Several of the essays in this book are light on analysis and/or new information and, instead, act more as tributes to Carson as exemplary 'green heroine'. For instance, Terry Tempest Williams' essay, 'One Patriot', links the terrorism of 11 September 2001 with the 'terrorism' of on-going environmental degradation. It doesn't work.

This book is one in a series focusing on 'environmental philosophy and ethics' and, thus, several essays examine Carson's writing, including her earlier books about the marine environment, in order to argue that she deserves a place within the pantheon of environmental ethicists, alongside the likes of Aldo Leopold and Albert Schweitzer. Collectively, these essays assert that Carson should not simply be classed as a scientist who used her already-established public profile as a popular science writer to rouse the world to the dangers of DDT and other organochlorinated pesticides. Instead, Carson should be seen as a writer with a sophisticated ecological vision of lasting relevance. These arguments are persuasive.

Rachel Carson's most important legacy is the change that occurred in public and official attitudes to pesticide use following the publication of *Silent Spring*. Indeed, it could be argued that Carson will one day come to be viewed by agricultural historians as one of the 'biggest' names in the history of industrial farming, although it is too early to be certain of this. Given the regulatory steps that were taken to restrict use of certain pesticides in North America and Europe after *Silent Spring* proved a bestseller, it is disappointing that this new book fails to discuss post-*Silent Spring* changes in the way farmers used chemical pest control products, or the way agro-chemical companies marketed pesticides, or the extent to which the environmental and human health impacts that pesticides bring have lessened or expanded. A four-page essay by David Pimentel on the 'ecological effects of pesticides on public health and on birds and other organisms' is frankly inadequate.

There remain many unanswered questions about the impact of widespread use of agro-chemicals during the second half of the twentieth century; surely, one or two essays focusing on what happened in the years prior to and after *Silent Spring* is not asking for too much. How quickly did routine aerial spraying of DDT over residential areas in America come to an end, for example? Is there any information about how farmers reacted to public fears about pesticide-laced food? If Joni Mitchell was singing about it in her hit song *Big Yellow Taxi*, we know this was an issue discussed by people up and down the land.

Anyone interested in learning more about Rachel Carson as an environmental ethicist should take a look at this book. However, those seeking a better understanding of Carson's life and body of work would do better to read Linda Lear's painfully comprehensive biography, *Rachel Carson: witness for nature*.

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# Conference Report
# The Society's Winter Conference, 2008
# Weather, climate change, and British farming in historical perspective

*by* Jean Morrin

Whilst attendance at the Winter Conference is never small, this meeting on weather, climate change and agriculture perhaps caught the mood of the moment, and made this the best-attended winter conference of recent years. Those present heard the broad issues approached from a number of perspectives, from an account of a single notably hard winter through to the implications of medieval climate change on a world scale for medieval British agriculture. Even so none of the papers removed from consideration the people who experienced these changes, be they episodes of bad weather or climate shifts: it was all too easy to imagine them cold, damp and frequently hungry.

Steve Rippon, University of Exeter, opened the conference with a fascinating paper which demonstrated the value of interdisciplinary studies for the interpretation of past landscapes. As an archaeologist, he advanced the theory that it was landlords' investment policies in response to demand, rather than climate change and the market, that shaped settlement decisions in English wetlands. His study focused mainly on the North Somerset levels adjacent to the Severn estuary which has the third highest tidal range in the world (Clevedon, 14m). Fieldwork involved cutting sections through the North Somerset levels to collect specimens of plant and animal remains which had been well preserved in the waterlogged conditions. Subsequent analysis of pollen grain revealed that this wealthy, marshy area had been settled and farmed in the Roman and early medieval periods, both moments of favourable dry and warm climate. After the late Roman period the site was abandoned and reverted to salt marsh. Rippon acknowledged that the development followed by abandonment might be attributable to lower sea levels in the Roman period and then flooding caused by worsening weather, but advanced the alternative theory that the decision to settle the wetlands was managerial and the result of population pressure under the Roman Empire which made the investment in protective sea walls worthwhile. By contrast, once the Roman Empire collapsed, there was no longer the financial incentive to invest. In support of his thesis, he cited the Essex coastal marshes where very different management decisions had been taken in the Roman period despite similar climatic conditions.

Bruce Campbell, Queen's University, Belfast, had no doubt that weather was the most important factor in agricultural success or failure. Campbell reported the results of a project on the growth patterns of oak trees, climatic statistics and data from manorial accounts of 1270–1470. Campbell stated that the dendrochronological techniques used in the study to detect when oaks had flourished in the past had previously been under-utilized in Britain and he showed how their study contributed to our understanding of grain yields. Oaks grow best when a mild summer follows a wet winter: the reverse is true for grain. Campbell's temperature graphs beginning with cooling events after 1270, certainly fuelled fears of global warming as 25-year moving averages were flat until the last few decades of the twentieth century when a marked upward trend was apparent. The research indicated a very strong link between cold weather, poor harvest yields and disease. Demographic crises occurred when both the wheat and oat crops failed to deliver: both crops had poor yields from 1270–1350. During 1349–50 yields were very poor, 1351 was the coldest year in the

last 1000 years at the same time as the Black Death was killing millions. The loss of a third of the workforce as a result of the Black Death restricted marling, manuring and weeding the arable land. Marginal land cultivation was abandoned as poor harvests hit in particular small producers who had no seed and faced high prices for it. Campbell stressed that big environmental dislocations were associated with disease, and not just in the case of the plague. The influenza epidemic of the 1550s (identified by Jack Fisher) also followed two dreadful harvests.

Mary Young and Karen Cullen, Dundee University, engaged with a much shorter period of time, analyzing the impact of exceptionally cold weather in Scotland from 1670–1700. Two periods, 1673–5 and the 1690s, in particular were discussed. Storms and a flood surge drowned so many sheep on the shores of Solway Firth in 1673 that rebuilding flocks took years. A real subsistence crisis dominated much of Scotland in 1674–5 . The paper then argued that Scottish conditions in the 1690s were worse than had previously been acknowledged, citing evidence of mothers too hungry to suckle infants and people collapsing in the streets. Supporting evidence was drawn from the normally sheltered and settled area of the Carse of Gowrie where corn from seed yields in the 1690s fell from 3:1 to 1.75:1 leaving small farmers with no seed and little to eat after paying the rent. Storms in 1697 also prevented the gathering of the crops. Entries in Scots parish registers reveal that the demographic impact in the 1690s hit strangers or travellers especially hard. The crisis impacted on the wider British Isles when Scots were paid to move to Ulster. Young and Cullen argued that the impact of the disasters of the 1690s was not solely demographic but also social and psychological, as the Church of Scotland preached that the dearth was God's judgment on a sinful nation. There was a revival of superstition and of the belief that witchcraft had brought about the dreadful weather and the great increase in mortality of that decade.

In the concluding paper, John Martin, De Montfort University, considered the impact of one year, 1947, when snow and very low temperatures followed by flood brought the British economy to a standstill. Snow fell from January to mid-March while, in the month of February, there was unbroken cloud cover and the mean temperature was a very low –1.9 °C. Martin suggested that the lack of sun was partly due to the bombing of Japan as dust in upper atmosphere stopped sunlight reaching earth. To compound the problem, the eventual thaw led to flooding in the Thames Valley, the Fens and the Severn valley. Spring sowing was delayed and curtailed so the impact continued. In Martin's opinion, the economic and political consequences of the winter of 1947 have not been fully considered by historians. The economic impact was greater as world food production had not recovered from its lower wartime levels. In Britain the weather of early 1947 led to the loss of 4 million sheep, 50,000 cattle and 40,000 tons of potatoes. Martin acknowledged that animal losses were mainly due to the severe weather, but suggested that government restrictions on transporting feed had a significant impact. Martin argued that the reputation of the Labour government also suffered as it was expected to achieve rising living standards whereas the new chancellor, Stafford Cripps, advocated a reduction in civilian consumption to promote exports and stabilize sterling. Thus the consequences of this environmental disaster contributed to the Labour Government's failure to be re-elected in 1951.

The day ended with thanks to Jane Whittle for organizing such a stimulating and topical conference on the impact of extreme weather on Britain. As we left the Institute of Historical Research and made our way home on a pleasant mild Saturday afternoon, a few doubtless gave silent thanks for being born in an age of generally consistent and benign weather, and wondered how long it might last.

# THE AGRICULTURAL HISTORY REVIEW



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# Notes on Contributors

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ALUN HOWKINS has recently retired as Professor of Social History at the University of Sussex. NICOLA VERDON is Senior Lecturer in History at the same institution. They have both written widely, separately and more recently together, on various aspects of the history of the farm worker in Britain in the nineteenth and twentieth century. Contact address: Department of History, University of Sussex, Falmer, Brighton, BN1 9SR; email: A.J.Howkins@sussex.ac.uk, N.J.Verdon@sussex.ac.uk.

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TIMOTHY P. NEWFIELD is a PhD Candidate in the Department of History at McGill University (Montreal, Canada). His PhD dissertation draws on textual and material evidence to examine the disease, hunger and weather of Carolingian Europe. The paper published here stems from his MA dissertation on cattle disease in the early fourteenth century. He is preparing two other papers on the fourteenth-century cattle panzootic, one of which addresses the prevalence of the disease in areas of Europe where detailed evidence is not available and the other addresses the pestilence's diagnosis in depth. Contact address: Dept. of Hist., McGill University, Leacock Building, 855 Sherbrooke St. West, Montreal, QC, Canada; email tim.newfield@mail.mcgill.ca.

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# Forthcoming Conferences

## Winter Conference 2009

## The history of rural housing: new approaches to old problems

The Society's Winter Conference will be held at the Institute of Historical Research, Senate House, Malet St., London WC1 on Saturday 5 December 2009.

The speakers are Dr Will Brown and Dr Margaret Yates on 'Houses, history and cybernetics: the challenges of an inter-disciplinary project'; Professor Matthew Johnson on 'Traditional buildings, social lives: rural houses from the Reformation to the Georgian Order'; Dr John Broad on 'The nineteenth-century rural housing crisis: motives and perspectives' and finally Dr Barbara Linsley on 'Rural housing in a recession: affordable housing in the twentieth and twenty-first centuries'.

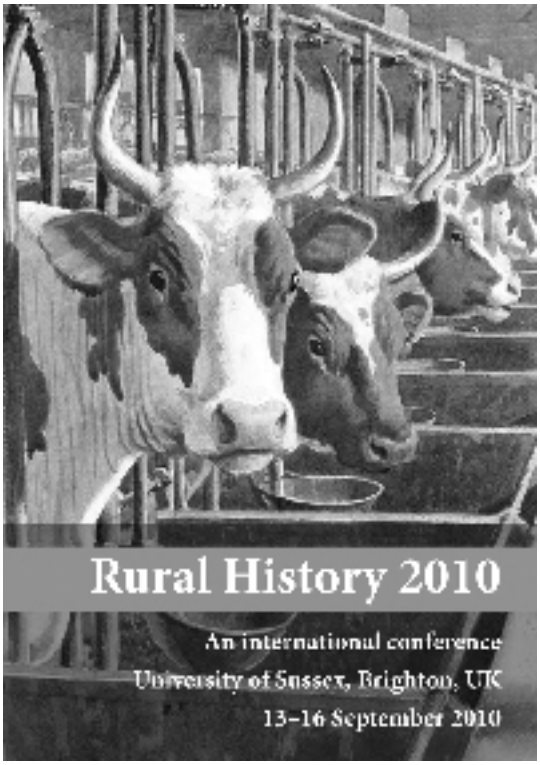
## Spring Conference 2010

The Society's Spring Conference will take place at St. Mary's College, University of Durham, from 29 March to 31 March 2010. Speakers will include Angus Winchester (Lancaster) on contested commons; Carsten Rasmussen (Aarhus University, Denmark) on manors in Denmark, 1500–1800; Jonathan Healey (Oxford) on early modern communal farming; Carl Griffin (Belfast) on Captain Swing; and Hilary Crowe (Cambridge) on inter-war upland farming. There will also be a New Researchers' session and annual fieldtrip.

Details of the conference and registration papers will be mailed to members of the Society in January 2010, when they will also be posted on the society's website. Research degree students in the fields of rural and agrarian history may apply for a bursary that will cover the costs of the conference, but not travel expenses, and should make their application to the secretary of the society by letter or email (n.j.verdon@sussex.ac.uk) giving their reasons for wanting to attend the conference and providing a supporting letter from their supervisor. The closing date for bursary applications will be Monday 1 March 2010.

# Rural History 2010

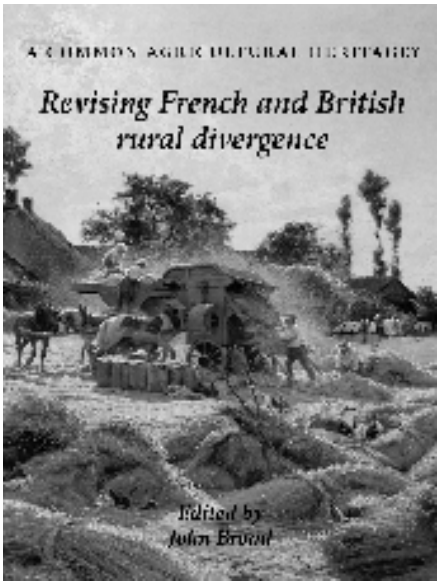
University of Sussex, Brighton, 13–16 September 2010




The full call for papers, which closes on Monday 11 January 2010, can be found at www.ruralhistory2010.org.

# *A common agricultural heritage? Revising French and British rural divergence*

Edited by John Broad




*Agricultural History Review* is pleased to announce the publication of its fifth supplement containing 13 papers on Anglo-French themes. It launches a new stage in rural historiography, by showing that England (and certainly Britain) was not as capitalist as is often supposed, and France far from backward. These essays strengthen our understanding of each nation's agrarian history by showing how they responded in similar ways to the same challenges and opportunities.

The authors

Annie Antoine • Gérard Béaur • Alain Belmont • Richard Britnell • John Broad
John Chartres • Jean-Michel Chevet • Peter Dewey • Alun Howkins • Florent Quellier
Joan Thirsk • Michael Turner • Nadine Vivier • Susanna Wade Martins

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# A cattle panzootic in early fourteenth-century Europe*

*by* Timothy P. Newfield

*Abstract:*
In the early fourteenth century, annals, chronicles, correspondence, petitions, and poems all document severe mortalities of cattle in regions as distant as Mongolia and Iceland. Relevant passages from this literature are collected here and used with manorial accounts from England and Wales to illuminate a European cattle panzootic that spread west from central Europe *c.*1315, in the context of a widespread subsistence crisis (the Great European Famine), persisting in Ireland until *c.*1325. The origins, duration and extent of the pestilence are considered and a relatively detailed picture of its epizootiology is drawn. How the panzootic might be retrospectively diagnosed and why a diagnosis should be attempted is also discussed.

> It grieves me and my convent that we are not able to help you more generously, for within the last year and a half we have lost more than a thousand oxen, cows and other cattle.[1]
>
> Henry of Eastry, Prior of Christ Church, Canterbury, to Edward II, 5 March 1321

During the Great European Famine of 1314–22, which affected much of central, northern and north-western Europe, an acute and infectious disease began to devastate cattle.[2] Between *c.*1315

* I am indebted to Richard C. Hoffmann who supervised my MA dissertation, '"A great destruction of cattle": the impact and extent of epizootic disease in early fourteenth-century north-western Europe' (University of Toronto, 2005–6) and provided additional help with this study. Bruce M. S. Campbell, who also encouraged the project from the beginning, read several drafts and provided access to some of his unpublished data. Philip Slavin likewise read a draft, offered much help and provided access to some of his unpublished data. Additionally the paper benefited from the comments and advice of Faith Wallis, Richard Thomas, Nancy Prior, Dan Mc Carthy, Peter Roeder, Jeff Hartman and Briony Aitchison. Remaining inaccuracies are my own. The research and writing of this paper would not have been possible without the assistance of the Social Sciences and Humanities Research Council of Canada.

[1] '… quar nous avoms perdu deinz cest an et demy pluis qe mil boefs et vaches et alters bestes'. J. B. Sheppard (ed.), *The letter books of the monastery of Christ Church, Canterbury* (3 vols, 1887–89), I, pp. 58–9.

[2] On the famine see W. C. Jordan, *The Great Famine: Northern Europe in the early fourteenth century* (1996); H. S. Lucas, 'The Great European Famine of 1315, 1316 and 1317', *Speculum* 5 (1930); I. Kershaw, 'The Great Famine and agrarian crisis in England, 1315–22', *Past and Present* 59 (1973); M. Desai, 'The agrarian crisis in medieval England: a Malthusian tragedy or a failure of entitlements?', *Bull. of Economic Res.* 43 (1991); M. Davis and J. Kissock, 'The feet of fines, the land market and the English agricultural crisis of 1315 to 1321', *J. Hist. Geography* 30 (2004) p. 218; B. M. S. Campbell (ed.), *Before the Black Death: studies in the 'crisis' of the early fourteenth century* (1991).

and *c.*1325, the outbreak infected areas as distant as Bohemia and Ireland. As Henry of Eastry indicates, truly massive losses of cattle were incurred and some of Europe's wealthiest landowning establishments were affected. Despite the neglect of pre-modern livestock pestilence by modern historians, outbreaks of infectious disease among domestic bovines were not unknown in classical, medieval or early modern times. There is certainly no shortage of references to cattle pestilences in the annals and chronicles of medieval Europe.[3] Written evidence of disease among cattle is particularly abundant in the early fourteenth century. In the first third of that century large mortalities of cattle are reported in areas as far apart as Mongolia and Iceland. Nothing like this is known to have occurred before.[4]

This cattle mortality was by definition a panzootic: a large, trans-boundary outbreak of disease not afflicting humans.[5] Though its consequences for human populations have yet to be considered in detail, it is highly probable that a sudden and massive mortality of cattle would have had a significant and many-faceted impact on early fourteenth-century European economy and society. With a mortality rate in affected herds averaging around 60 per cent and on occasion reaching 100 per cent, as demonstrated below, this cattle pestilence undoubtedly represented a staggering loss of capital, and of the traction and manure necessary for contemporary agrarian economies. Though losses appear to have been neither universal nor consistent among affected farming operations, it seems most herds were not rapidly repaired. Restocking could take five years, a decade, or more.[6] Outside of the Low Countries and regions of eastern England horses had not widely replaced oxen as the primary draught animal.[7] Moreover, the manure of cattle, which was necessary for fertilizer, could be only partially substituted in the immediate wake of the panzootic with sheep dung, legumes, pond muck and other alternative

[3] G. Fleming, *Animal Plagues* (1871), pp. 33–122; C. A. Spinage, *Cattle plague: a history* (2003), pp. 81–101.

[4] With limited knowledge of the temporal and spatial parameters of the pestilence, some scholars have already considered the outbreak 'totally unknown'. R. Britnell, *Britain and Ireland, 1050–1530: economy and society* (2004), p. 492; Jordan, *Great Famine*, p. 39; Desai, 'Agrarian crisis', p. 253. Evidence sufficient enough to articulate in any detail or certainty the extent and impact of earlier pan-European livestock pestilences may not exist. Of course, large panzootics occurred in the eighteenth and nineteenth centuries. Spinage, *Cattle plague*, pp. 103–216 and L. Wilkinson, *Animals and disease: an introduction to the history of comparative medicine* (1992).

[5] A panzootic is the animal equivalent of a human pandemic, epizootiology is the equivalent of epidemiology, and epizootic is the equivalent of epidemic.

[6] Restocking may have been particularly difficult in the English environment of heavy taxation and purveyancing. If the panzootic hit major cattle producing regions, the situation would have only been worse. Ultimately, variation in restocking should be expected and would have resulted from differences in purchasing power, fear of losing cattle again to disease and, importantly, the desire to fully repair herds. While some herds were repaired by the mid- to late 1320s, most it seems were not. B. M. S. Campbell, 'The land' in R. Horrox and W. M. Ormrod (eds), *A social history of England, 1200–1500* (2005), pp. 184–5. Other reasons may also account for slow recoveries, see P. Slavin, 'Between death and survival: Norfolk cattle, *c.*1280–1370', *Fons Luminis*, 1 (2008), p. 26. A. R. Bridbury's suggestion that animal losses would have been quickly repaired appears to be based on the restocking rates of sheep at Bolton Priory and is, consequently, poorly founded. Sheep reproduce more rapidly than cattle and were significantly cheaper. Moreover, it is still unknown whether sheep were as affected as cattle during the Great European Famine and therefore if sheep were harder or easier to acquire. It must not be forgotten, however, that flocks and herds in the north of England were also subject to Scottish raids during the famine year and that the impact of these raids on livestock numbers is difficult to gauge. 'Before the Black Death', *EcHR* 30 (1977), p. 403, n. 1.

[7] Of course, the panzootic's impact would have been more marginal in those areas where horses supplied traction.

soil and plant stimulates; and in any case sheep had died in large numbers *c*.1315.[8] As the panzootic threatened the ability to cultivate and fertilize, it may have had serious repercussions for human populations. Keeping in mind that the prevalence and impact of the infection varied, the pestilence may have extended the Great European Famine in some regions and contributed – via grain shortages, lost spending power, and malnutrition – to human mortalities and a higher incidence of disease.[9] In areas of Europe where the panzootic and the heavy precipitation of *c*.1314–17 coincided, and in which the horse had not widely replaced the ox, grain supplies would have suffered tremendously.

This great outbreak of disease remains largely uninvestigated. Its appearance in England *c*.1320 has, however, received some attention amongst writers on medieval English agriculture and economy.[10] That the outbreak was panzootic in scale has yet to be argued and detailed assessment of the origins, duration, extent, mortality and diagnosis of the pestilence, as well as its impact on human and other animal populations, is needed. Philip Slavin is preparing a study that will address the outbreak and its effects in England and parts of Wales.[11] Based primarily on data collected from unpublished manorial accounts, his study will supplement this paper, which synthesizes data already extracted from manorial accounts and published in various articles and monographs. In addition to this manorial evidence there exists a large body of other written evidence in annals, chronicles, correspondence, petitions, and poems from central, northern and north-western Europe.[12]

[8] On sheep mortalities in England during the Great European Famine, see Kershaw, 'Great Famine', pp. 14–5, 20–22, 24, 27–32, 46.

[9] Stocking densities of cattle and horses influence yields far more than those of sheep or swine. Mortalities of plough animals could significantly reduce a harvest, raise prices and cause subsistence crises as well as result in vacant holdings and shortages of tenants. Kershaw, 'Great Famine', p. 42; Desai, 'Agrarian crisis', 246, 256–7; D. Stone, *Decision-making in medieval agriculture* (2005), p. 67. We must not, however, be too deterministic. Cattle mortalities meant good business for those with plough horses to rent or sell. The ability of fourteenth-century farmers to actively absorb crises by effectively managing their operations in response also cannot be dismissed.

[10] This is result of the panzootic being readily apparent in manorial accounts across England as Ian Kershaw emphasized in 1973. Though limited, Kershaw's account of the pestilence is the most thorough to date, 'Great Famine', pp. 14–5, 24–6, 28–9, 32 n. 159, 34, 42, 45. Also see B. M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), pp. 23, 167–8, 233, 416–7; C. Dyer, *Making a living in the middle ages: the people of Britain, 850–1520* (2002), pp. 229; id., *Standards of living in the later middle ages: social change in England, c.1200–1500* (1989), pp. 40–1; M. Bailey, 'Peasant welfare in England, 1290–1348', *EcHR* 51 (1998), p. 241; id., *A marginal economy? East Anglian Breckland in the later middle ages* (1989), p. 201; Stone, *Decision-making*, pp. 46, 54, 66, 72; id. 'Medieval farm management and technological mentalities: Hinderclay before the Black Death', *EcHR* 44 (2001), pp. 629–30; John Langdon, *Horse, oxen and technological innovation: the use of draught animals in English farming from 1066 to 1500* (1986), pp. 164–8; M. Mate, 'High prices in early fourteenth-century England: causes and consequences', *EcHR* 28 (1975), p. 12; S. H. Rigby, 'Introduction: social structure and economic change in fourteenth-century England' in Horrox and Ormrod (eds), *Social history of England*, pp. 14, 18; J. E. T. Rogers, *Six centuries of work and wages* (1903), p. 217; Slavin, 'Death and survival', pp. 15, 36, 40–51.

[11] Also see B. M. S. Campbell, 'Nature as historical protagonist: environment and society in pre-industrial England', *EcHR* (forthcoming).

[12] To varying degrees, Lucas, Kershaw and Jordan demonstrated that sources of this nature survive. Lucas, 'Great European Famine'; Kershaw 'Great Famine'; Jordan, *Great Famine*. Before these authors, F. Curschmann presented some textual evidence of the cattle pestilence in his *Hungersnote im Mittelalter* (1900) as did Fleming, *Animal Plagues*. This paper builds upon the work of these scholars. Price indices, constructed primarily from manorial accounts, also exist, though in general prices are not accurate proxies for the pestilence's geographical or temporal dissemination. Nor are they a reliable indicator of the magnitude of losses sustained. Many variables

This paper argues that when used with manorial accounts, non-manorial evidence permits not only the articulation of the contours of the panzootic – the origins, duration and extent of the disease outbreak – but also the panzootic's epizootiology, namely the species it affected, the spatial and temporal contours of its dissemination, its morbidity, and its mortality. The paper argues that consideration of these matters, while providing a fuller appreciation of the pestilence, may provide a basis for a retrospective diagnosis. Several scholars concerned primarily with English mortalities of cattle *c.*1320 have already attempted to identify the disease.[13] All existing diagnoses are, however, unsubstantiated. None are rooted in any examination of the epizootiology of the fourteenth-century pestilence let alone the epizootiology of the diseases diagnosed. Unfortunately, many diagnoses of pre-modern outbreaks of disease, like Alexandre Yersin's identification of the Black Death with bubonic plague, have been made on little or no scientific basis and are in need of reappraisal.[14] Such unsupported diagnoses can mar our understanding of the severity and extent of the past pestilence and of the pathogens superimposed onto it. Analysis of both the epizootiology of the early fourteenth-century panzootic and of 'modern' pathogens,[15] indicates that the rinderpest virus – of all pathogens known to modern science – was the most likely cause of the panzootic, as Ian Kershaw suggested in 1973. Though this diagnosis remains speculative, it may provide direction for an interdisciplinary examination of the pestilence's identity and, potentially, a confirmed diagnosis, which in turn could serve to supplement and check what written evidence of all types reveals of the panzootic.

This paper proceeds in three stages. Since it has yet to be established that the cattle mortalities seen in English manorial accounts *c.*1320 were a part of a pan-European event, or that a panzootic occurred in the early fourteenth century, it is necessary in the first instance to present the literature in which the pestilence appears. The evidence of cattle mortalities between *c.*1300 and *c.*1335 from annals, chronicles, correspondence, petitions, and poems in Mongolia, Russia, Bohemia, Germany, Denmark, France, the Low Countries, England, Wales, Scotland, Ireland, and Iceland is put forward.

Note 12 *continued*
affect prices. Price fluctuations in a region may reflect speculation and fear of disease, the effects of large cattle losses in neighboring regions, or totally unrelated phenomena. cf. Jordan *Great European Famine*, p. 204, n. 114. As Mavis Mate pointed out, the price of cattle in England rose markedly in the early fourteenth century, before the panzootic arrived; 'High prices', pp. 1, 7–8. The health of animals sold is also often unknown. Irregularities in cattle, hide and grain imports and exports as well as labour inputs *c.*1320 may also tell of the pestilence, though these too are affected by a variety of variables. While no veterinary or agricultural treatise is known to mention the panzootic, some early fourteenth-century legislation against the selling of diseased meat survives in England. E. L. Sabine, 'Butchering in mediaeval London', *Speculum* 8 (1933), p. 337. Philip Slavin also finds that medieval masses against livestock disease appear in greater abundance in English missals during the early fourteenth century.

[13] For rinderpest, the favourite diagnosis to date, see Kershaw, 'Great Famine', p. 24; for anthrax see M. Lyons, 'Weather, famine, pestilence and plague in Ireland', in E. M. Crawford (ed.), *Famine: the Irish experience, 900–1900. Subsistence crises and famines in Ireland* (1988), p. 43; for foot-and-mouth disease, see A. Grant, 'Animal resources' in G. Astill and A. Grant (eds), *The countryside of medieval England* (1988), p. 154, and Astill and Grant, 'Medieval countryside', in the same volume, p. 216. I am preparing a full review of the diagnosis of the panzootic.

[14] S. K. Cohn, Jun. *The Black Death transformed: disease and culture in early Renaissance Europe* (2003), p. 8.

[15] Pathogens known to modern science, which may also have existed historically.

In the second part of the paper, we discuss how much of this material pertains to one outbreak of infectious disease, and the English outbreak of *c.*1320 – which is well documented in manorial accounts – is set in its pan-European context. The panzootic's European origins are placed in central Europe *c.*1315. Consideration is also given to why the pestilence irrupted near the onset of the Great European Famine, how long it may have persisted and how it spread.

Lastly, the paper illustrates how manorial and non-manorial evidence may serve to reveal the panzootic's epizootiological properties. Problems of interpreting non-manorial evidence, how manorial accounts complement and confirm other written evidence, and why an understanding of the panzootic's epizootiology may facilitate a retrospective diagnosis of the outbreak are discussed. As the practice of superimposing modern infections onto a pre-modern disease occurrence is far more complicated than is commonly thought, and requires much consideration, the remarks made here regarding the panzootic's identity are tentative. That said, there is more evidence for rinderpest in this panzootic than any other pre-modern European mortality of cattle.[16]

## I

At present, it seems that the first decades of the early fourteenth century should be regarded as exceptional for evidence of disease among cattle. Equally bountiful bodies of evidence pertaining to a cattle pestilence in earlier centuries or later in the fourteenth or fifteenth century are not currently known.[17] Manorial accounts illuminate pestilential cattle mortalities in England in the account years 1318–19, 1319–20 and 1320–1. In the mid-1320s and '30s they again reveal notable losses of cattle, though not on a scale like that witnessed earlier. Annals, chronicles, correspondence, petitions, and some popular literature illuminate outbreaks of infectious disease among cattle not only in England in these years but in various regions of central, northern and north-western Europe as well as areas east of Europe between *c.*1300 and *c.*1335. While less written material may survive from periods of famine, the number of references to disease among cattle rises dramatically in the early fourteenth century, particularly during the Great European Famine and particularly in England. The predominance of England in the following pages should not be interpreted as an indication that the disease was more prevalent in England than elsewhere but simply that the majority of the known evidence is English. Certainly more continental (as well as insular) evidence will come to light yet. The value of the continental literature collected here certainly cannot be down-played, regardless of the fact that it provides far less detail than the English and Welsh manorial accounts. More attention to the dating of the composition of some of the continental texts assembled below is required, but it seems clear that most, including those documenting cattle pestilences *c.*1300–10, were contemporary or near contemporary. Of course, regardless of how contemporary a text may

[16] See comments on supposed rinderpest outbreaks in the 370s, 590s and 810s in Newfield and Slavin, 'Cattle pestilences in pre-industrial Europe', in preparation.

[17] Fleming, *Animal plagues*, pp. 97–117; Spinage, *Cattle plague*, pp. 84. H. Harrod's work on Heacham (Norfolk), which begins in 1347, gives no indication of significant mortalities of cattle. 'Some details of a murrain of the fourteenth century, from the court rolls of a Norfolk manor', *Archaeologia* 41 (1867), pp. 1–14.

be, or how straightforward a passage may seem, the interpretation of the material collected here can be quite difficult. Problems in the reading of these texts, regarding for example vague geographical and temporal parameters and indications that the disease affected multiple species, are addressed below.

What follows is more or less a catalogue of textual evidence pertaining to disease in cattle in the early fourteenth century. From this catalogue the origins, duration, extent and epizootiology of the fourteenth-century cattle panzootic will be articulated. The evidence is presented chronologically and two periods can be discerned: one spanning *c*.1290–*c*.1310 and concerning central Europe, and areas east; and another spanning *c*.1315–*c*.1325 and concerning central, northern and north-western Europe.

Under the year 1298, a set of late medieval annals from central Europe records a 'general pestilence of animals throughout all of Poland'. In the same year a text from the Alsace region of France (Colmar) documents a 'great mortality of oxen'.[18] In 1299, the *Chronicon Elwacense*, from Ellwangen in south-central Germany, writes that 'a pestilence of animals predominated most gravely though all the lands' and in 1300 the *Annales Endorfenses*, from Ensdorf Abbey in Bavaria, states that 'the greatest pestilence of animals and especially of cows arose throughout the whole world'.[19] The disease affecting cattle in these regions may have made its way north, for in 1300 the *Annales Essenbecenses* (Randers, Denmark) notes 'a great indulgence in Rome and a pestilence of cattle' and another text, though possibly not contemporary, records that 'all the cattle in Jutland died'.[20] The *Annales Essenbecenses* and an additional northern European text documents a 'pestilence of cattle' in 1308, and the 'greatest pestilence of cattle in Denmark' is found in 1310 in yet another chronicle.[21] In the same year the central European *Annales Matseenses* (Mattsee, Austria?) writes of a 'great pestilence of humans, cattle and cattle herds'.[22]

Further east, *Yuan Shi*, a fourteenth-century collection of Chinese chronicles from the Yuan Dynasty, which ruled China and Mongolia between 1271–9 and the 1360s, records multiple outbreaks of disease among cattle in Mongolia between 1288 and 1331. The Russian chronicle *Lavrent'evskaya Letopis'* also documents a cattle pestilence in 1298 and the Russian *Moskovskii Letopisnii Svod* reports a pestilential mortality of cattle in 1309. Additionally, two Persian authors note that 'all the cattle died' during the reign of Tohtu Khan (1291–1312).[23]

[18] Unless otherwise noted, the translations of Latin passages presented here are my own. 'Generalis pestilencia animalium in tota Polonia', in G. H. Pertz (ed.), 'Annales Polonorum', *MGH SS*, XIX (1866), p. 652; 'Mortalitas magna extitit et commestio boum prohibebatur', in id., 'Annales Colmarienses majores A. 1298, 1299' *MGH SS*, XVII (1861), p. 224.

[19] 'pestis animalium per omnes terras gravissime invaluit', in id., 'Chronicon Elwacense edente' *MGH SS*, X (1852), p. 39; 'maxima pestilentia animalium et maxime vaccarum per totum mundum suborta est', in id., 'Annales Endorfenses' *MGH SS*, X (1852), p. 6.

[20] 'Indulgentia magna in Roma. Pestilentia pecorum', in E. Jorgensen (ed.), 'Annales Essenbecenses', *Annales Danici medii aevi* (1920), p. 148; 'omnia pecora in Gutlandia moriebantur', in J. Langebek (ed.), 'Annales fratrum minorum Wisbyenses ab An. 67 ad 1525', *Scriptores rerum Danicarum* (9 vols, 1772–1878), I, p. 257.

[21] 'Pestilentia pecorum', in Jorgensen (ed.) 'Essenbecenses', p. 148; 'pestilentia pecorum', in J. Langebek (ed.), 'Chronologia rerum memorabilium ab anno 1020 usque ad an. 1323', *Scriptores rerum Danicarum*, II, p. 528. These texts may be independent. 'fuit maxima pestilentia pecorum in Dacia', in J. Langebek (ed.), 'Chronicon breve Danicum, 1275–1347' *Scriptores rerum Danicarum*, VI, p. 253.

[22] 'Pestilentia hominum et pecorum atque pecudum facta est magna', in G. H. Pertz (ed.), 'Annales Matseenses' *MGH SS*, IX (1851), pp. 825.

[23] Badr ad-Din al-'Aini (1361–1451), V. G. Tizengauzen (trans.), *Istoriya Kazakhstana v Arabskikh Istochnikakh* (2005), p. 359; 'Patriarshaia ili Nikonovskaia Letopis'

A short time later, deaths of cattle from disease are found in an incredible array of texts from further west.[24] In addition to these sources, many central, northern and north-western European annals and chronicles vaguely report a 'severe pestilence' sometime between 1315 and 1319.[25] These texts, which do not specify the species that were infected, have long been thought to refer to outbreaks of disease among malnourished humans. While this may certainly be true, it is not implausible that they refer to deaths of other species, particularly during the famine when cattle and sheep also died en masse. Nevertheless, it is impossible to discern whether any ambiguous *lues*, *pestis*, *pestilentia* or *mortalitas* documented in these years refers to a pestilential mortality of cattle. Consequently, the focus here is on texts that explicitly refer to deaths of cattle or 'animals'.

A text from Bohemia documents a 'pestilence of humans and heavy animals' under the year 1314. 'Heavy animals' presumably refers to cattle, particularly oxen.[26] The near-contemporary *Chronicon Regiae Aulae*, written at the Cistercian monastery at Königsaal (Zbraslav) near Prague by Peter of Zittau (*c.*1275–*c.*1339), records that in 1316 a pestilence 'killed horses, sheep and oxen, and all the cattle of the field'.[27] In the same year a chronicle from central Germany reports that 'there was a great famine and a large pestilence of oxen and cattle'.[28] Likewise in 1316 Johannes de Beka, a fourteenth-century clerk of the diocese of Utrecht, writes that a 'mortal pestilence bristled and famine became great, to the extent that many poor – if it's all right to say – were gnawing on the raw corpses of cattle just like dogs'. Though it is unclear if the cattle Beka refers to died from disease, it is unlikely that there would have been an abundance of dead cattle for the poor to eat had cattle not died in large numbers from disease. Beka continues to note that people were reduced to 'consuming the grasses of meadows raw just like oxen', which may imply that the disease did indeed kill cattle and that fields were left relatively bare.[29]

Note 23 *continued*
in *Polnoe Sobranie Russkikh Letopisej*, X (1885), p. 171; 'Moskovskij Letopisnyj Svod Kontsa XV Veka' in *Polnoe Sobranie Russkikh Letopisej*, XXV (1949), p. 159; D. Morgan, *The Mongols* (1987), p. 165. I thank Philip Slavin for these references.

[24] Note that Irish annals also document cattle mortalities in 1296 (*Annals of Innisfallen*), 1298 (*Annals of Ulster*), 1302 (*Annals of Connacht* and *Loch Cé*) and 1308 (*Annals of Connacht, Loch Cé*, and *Annals of Clonmacnoise*). This, however, should not confuse the articulation of a cattle panzootic spreading east-west *c.*1315–25, as these entries are nearly all attributed to poor weather, not disease, and as notable cattle mortalities do not appear in manorial accounts in these years. Furthermore, the mortalities recorded in 1296 and 1298 may refer to the same mortalities noted in 1302. For references see n. 72.

[25] For example, H. Geraud (ed.), *Chronique latine de Guillaume de Nangis de 1113 a 1300 avec les continuations de cette chronique de 1300 à 1368* (1843), p. 22; R. Sprandel (ed.), *Die Weltchronik des Monchs Albert, 1273/77 – 1454/56* (1994), p. 205; G. H. Pertz (ed.), 'Annales Colbazienses (Pomerania)' *MGH SS*, XIX (1866), p. 717.

[26] 'pestilentia hominum et brutorum animalium', in G. H. Pertz (ed.), 'Annales Bohemiae brevissimi a. 1236–1330', *MGH SS*, XVII (1861), p. 720.

[27] 'equos, oves, et boves et universa pecora campi necuit pestilentia huius anni', in K. Hofler (ed.), 'Chronicon Regiae Aulae', *Fontes rerum Austriacarum, Scriptores*, VII (1866), p. 379. I have been unable to consult the *Chronicle of Dalimil* (or its mid-fourteenth-century German translation), which may also document livestock disease in early fourteenth-century Bohemia.

[28] 'Ita magna fames erat et pestilentia grandis boum et peccorum', in Curschmann, *Hungersnote*, p. 215. The fifteenth-century Polish chronicler and canon at Kraków, Jan Długosz does not document any early fourteenth-century livestock mortality in his voluminous history of medieval Poland. M. Michael (ed.), *The annals of Jan Długosz* (1997).

[29] '[E]t valida fames invaluit adeo quod plerique pauperes (si fas est dicere) cadavera pecorum sicuti canes crude corroderent, et gramina pratorum sicuti boves incocte commederent.' H. Bruch (ed.), *Chronographia Johannis de Beke* (1973), p. 279. Beka emphasizes that the

On the other hand, Johannes may have simply meant to stress the severity of the human hunger and grain shortage during the famine. That said, the early fourteenth-century *Annales Egmundani* (Egmond, Netherlands) documents that 'humans and cattle died greatly through famine' after 1315 'had past'.[30] Other texts from the Low Countries also indicate that cattle were dying from disease during the Great European Famine, but most specify that a pestilence reached the region after 1316. Following a rather lengthy description of the famine, William of Egmond, who was probably in Bederode (Netherlands) at the time, writes that 'not only was the population in this three year period afflicted with the misery and weariness of this [the famine] but, at the end of it [*c*.1318], it was oppressed with a mortality of cattle'. He continues, in verse, 'after one thousand three times one hundred, twice eight, and two remaining [1318] had been vexed [lit. 'cooked'] by famine's death, its end grieved at the slaughter of the herds'.[31] In his *Chronicon*, Edmond of Dynter (Dinther, Netherlands, *c*.1375–1448), likewise emphasizes the vastness of the losses. He mentions other details too in his record of the cattle pestilence which he places in 1318, 'so great a mortality thrived among cows that from ten hardly one survived. Therefore, at this time no person dared to consume or chew the flesh of bovines and especially the flesh of cows.'[32]

Additionally, the Brabantine priest Lodewijk van Velthem (*c*.1270–1326) and the sixteenth-century Professor of Theology at Louvain, Johannes Molanus, document pestilences of livestock in the Low Countries during the Great European Famine.[33] In France, an anonymous and fragmented chronicle records a 'great mortality of people and cattle' *c*.1317.[34] The contemporary Jacques de Thérines also mentions a 'failure of animals' in north-central France around the same time together with 'a general sterility of the lands'.[35] Little has been uncovered to indicate that disease was widespread in Scandinavian countries. In 1318 a set of near contemporary Danish annals reads of 'great drought and sterility, then a mortality of cattle'.[36]

Note 29 *continued*
poor were eating forbidden meat. The Old Testament prohibits the consumption of carrion: Exodus 22:30; Deuteronomy 14:19; cf. Edmond of Dynter and Johannis de Trokelowe below.

[30] 'Millenum tricentenum quinum quoque denum / Annum transactum die post verbum caro factum / Quum fame plere pecus et homines periere', in G. H. Pertz (ed.), 'Annales Egmundani', in *MGH SS*, XVI (1859), p. 479. This text appears to be independent of William's work below.

[31] 'Nec solum hac miseria hujusque taedio populus hoc triennio affligitur sed etiam in fine hujus mortalitate pecorum aggravatur. Morte famis cocto M, ter C que, bis octo / Cum reliquis binis; doluit pecorum nece finis', in C. Pijnacker Hordijk (ed.), *Willelmi Capellani in Brederode postea monachi et Procuratoris Egmondensis chronicon* (1904), p. 91.

[32] 'Eodem anno Domini MCCCXVIII viguit mortalitas inter vaccas adeo magna, quod de decem vix una permansit. Eapropter tunc temporis populus nullas carnes bovinas, et specialiter carnes vaccines, audebat comedere aut manducare', in 'Edmundi Dynteri chronicon' in P. F. de Ram (ed.), *Chronica Nobilissimorum Ducum Lotharingiae et Brabantiae ac Regum Francorum*, II (1856), p. 497.

[33] I have not been able to consult the works of these authors and am uncertain if they wrote of mortalities of cattle or other livestock. Lucas, 'Great European Famine', p. 358 n. 6.

[34] In an entry for 1315, 'En celle année, commancèrent moult grant pluyes en France, qui durèrent entour II.ans; et fut moult grant famine et grant mortalite de gens et de bestes', in Martin Bouquet (ed.), 'Fragment d'une chronique anonyme', *Recueil des historiens des Gaules et de la France*, XXI (1869), p. 151 n. 19.

[35] N. Valois, 'Un plaidoyer du XIV$^{e}$ siècle en faveur des Cisterciens', *Bibliothèque de l'école des Chartes* 69 (1908), pp. 365–6. Notably, the contemporary, Gilles Li Muisis of Tournai seems not to have mentioned the pestilence. J.-J. de Smet (ed.), 'Chronica Aegidii Li Muisis' *Corpus chronicorum Flandriae*, II (1841).

[36] 'Siccitas magna et sterilitas fuit; tunc pecorum mortalitas', in E. Jørgensen (ed.), 'Annales 1098–1325', *Annales*

In 1318–19, references to pestilential mortalities of cattle begin to appear in a number of English texts. Johannis de Trokelowe (*c.*1280–*c.*1330), monk and annalist at St Albans, compiled one of the earliest English records:

> In the course of the same year [1319] a great pestilential mortality of cattle grew strong through all of England, as no one had seen before. In this pestilence a miraculous thing occurred whereby both the dogs and birds that were feasting on the bodies of the dead cattle swelled up right away and died of infection. After this, there was no person who presumed to taste bovine flesh lest having been infected he might succumb from the carrion. Indeed at Easter the plague began at Essex and continued through the whole year. It was also said that at the same time all of France was infected with the same disaster.[37]

The *Flores historiarum*, written by a monk at Westminster, namely Robert of Reading (d. 1325), also provides a contemporary note on the devastation, although the author places the pestilence under 1318, which is possibly an error, as manorial accounts generally indicate that mortalities commenced in England in 1319:[38]

> [S]o great a pestilence of animals invaded the kingdom of the English people and through a quarter of the kingdom the mortality itself suddenly laid low such a countless multitude that, leaving few [animals] in different parts, it inflicted a heavy loss to the rich and want to the poor.[39]

Another contemporary and independent version of the *Flores*, which was compiled at Tintern in Monmouthshire (Wales), reports the pestilence in 1319:

> [T]here was the greatest mortality of animals, that is oxen, cows and other animals, on account of which people had hardly, or no, oxen to cultivate their lands. And therefore there was as great as possible a dearth of horses, with the aforesaid pestilence beginning in

Note 36 *continued*
*Danici medii aevi* (1920), p. 200. Also, 'siccitas magna et sterilitas fuit, et peccorum mortalitas', in Langebek (ed.), 'Annales Danici ab anno 1131 ad an. 1325', *Scriptores*, IV (1969), p. 284. These texts are probably not independent. Jordan, *Great Famine*, p. 181, suggests livestock also died of disease in Norway and Sweden.

[37] 'Sub ejusdem anni [1319] curriculo, tam pestifera armentorum mortalitas per totam Angliam invaluit, quantam non ullus se meminit praevidisse. In qua peste hoc evenit mirabile, quod de pecorum mortuo cadaveribus etiam canes et corvi qui vescebantur, in loco intumuerunt, et infecti obierunt. Unde nullus erat hominum, qui carnes bovinas gustare praesumebat, ne forte de moticiniis eorum intoxicatus succumberet. Tempore quidem Paschali in Essexia incepit, et per annum integrum duravit. Dictum est etiam, quod tota Gallia eadem labe per idem tempus extitit coinquinata', in H. Riley (ed.), Trokelowe, *Annales* (1866), pp. 104–5.

[38] That said, Campbell has uncovered sizable bovine losses resulting from disease and sales on several Westminster demesnes in the account year of 1318/19. Mortalities may have commenced in England in late 1318. Pers. corresp. 15 Sept. 2008.

[39] 'In hujus anno [1318] decursu tanta lues animalium regnum invasit Anglorum ac per quatuor regni ipsa mortalitas infinitam multitudinem subito prostravit, ut in diversis partibus pauca relinquens divitibus grave dampnum intulit et pauperibus egestatem', in H. Luard (ed.), *Flores Historiarum* (1890), pp. 186–7. This source was later copied by John Capgrave. F. Hingeston (ed.), Capgrave, *The chronicle of England* (1858), p. 185. Entries prior to 1306 were prepared in St Albans. The 1318 dating here may be an error on part of the editor of the text. Depending on the condition of the manuscript, dates can be easily confused. See comments below on the Thorney annals.

> Scotland, afterwards in England, and finally in the Welsh Marches around the Feast of All Saints [1 November].[40]

The Chronicle of Louth Park Abbey (Lincs), in an entry that is by all indications contemporaneous, states that in 1320 'a general murrain and plague prevailed among all kinds of horned cattle, throughout all England, and as many say it is believed to have raged throughout all Christendom'. Elsewhere this chronicle seems to attribute losses of oxen to the famine. These losses, which are said to have in part 'ruined the substance of the Abbey', may be understood as a product of the panzootic.[41] The near contemporary *Chronicon Lanercost*, composed partly around Carlisle, provides further details:

> At the same time [1319] the pestilence and murrain of cattle which had lasted through the two preceding years in the southern districts, broke out in the northern districts among oxen and cows, which after a short sickness, generally died; and few animals of that kind were left, so that men had to plough that year with horses. Nevertheless, men used to eat cattle dying in the aforesaid manner, and, by God's ordinance, suffered no ill consequences. At the same time sea fishes were found dead on the shores in great multitude, whereof neither man nor other animal nor bird did eat.[42]

Robert de Graystanes, writing at Durham in the early fourteenth century, also reports a 'pestilence of oxen' in his account of the Great European Famine.[43] Another contemporary, John, vicar of Tynemouth, records in his *Historia aurea* that the cattle pestilence arrived in August 1319 at Berwick with the appearance of Edward II. He states, 'an unheard of pestilence of animals quickly killed almost all the oxen led to the siege'.[44] To the south, in Cambridgeshire, the *Thorney annals* briefly document the disease in 1320, 'there was the greatest murrain of oxen and animals in England'.[45] Further to the south, a chronicler known as the Gervase continuator, who was based in Canterbury, writes in 1318 of 'the greatest mortality of animals from the species of cattle in the whole kingdom of England'.[46] Some distance away, a chronicle written

[40] 'Eodem anno maxima mortalitas animalium id est bovum et vaccarum et aliorum animalium, fuit, ita quod vix aut nullatenus homines habuerunt boves ad terras eorum colendas. Et ideo quam maxima fuit caristia equorum, mortalitate praedicta incipiente in Scotia, postea in Anglia, postremo vero in marchia Walliae circa festum Omnium Sanctorum', in *Flores historiarum*, p. 343.

[41] 'Item regnavit generalis morina et pestis omnis generis animalium cornutorum domitorum per totam Angliam, et sicut a pluribus refertur, creditur regnasse per universam Christianitatem', in E. Venables (ed.), *Chronicon abbatie de Parco Lude* (1891), pp. 24, 27.

[42] H. Maxwell (ed.), *Chronicle of Lanercost, 1272–1346* (1913), p. 228.

[43] '[P]estilenciam boum', in James Raine (ed.), *Historiae dunelmensis scriptores tres* (1839), p. 97.

[44] id., *Scalacronica* (1907), p. 69. Grey wrote in the mid-fourteenth century but is thought to have made use of earlier sources. 'Ibi enim pestis sive lues animalium prius est audita. Omnes revera fere curruum boves ad obsidionem ducti subito quasi moriebantur', in V. H. Galbraith, 'Extracts from the *Historia aurea* and a French "Brut" (1317–47)', *EHR* 43 (1928), pp. 205, 210. Though this text closely resembles or borrows from the *Polychronicon*, particularly for the years spanning 1307–27, it is 'a compilation of many sources'.

[45] 'Hoc anno fuit maxima morina in Anglia, boum et animalium', in Faith Wallis's translation in preparation. C. Hart (ed.), *The Thorney annals, 963–1412* (1997), places the panzootic in 1318, which as manorial accounts illustrate is a mistake. Wallis's translation assigns this passage to 1320.

[46] 'Anno domini millesimo CCCmoXVIIIo maxima mortalitas animalium, de genere boum in toto regno Anglie' in R. Haines, *King Edward II: Edward of Caernarfon, his life, his reign, and its aftermath, 1284–1330* (2003), p. 402, n. 17.

at the Cistercian abbey in Newenham (Devon) shortly after the events it describes, notes the mortality of cattle:

> There was indeed a great famine and pestilence of humans but of the poor especially, and [there was] a great, very large and unheard of mortality among cattle, namely oxen, cows and calves, continuing through many years; indeed everywhere they were walking and standing they were lamenting to those people looking at them, roaring as if in tears because of the harsh pain making them anxious on the inside, and thus suddenly falling down they were dying away from that house [presumably the abbey].

This chronicler continues to claim to have viewed the abbey's accounts, which he states listed 164 cattle as lost during the famine years, probably in large part to disease.[47] In his *Polychronicon*, Ranulph Higden (*c*.1280–*c*.1364) succinctly notes, plausibly after the fact, that 'a pestilence of animals and humans' took place in *c*.1316–18. The *Chroniques de Sempringham* (Lincs.) reports that 'in the same year [1319] there was a great mortality of cattle in England' while the *Chronica Monasterii de Melsa*, kept by the abbots at Meaux, twice records mortalities of livestock caused by disease. First, Adam, abbot between 1310 and 1339, generally noted in the immediate post-famine years that a 'common murrain of sheep and other animals' had occurred during the famine and that by 1321 'many villages of England were ruined'. In the last entry attributed to his predecessor Robert (abbot between 1286 and 1310), however, a passage concerning Edward II's succession and the famine, obviously added by a later author, states, 'and there was also so great a high price of wheat in the days of [the famine] and so continual a mortality of cattle that it was scarcely seen in past generations'.[48]

Adae Murimuth, writing around 1325 refers to the famine with a simple entry in 1316, 'great mortality and barrenness'.[49] The near contemporary *Vita et mors Edwardi Secundi* likewise observes the famine only in 1316 and ambiguously notes of 'a most brutal pestilence',[50] while the *Vita Edwardi II*, which was written in the mid-1320s, recounts, in the same year, 'a severe

[47] 'Fames enim erat valida et inaudita et mortalitas hominum sed precipue pauperum, et magnas mortalitas armentorum maxima et inaudita, videlicet bovum, vaccarum et vitulorum per multos annos durans ubicumque enim ambulabant vel stabant pre vehementi dolore eos interius anxiante quasi lacrimantes rugiendo intuentibus conquerebantur, et ita subito corruentes exspirabant de domo ista.' As far as I am aware neither an edition nor a translation of this chronicle has appeared. A Latin transcription of this passage can be found in Haines, *King Edward II*, pp. 97, 402, n. 18. On the deaths recorded by the chronicler, see J. Hatcher, 'Farming techniques: south-western England', in H. E. Hallam (ed.) *The agrarian history of England and Wales*, II, *1042–1350* (1988), p. 396.

[48] 'lues animalium et hominum', in J. R. Lumby (ed.) *Polychronicon Ranulphi Higden* (1964), p. 308. Higden's later medieval English translators did not expand on his brief observation, ibid, pp. 307, 309. 'Meisme lan avoit y graunt pestilence des beastes en Engletere', in J. Glover (ed.), 'Sepringham continuation', *Le livere de reis de Brittanie e le livere de reis Engletere* (1865), pp. xv–xvi, 336–337; 'communisque morina bidentium et aliorum animalium', in E. Bond (ed.), *Chronica monasterii de Melsa* (1867), p. 333. Adam's record of the entire famine is positioned under the entry of 1315, 'plures villae Angliae comburebantur'. Later, under Robert's entry, 'tanta etiam in diebus ejus caristia tritici, tamque continua mortalitas armenti, quanta aretro seaculis vix visa fuit', in ibid, p. 286.

[49] 'magna mortalitas et sterilitas', in E. M. Thompson (ed.), *Adae Murimuth continuatio chronicarum Robertus de Averbury de gestis mirabilibus Regis Edwardi Tertii* (1965), p. 24.

[50] 'saevissima pestis', in W. Stubbs (ed.), 'Vita et mors Edwardi Secundi' *Chronicles of the reigns of Edward I and Edward II*, II (1965), p. 301.

pestilence'. In 1315, a year earlier, the *Vita Edwardi II* states 'sheep commonly died and other animals were killed by a sudden pestilence'. It is unclear whether these passages were meant to refer to the cattle mortality, though the 'sudden pestilence' that the *Vita Edwardi II* records may certainly be an early reference to it.[51] The near-contemporary *Gesta Edwardi de Carnarvan* written by a canon of the Augustinian priory of Bridlington in Yorkshire also only mentions the famine in 1316, but writes of a 'mortality of humans and pestilence of cattle so great and continual, and of a greatness and size not seen by this generation'. Later the *Gesta* mentions great distress 'in the north and throughout England' and that by 1321 'many farmers of those parts, who were rich quite copiously in estates and holdings of sheep and cattle, are now forced to beg through the lands'. The text further notes that people daily buried the bodies of dead cattle before and after midday, and that animals were buried shortly following their death on account of their stench.[52] Interestingly, a piece of popular literature, the very near-contemporary *Poem on the evil times of Edward II*, also documents the mortality of cattle:

> The cattle all died quickly, and made the land all bare so fast / Came never a wretch into England that made men more aghast / And though that mortality was stopped of beasts that bear horns / God sent on earth another dearth of corn / That spread over all England both north and south / And made simple poor men hungry in their mouth.[53]

Slightly later sources continued to record the pestilence. Composed around 1347, the *Annales de Oseneia* (Osney Abbey, Oxfordshire) briefly notes a 'great pestilence of animals' during the famine, and the *Stoneleigh leger book*, compiled about 1392 from documents contemporary with the years described, records that in 1319 'a pestilence of animals began and lasted for a long time'.[54] In his *Leycestrensis chronicon*, Henry Knighton, who wrote in the last quarter of the fourteenth century and followed earlier authors, writes that:

> In the year 1318 and 1319 there was a great mortality of humans and pestilence of animals through the kingdom of England, to such a degree that the remaining humans did not have the where with all to cultivate or sow their lands and daily as many as possible were buried in any cemetery whatsoever; and this pestilence lasted for two years and consequently both from this and from the Scottish enemy a great ruin seized the English people everywhere.[55]

[51] 'dura pestilentia' and 'oues autem communiter perierunt et alia animalia subita peste ceciderunt', in *Vita Edwardi Secundi* (trans. W. R. Childs, 2005), pp. 110–1, 120–1. This is Childs's translation.

[52] 'Similiter mortalitas hominum et morina armentorum tanta, talis et continua fuit, quanta et quails a seculo non est visa. Nec poterant mortuorum corpora propter foetorem diutius reservari quin ante prandium et post cotidie sunt humata', in 'Gesta Edwardi di Carnarvon auctore Canonico Bridlingtoniens', in H. Laurd (ed.), *Chronicles of the reigns of Edward I and Edward II*, I (1883), p. 48. 'Plures illarum partium coloni, qui in praediis et possessionibus ovium et armentorum uberius habundabant, jam compelluntur per patrieas mendicare', in *Gesta Edwardi*, p. 81. The *Vita et mors, Edwardi Secundi*, also near-contemporary, possesses a similar entry. J. Aberth, *From the brink of the apocalypse* (2000), p. 22, implies that the *Gesta Edwardi* states that people ate dead cattle. I can find no evidence of this.

[53] T. Wright (ed.), 'Poem on the evil times of Edward II', in *The political songs of England*, VI (1839), pp. 342–4.

[54] 'lues magna animalium et hominum maxima', in H. Laurd (ed.), 'Annales de Osneia', *Annales Monastici*, IV (1869), p. 344. 'Eodem anno cepit morina animalium et durauit per longum tempus', in R. H. Hilton (ed.), *Stoneleigh Abbey leger book* (1960), p. 75.

[55] 'Anno gratiae MCCCXVIII et anno gratiae MCCCXIX magna mortalitas hominum, et lues animalium per totum regnum Angliae, adeo quod homines

Further removed, the *Historia Anglicana*, written between 1377–1412 by Thomas Walsingham (d. 1422), another monk at St Albans, generally follows Trokelowe's work but adds a note on the speed with which the infection spread:

> In 1319 there was an unheard of pestilence of animals, there is doubt from where it began but it did arise in England; it began around the time of Easter in Essex and spread quickly through the whole island, lasting for the entire year and infecting almost all the cattle of that region … It is also said that all of France was infected at the same time with the same pestilence.[56]

In his *Ypodigma Neustriae*, written around 1420, Walsingham also follows Trokelowe but focuses on different elements:

> In 1319 there was a pestilence of oxen. They were so lethally infected that dogs and ravens eating from their corpses as if intoxicated with poison, swelled and collapsed in death. For this reason no one dared to eat bovine or cow flesh.[57]

John Capgrave (1393–1464), writing in the mid-fifteenth century, only notes the death of cattle and not the famine, in his *Chronicle of England*. He writes that 'in that same year [1319] there was a great moreyn of bestis which began in Estsex and aftir it spred thorw the lond. It reigned most in oxen'.[58] Raphael Holinshed's *Chronicles of England*, written in the sixteenth century, which closely follows Trokelowe's account of the early fourteenth century, also mentions the pestilence and presents a general picture of its dissemination.[59]

As we have seen, the disease is also referred to in correspondence. In addition to the aforementioned letter of Henry of Eastry, in which he complained of losing more than a thousand cattle, there is a letter to the Bishop of Rochester (or his commissary), in which the Prior and Chapter of Christ Church, Canterbury lamented great losses of stock suffered on the manors belonging them. A vast number of oxen (*boves*), bulls (*tauri*) and cows (*vaccae*) and the offspring of cows (*vaccae cum exitu*) are listed. In total, on about 40 manors, 257 oxen, 511 cows, their offspring, as well as several bulls, are said to have died of disease. The Prior and Chapter note that their 'immobile lands and possessions have been made unusually barren' and that

Note 55 *continued*
remanentes non habebant unde terras suas colere nec seminare, et cotitide quam plurimi in quolibet cimiterio fodebantur; et duravit haec pestis per biennium, et sic undique magna desolatio tam ex hiis quam ex Scotis hostibus Anglos apprehendit', in J. Lumby (ed.), Henrici Knighton, *Leycestrensis chronicon*, II (1965), pp. vii, 412.

[56] 'Eodem anno [1319] inaudita pestis animalium, dubium unde nata, succrevit in Anglia; quae circa tempus Paschale incept in Estsexia, et diffusa est in brevi per totam insulam, durans per totum annum et inficiens pene cuncta pecora regionis …Dictabatur etiam, quod tota Gallia per idem tempus eadem peste fuit infecta', in H. Riley (ed.), Walsingham, *Historia Anglicana*, I (1863), pp. 156–7.

[57] 'Hoc anno [1319], fuit pestis boum, qui tam letifere fuerunt infecti, ut canes, de cadaveribus eorum comedentes, et corvi, quasi toxicati veneno, intumescerent, et mortui caderent. Quamobrem nemo fuit ausus comedere carnes bovinas aut vaccinas', in H. Riley (ed.), Walsingham, *Ypodigma Neustrlae* (1876), pp. vii, 252. A similar passage is found in his *Historia Anglicana*, pp. 156–7.

[58] Capgrave, *Chronicle of England*, p. 185.

[59] 'In this season, to wit, in the yeare 1319, a great murreine and death of cattell chanced through the whole realm, spreading from place to place, but speciallie this yeare it reigned most in the north, where as in the years before it began in the south parts', in Holinshed, *Chronicles of England, Scotland and Ireland*, II (1807), p. 557. Holinshed's work was originally published in London in 1586.

'they do not produce the usual grain for [Christ Church] on account of the pestilence of their animals'. Several thousand sheep are also said to have died of pestilence on the same demesnes. The letter is dated October 1327 yet itself provides no indication of whether the mortalities occurred in the mid-1320s, as R. A. L. Smith presumed, or when the panzootic passed through England *c*.1319–21. Slavin's consultation of the manorial accounts, though, illustrates that the losses of sheep occurred *c*.1315 and the losses of cattle *c*.1320. The bareness and poor yields described were probably – at least in part – a product of the cattle panzootic.[60] Another letter in the Letter books of Christ Church Canterbury also mentions a 'failure of animals' in 1320.[61]

In September 1319, Simon Eye, abbot at Ramsey, wrote to Edward II about a sudden loss of cattle and an inability to plough. He writes, 'since a sudden pestilence has attacked our animals, they are dead in such great number that the air has been infected from the stench of the corpses and there is fear that a pestilence among people is probably coming later'.[62] In the same year, a letter from St James's Hospital at Westminster complained of 'the mortality of animals and the poverty of their resources'.[63] At Bolton Priory (Yorks.), Archbishop Melton in a letter dated 26 October 1320 attributed the losses of cattle in the north of England in part to the 'universal pestilence of plough beasts'.[64] Several other bits of evidence survive in England. For example, on the estates of the bishop of Winchester, a complaint was issued which frankly states 'almost all the cattle of the area are dead' and a note attached to the 1318–19 manorial roll of Martham (Norfolk) by the bailiff or reeve writes that 'before the rendering of the account, all oxen, cows, older bullocks and heifers, younger bullocks and heifers, as well as calves died, except for three cattle heads, namely six oxen, six cows and one younger bullock'.[65]

Disease appeared next in Wales and Scotland. As discussed below, manorial data illustrate that the pestilence reached south-eastern Wales in 1320. It is clear that it pushed beyond the Welsh Marches, however. In 1320, Edward's subjects in Morganoc pleaded for relief of dues in part 'because of the great pestilence of cattle'. Furthermore, the Bishop of Bangor petitioned the king for relief of dues *c*.1320 because he was 'impoverished by bad years and now by a murrain of beasts' (probably on his lands in Anglesey and Caernarvonshire), and the bondmen of Penrhosllugwy (Anglesey), who petitioned the king in 1322, also lost a large number of cattle to disease. Dafydd ap Hywel of Anglesey's petition to the king in 1328 regarding losses of cattle in a pestilence may be another reference to the panzootic, though the losses he sustained may have

[60] 'terrae et possessiones immobiles ipsorum magis solito steriles effectae, fructus sibi non afferunt consuetos, propter pestilenciam animalium suorum', in Sheppard (ed.), *Literae Cantuarienses*, I (1965), pp. 243–5. R. A. L. Smith, *Canterbury Cathedral Priory* (1943), pp. 125–6, 156. Pers. corresp. with Slavin, 30 Sept. 2008. I am unaware of the total size of Christ Church's herd and whether the tally of dead cows (*vaccae*) here includes offspring.

[61] 'pro defectibus animalium', in the *Letter books of the monastery of Christ Church*, I, pp. 44–5.

[62] 'ac deinde subita pestilentia in animalia nostra irruente in tanta multitudine mortua sunt quod aer ex fetore cadaverum infectus sit, et de pestilentia hominum postmodum verisimiliter timeatur', in J. Raftis, *Estates of Ramsey Abbey* (1957), p. 319.

[63] Kershaw, 'Great Famine', p. 30.

[64] 'prater infortunium universale morinae bestiarum, quod aliquamdiu in hoc regno invaluit', in J. Raine (ed.), *Historical studies and letters* (1873), pp. 306–7.

[65] Kershaw, 'Great Famine', p. 42; 'Ante reddicionem com poti omnes boves, vacce, bovette, juvente, bovinculi, juvinculi et vituli sunt mortui, preter xiij capita, videlicet uj boves, uj vacce et i bovinculus', in Slavin, 'Death and survival', p. 41.

occurred in the mid-1320s.[66] The evidence for Scotland is far more sparse. John of Fordun (d. 1384), in his *Chronica gentis Scotorum*, which was written in the third quarter of the fourteenth century but which made use of earlier texts, states simply that in 1321 'nearly all the animals were extinguished'. Later, Walter Bower (1385–1449) repeated Fordun's record verbatim.[67] As noted, the Tintern version of the *Flores historiarum* also notes that cattle in Scotland and the Welsh Marches were infected. The author writes that the disease reached the latter around the Feast of All Saints (1 November). Manorial accounts from south-eastern Wales indicate the year would have been 1320.[68] Since manorial and other written evidence testifies that the pestilence had already reached northern England in 1319, it is quite possible – particularly considering the large number of cattle in Scotland and frequency of livestock raids into northern England – that Scotland was affected initially in late 1319 or early 1320.

Thomas Gray's mid-fourteenth-century *Scalacronica*, which was written while Gray was imprisoned at Edinburgh, implies that a cattle pestilence ('murrain') struck Edward II's army in 1322 and caused it to disband before it reached Newcastle en route to Edinburgh. At least this is what is gathered from Herbert Maxwell's early twentieth-century version of the text. Andy King's recent edition illustrates that 'murrain' may be too specific a term: Gray wrote only of 'famyne' and 'malady'.[69] John Barbour, in his poem *The Bruce*, written *c.*1375, writes that English troops found themselves hungry in the north (in Lothian) when unfavourable weather prevented the landing of their supply ships. He states that a 'large company' of them set out to forage 'but they found no cattle'. He continues, 'when the king and those who were of his council saw that they could get no cattle to eat for their host, they turned back to England'. Though Barbour makes no note of disease, and attributes the failure of the English to find cattle to the foresight and strategy of Robert the Bruce, other textual and manorial evidence certainly indicate that cattle may have been relatively few on account of the outbreak of acute disease.[70]

Nor was Ireland exempt. Many Irish annals document disease among cattle in the first half of the 1320s. Though the history of each set of annals is complex and the interrelationships between them often quite intricate, it is clear that the disease affected the country first in 1321 and persisted for about four years. Several of the entries collected here are clearly not independent. In fact, the *Annals of Connacht*, or the lost texts cognate with it, was probably the common source for most of the entries collected below. Entries in the *Annals of Ulster* are similar with those in the *Annals of Connacht* and seem to have been written a little later and to have been paraphrased. The single relevant entry from the *Annals of Innisfallen* may also be a rewording of the 1325 entry in the *Annals of Connacht*. The *Annals of Loch Cé* is lacunose

[66] F. Seebohm (ed.), *The tribal system in Wales* (1895), p. 27; W. Rees (ed.), *Calendar of ancient petitions relating to Wales* (1975), pp. 255, 499; A. Carr, 'Wales: economy and society', in S. H. Rigby (ed.), *A companion to Britain in the later middle ages* (2003), p. 133; id., *Medieval Anglesey* (1982), pp. 300–2; id., *Medieval Wales* (1995), p. 100; Lucas, 'Great European Famine', p. 355 n. 3.

[67] 'cuncta fere animalia extinxit', in W. F. Skene (ed.), Johannis de Fordun, *Chronica gentis Scotorum* (1871), p. 349; D. E. R. Watt (ed.), W. Bower, *Scotichronicon* VII (1996), p. 11.

[68] Above n. 36; William Rees, *South Wales and the March, 1284–1415: a social and agrarian study* (1924), p. 176 n. 3.

[69] H. Maxwell (ed.), Thomas Gray, *Scalacronica* (1907), p. 69; A. King (ed.), Thomas Gray, *Scalacronica, 1271–1363* (2005), pp. xliv, 88–9.

[70] A. A. M. Duncan (ed.), *John Barbour: the Bruce* (1997), pp. 678–81.

over the relevant years and the entries found on CELT (the Corpus of Electronic Texts) and in William Hennessy's edition are taken from the *Annals of Connacht*. Lastly, the *Annals of Clonmacnoise* or *Mageoghagan's book*, an early seventeenth-century translation of an earlier text, also follows the *Annals of Connacht*. Nevertheless, it is certain that the three entries of 1321, 1324 and 1325 in the *Annals of Connacht* were written contemporaneously and in Connacht.

In 1321, the *Annals of Connacht* reports 'a great cattle-plague throughout Ireland, the like of which had never been known before'. Similar entries are found in other texts: the *Annals of Ulster* notes of a 'great cow destruction throughout all Ireland in general'; the *Annals of Loch Cé* writes of 'a great cow-destruction throughout all Erinn, the like of which was not known before'; and *Mageoghagan's book* records 'a great murrain of cows throughout all Ireland that the likeness was never seen before'. The disease appears to have lingered on the island for some time. In 1324, the *Annals of Connacht* again documents mortalities of cattle, 'the same cattle-plague was in all Ireland this year. It was called the *Mael Domnaig*'.[71] Similar entries are again found in other texts: the *Annals of Ulster* reports 'the same cow-destruction (namely, the *Maeldornnaigh*) prevailed throughout Ireland'; the *Annals of Loch Cé* writes of 'the same cow-destruction throughout all of Erinn in this year; and it was it that was usually called the *Maeldomhnaigh*'; and *Mageoghagan's book* records that 'the murrain of cows continued still in Ireland and was called *Moyle Dawine*'. In 1325, the annals again mention the pestilence. The *Annals of Connacht* succinctly notes 'the cattle plague throughout Ireland still', while the *Annals of Ulster* records 'the same cow-destruction prevailed in Ireland again', the *Annals of Loch Cé* 'the cow-destruction still throughout Erinn', and *Mageoghagan's book* 'the murrain of cows continued still'. In the *Annals of Innisfallen*, under the year 1326 (in CELT, 1321), is found 'a great murrain of the cows of Ireland in the above year [1325], and there was a great famine […] in the same year'. Additionally, in Séamus O'hinnse's collection of Irish annals, one text records that 'in 1321 there was a very hard winter, which distressed men, and killed nearly all animals' and in 1324 in the *Annales Hiberniae* (or *Grace's annals*) from St Mary's Abbey in Dublin, is found 'again there was the common murrain of oxen and of cows in Ireland'. The dating of these last two entries may be in need of revision. The latter appears to have been compiled in the later fourteenth century from earlier sources but to be independent of the other entries listed here.[72]

[71] One editor translated this as 'devotee of Sunday'. Yet with the help of James Acken, I find the translation a 'pestilence of horned cattle' more suitable.

[72] It should be noted that the dating of the entries in the Irish annals used in this paper is that provided by CELT, but that CELT's dating of the relevant entries in the *Annals of Ulster c.*1320 is three years too early. The chronology of the *Annals of Ulster* in fact is asynchronous by between one and five years between 1263 and 1378. Based on the similarities of the entries *c.*1320 in the *Annals of Ulster* with those in the *Annals of Connacht* and others derived from the *Annals of Connacht* or a text related to it, we can conclude, as did the editors of the paper edition of the *Annals of Ulster*, that the entries collected here refer to events in 1321, 1324 and 1325, not 1318, 1321 and 1322. The dating provided in the paper edition of the *Annals of Ulster* certainly fits best with the other annals collected here and what is known of the pestilence's westward progression. Likewise, CELT dates the one relevant entry from the *Annals of Innisfallen* some five years earlier than Seán Mac Airt's paper edition. While the entry likely refers to events in 1325 and not 1320, the *Annals of Innisfallen* is lacunose from 1322 to 1391, indicating that the entry is likely retrospective and derivative. See S. Mac Airt (ed.), *Annals of Innisfallen* (1951), pp. 435, 574. Other cattle mortalities mentioned in this paper documented in the *Annals of Ulster* in 1298 and 1336, and the *Annals of Innisfallen* in 1296, should also be considered too early. The annals can be viewed at CELT, http://celt.ucc.ie/publishd.html

In the mid-1320s, disease seems to appear again among English cattle. Manorial accounts from the Breckland region and the Skipton area of West Riding show losses, and Philip Slavin and David Stone, as is discussed below, have uncovered notable cattle mortalities on several demesnes in the mid-'20s. Walsingham, who wrote roughly 90 years later, also records a mortality of 'many animals', both domesticated and wild, in the mid-1320s, though he ascribes these losses to extreme weather.[73] In the mid-1330s, cattle mortalities appear again in and beyond England. Knighton records a 'great death of cattle' in 1335 in England and several Icelandic annals document 'a great destruction of cattle' in Iceland in 1336.[74] David Thloyt from Llyn in Wales also petitioned the king in the mid-1330s and lamented his impoverishment following a 'murrain of cattle'.[75] In addition, in 1339, the *Annals of Connacht* records 'a great pestilence upon the cattle of Ireland'. As before, similar entries are found in the same year in other Irish annals and the *Annals of Connacht* again appears to be the common, contemporary source. The *Annals of Ulster* reports that a 'great portion of cattle were lost' and the *Annals of Loch Cé* a 'great plague on the cattle'. As all three entries seem to stem from the *Annals of Connacht*, it is not surprising that they all fix roughly the same temporal limits to the mortality: they state that it began a 'fortnight' after the onset of winter and lasted 'until spring' or 'until a part of spring'.[76]

## II

Clearly many cattle died from disease in the early fourteenth century. It cannot be assumed, however, that all the mortalities documented across Eurasia in the first four decades of the century were the product of the same infection or that they occurred during a single, uninterrupted outbreak. It is not implausible that multiple waves of disease passed through parts of Europe or that regional outbreaks occurred simultaneously. Close attention to the evidence available is necessary to ensure that what may have been distinct local or national epizootics are not wrongly sewn together to construct a single transnational occurrence of disease. While it is important to highlight what is not known for certain about cattle mortalities and disease in the

Note 72 *continued*
or see A. M. Freeman (ed.), *Annals of Connacht* (1970); C. Mageoghagan (*fl.* 1625) and D. Murphy (eds), *Annals of Clonmacnoise* (1896); W. Hennessy and B. Mac Carthy (eds), *Annals of Ulster* (1893); W. Hennessy (ed.), *Annals of Loch Cé* (1965); S. Mac Airt (ed.), *Annals of Innisfallen* (1951); S. Ó hinnse (ed.), *Miscellaneous Irish annals (1114–1437)* (1947). The entry from the annals of St Mary's Abbey ('Item, communis morina boum et vaccarum in Hibernia') is found in J. T. Gilbert (ed.), 'Annales Hibernie', *Cartularies of St Mary's Abbey*, II (1965), pp. cxv, 362. No early fourteenth-century cattle mortalities are documented in the *Annals of the four masters*. My reading of the Irish annals here has benefited greatly from the advice of Dan Mc Carthy. For further comment on the history and chronology of the annals, and the interrelationships between them, see his *The Irish annals: their genesis, evolution and history* (2008), pp. 6–14, 245, 254–55, 342–44, 349–52, passim; and id., 'The chronological synchronization of the Irish annals' at www.irish-annals.cs.tcd.ie.

[73] Kershaw, 'Great Famine', pp. 32, 43; Bailey, *Marginal economy*, p. 204; Walsingham, *Historia Anglicana*, p. 177. Continental evidence of cattle mortalities in the mid-1320s may yet be discovered.

[74] Fleming, *Animal plagues*, p. 96; Guðni Jónsson (ed.), *Annalar Islenzkir* (1948). Jeff Hartman informs me that the *Skálholts annal* and *Gottskalks annal* observe this mortality. Pers. corresp. 10 June 2009.

[75] *Ancient petitions*, p. 255; Carr, *Anglesey*, p. 302.

[76] For the Irish annals see n. 72. The entry in the *Annals of Ulster* is again dated three years too early on CELT.

early fourteenth century, this paper argues that a panzootic can be discerned in the literature collected above. It is not only possible to define the general spatial and temporal parameters of the pestilence but also to conclude that the deaths of English and Welsh cattle between the manorial account years of 1318–19 and 1320–1 were a part of a pan-European outbreak of disease.

To begin, it is certain that the cattle mortalities observed in English and Welsh manorial accounts in the years around 1320 were a product of disease. Not only do accounts specify that disease killed cattle (animals were recorded as *in murrina/morina* or *in communi murrina/morina*, in murrain or disease) but the other written evidence, both contemporary and near-contemporary with these manorial accounts, specifies that cattle losses were the result of disease and not, for example, extreme weather. Across Europe texts, correspondence and petitions refer to *pestilentia*, *lues* and *morina*. Equally important, several texts claim that the disease was present over large areas. The *Chronicon Lanercost* states that the pestilence spread from the south to the north in England, the Westminster version of the *Flores historiarum* describes the disease spreading through 'a quarter' of the English kingdom and the Tintern version notes that the disease affected much of England, Scotland and the Welsh Marches. Trokelowe asserts that the pestilence infected 'all' of England and France, and the Chronicle of Louth Park claims that 'all' of England was afflicted and that some thought that 'all' of Christendom suffered. Whether or not these texts are precisely correct in their assertions, multiple contemporary chronicles independently stress the greatness of the outbreak and its wide prevalence, implying that the pestilence was indeed a significant event – regardless of the fact that it was a common topos to emphasize the geographical vastness of a pestilence. Moreover, very few of the texts that record the outbreak document any other cattle pestilence, and manorial accounts – which survive in the greatest abundance from 1260 to 1430 – confirm that the outbreak was unique. Both the scale of the mortality and the prevalence of the disease seem to have been unparalleled: in no other account year do cattle seem to have died as they did *c*.1320. Cattle dying in numbers across much of England, and the abnormal scale of mortality, strongly implies that English cattle were dying from the same disease.

Textual and manorial evidence also clearly indicates that cattle mortalities did not occur simultaneously across Europe. They could not therefore have been directly caused by weather, as they did not coincide with any particular weather pattern, but by an infection gradually spreading geographically. While the initial irruption of the pestilence in England is rather ambiguously documented by several English texts, manorial accounts provide more exact details. Many English texts, such as the Devonshire chronicle, bundle multiple biological and environmental shocks that transpired between 1314 and 1322 into a single passage, under a single year, often early in the famine. (These phenomena are now usually understood as composites of the Great European Famine.) Despite this, the dating of the panzootic's arrival in England is fairly secure. It is quite probable that the pestilence began initially in Essex, around Easter 1319.[77] It thereafter spread north and west. Manorial accounts and some of the

[77] Kershaw followed Trokelowe and placed the arrival of the cattle panzootic in Britain in Essex, at Easter 1319. But this is approximate, as dating pestilences and other disasters precisely to Easter or other religious holidays was not unknown. Manorial accounts substantiate this rough dating. 'Great Famine', p. 14, and cf. fn. 38 above.

literature collected above illustrate that the pestilence disseminated north through England and eventually to Scotland, perhaps aided by the baggage of Edward II's army.[78] The claim of the Tintern version of the *Flores historiarum* that the pestilence began in Scotland and then spread to Wales and England is incorrect. Moreover, John of Fordun only documents an animal mortality in Scotland in 1321, two years after the pathogen's appearance in England, though, as noted, the Scottish borderlands could have been infected in late 1319. While the mass of evidence indicates that the disease began first in south-east England in 1319, the pestilence entering England at multiple points is a possibility that cannot quite yet be discounted altogether.

It is unlikely that a demographically devastating and highly infectious disease of cattle would spontaneously irrupt in south-east England. The infection was, by all indications, new to the England's cattle population. We may possibly be dealing with a 'virgin-soil' outbreak of disease.[79] Because texts and manorial accounts testify that cattle died rapidly and that cattle of all ages succumbed to the pestilence, it is likely that cattle did not possess any resistance to the infection.[80] All of this points to the fact that the pestilence was not native to England but was imported, and that it probably persisted until it burnt itself out when all exposed susceptible animals had been infected.

The irruption of the infection in south-east England strongly indicates a continental origin, probably the Low Countries.[81] The cattle mortalities recorded by William of Egmond and Edmund of Dynter and in other texts from the Netherlands are certainly related to the English losses sustained *c.*1320. While there is at present no way to interpret with precision when or where the pestilence began in the Low Countries, it is improbable that the outbreak originated there, considering the acuteness and communicability of the disease evident in manorial accounts and the literature collected above. Edmund of Dynter's emphasis on the severity of the mortality in the Low Countries also implies that the disease was not already known in the region. In fact, it is very unlikely that the pestilence was native to any part of north-western, northern or central Europe. Though it seems that large international cattle trades had yet to commence, trade in cattle between the various regions of Europe affected by disease in the early fourteenth century was definitely not unknown. It would be counter-intuitive to assume that an infection as acute and contagious as the early fourteenth-century cattle pestilence could exist enzootically in any

[78] The role of Edward's army, specifically the baggage train, may have in fact been quite minimal, if the infection was as acute as it appears to have been. It is unlikely that animals would have been able to trek long distances after falling sick. The army's cattle may have been exposed to the disease in the North or the infection may have made its way there via other movements of cattle contemporaneously.

[79] Outbreaks of disease in which 'the populations at risk have had no previous contact with the diseases that strike them and are therefore immunologically almost defenseless'. A. W. Crosby, 'Virgin soil epidemics as a factor in the aboriginal depopulation in America', *William and Mary Quarterly* 33 (1976), p. 289. However, animals may have simply been unable to develop resistence to the disease and the infection may not have been altogether 'new' to the areas it afflicted.

[80] The *Poem on the evil times of Edward II*, *Historia aurea*, *Chronicon Lanercost* and the chronicle of Newenham abbey, as well as the abbot of Ramsey, indicate that cattle died quickly (presumably following the appearance of symptoms). The accounts at Thorncroft refer to the pestilence as the 'sudden death'. Kershaw, 'Great Famine', p. 25. Philip Slavin informs me that the accounts of a Kent demesne also refer to the disease as the 'sudden death'.

[81] Newfield and Slavin, 'Cattle pestilences in pre-industrial Europe', in preparation.

region of central, northern or north-western Europe that was connected directly or indirectly via movements of cattle to the rest of Europe, without routinely devastating large numbers of cattle or establishing some balance in domestic bovines and, by doing so, diminishing in virulence.[82] A wider perspective clearly illuminates a pan-European pestilence beginning in Bohemia *c.*1315, spreading to Germany, the Low Countries, France and Denmark *c.*1316–18, to England *c.*1319, to Scotland *c.*1319–20, to Wales *c.*1320, and to Ireland *c.*1321.

Precise dating of the spread of the pestilence into and through the majority of the regions it affected does not seem possible at this point. It is relatively clear, however, that cattle in central and northern Germany were infected later than cattle in Bohemia, and that cattle in central and northern France, the Low Countries and Denmark fell sick after their German counterparts did. England's bovine stocks clearly began to succumb to the disease after it had spread across the continent but before cattle began to die in Wales, Scotland and Ireland. Without data like that supplied by the English and Welsh manorial accounts, it is possible only to establish this rough chronology of the pestilence's diffusion across Europe. In continental Europe the cattle pestilence occurred closer in time than in England to the myriad natural disasters that struck most of central, northern and north-western Europe after 1314. This makes the task of distinguishing precisely when it arrived in particular regions of mainland Europe all the more difficult, as some continental texts, such as the *Annales Egmundani*, like several English chronicles, bundle multiple phenomena that transpired over several years into a single passage. Like English chroniclers, continental writers often report mortalities of humans, mortalities of cattle, mortalities of sheep, extreme weather and famine in a single passage, which only confuses attempts to establish a precise chronology of the pestilence's progression. Despite the uncertainties, however, a clear east-west trajectory is seen.

This east-west trajectory shows that we are indeed looking at a pan-European outbreak of disease. It is utterly improbable that multiple regional outbreaks, which affected cattle alone, would appear in texts in a sequence of years and follow a general east-west progression, and occur only in areas experiencing famine conditions. Though it is very probable, regardless of the inability of contemporaries to distinguish between multiple pathogens at the molecular level, that the bulk of the disease-related deaths of cattle during the famine era did stem from a single pestilence, it is possible that other diseases, or secondary infections, killed an animal here or there. Some animals represented in continental reports of disease *c.*1315–17 may have died of starvation. In any event, the evidence strongly indicates that the mass of cattle succumbed to one and the same disease, not a confluence of infections.

[82] On European trade in cattle prior to the Black Death see, for example, R. Hoffmann, 'Frontier foods for fourteenth-century consumers: culture, economy, ecology', *Environment and History* 7 (2001), pp. 137–8; W. Gijsbers and P. Koolmees, 'Food on foot: long-distance trade in slaughter oxen between Denmark and the Netherlands (fourteenth–eighteenth century)' *Historia Medicinae Veterinariae* 26 (2001), p. 116; L. Bartosiewicz, '"There's something rotten in the state": bad smells in antiquity' *European J. Arch.* 6 (2003), p. 177; E. L. Petersen, 'Production and trade in oxen: 1450–1750', in E. Westermann (ed.), *Internationaler Ochsenhandel (1350–1750)* (1979), p. 137; id., 'Some problems concerning international oxen trade from a Danish view', ibid., pp. 255; F. Glamann (trans. G. French), 'European Trade, 1500–1700' in C. M. Cipolla (ed.), *The Fontana economic history of Europe: the sixteenth and seventeenth centuries* (1974), p. 469; N. Hybel and B. Poulsen, *The Danish resources, c.1000–1500: growth and recession* (2007), pp. 377, 392. On the growth of international cattle trades post 1350, see I. Blanchard, 'The continental European cattle trades, 1400–1600', *EcHR* 39 (1986), pp. 427–60.

The prevalence of the disease in most regions known to have been afflicted is, like the pestilence's temporal parameters, difficult to gauge. Manorial accounts in England and, to a lesser extent, Wales, illustrate that the disease's distribution in those countries but in most infected areas of Europe, it is impossible to articulate with any precision the pestilence's spatial extent. Consideration of trade and transhumance in affected regions as well as cattle population distribution and density may better inform any guesswork. Attention to the disease's communicability and the ability (or inability) of contemporaries to curb its dissemination would also help. It is certainly not impossible that the pestilence was as ubiquitous in most regions of Europe as it was in England. Here Scotland and Denmark are especially interesting cases. Little evidence survives in both countries for the cattle pestilence and whether the infection widely affected either is unknown. However, large cattle populations existed in highland Scotland, south-western Jutland and western Schleswig and live cattle were traded – though not to the same extent as after the Black Death – between Scotland and England on the one hand, and Denmark and the Low Countries on the other. Considering this, and regardless of how sharply the wealth of evidence for the infection in northern England and the Low Countries contrasts with the paucity of evidence for the cattle-based economies of Scotland and Denmark, it is likely that the panzootic attained wide prevalence in much of Scotland and Denmark.[83] Likewise, it is quite plausible – on account of the size of its cattle population – that much of Ireland was infected in the early 1320s, although most of the Irish evidence appears to stem from the western province of Connacht.

The duration of the outbreak is likewise unclear in most regions at present. In England manorial accounts indicate that the panzootic subsided in 1321. In Ireland the annals indicate the infection persisted until at least 1325. Judging from the texts collected above, the disease may have continued for between two and three years in the Low Countries. It may have persisted in most regions for two years, though it probably held on longer in countries that, like Ireland, had large populations of cattle. France may have been afflicted until at least 1319, as some English chronicles assert that the pestilence was present in France at the same time as in England.

Cattle mortalities documented in central and northern Europe, and east of Europe *c*.1300–10, may be interpreted as the initial irruption and European contact of what would become the European panzootic. Considering that the pestilence disseminated rapidly across central, northern and north-western Europe and was possibly virgin-soil, it is highly likely that the pathogen originated to the east. Of course, rather than assuming that the European outbreak resulted from cattle being imported from a region where the infection existed enzootically, there may be another explanation for the disease's apparent irruption east of Europe, which is not visible in the written evidence. While an interpretation of the panzootic's origins should not rest too much on the superimposition of modern knowledge onto the pre-modern past, it may be worth noting that eighteenth- and nineteenth-century European cattle panzootics were also of non-European origin. None of the 'modern' infectious diseases that spread easily if unchecked,

[83] Evidence that these regions were affected by the GEF is also comparatively lacking, yet some scholars stress that both suffered the subsistence crisis. For Scotland see Kershaw, 'Great Famine', p. 6, n. 46; Jordan, *Great Famine*, p. 99; C. McNamee, 'William Wallace's invasion of Northern England in 1297', *Northern Hist*. 26 (1990), p. 58. For Denmark see Hybel and Poulsen, *Danish Resources*, pp. 65–8, 113–4, 128–9; N. Hybel, 'Klima, Misvækst og Hungersnød i Danmark, 1311–19', *Historisk Tidsskrift* 97 (1997), p. 40.

causing mass sickness among cattle – such as contagious bovine pleuropneumonia, foot-and-mouth disease and rinderpest – currently exist enzootically in Western Europe. Though it is impossible to be certain, it is not unreasonable to suggest that the mortalities attributed to disease in the first decade of the fourteenth century in annals and chronicles in central and northern Europe were brief and limited (but potentially highly damaging) incursions of a disease into Europe that was present earlier and contemporaneously in regions east of Europe, including Mongolia. It is also possible that the Mongol expansion of the thirteenth century introduced 'new', but devastating, cattle diseases to the fringes of Europe, which took time to spread further west. The pathogen of the panzootic may have initially entered Europe *c*.1300–10 via regular lines of trade and only irrupted into a pan-European outbreak with the onset of vast crop failures, grain shortages, and the famine economies and conflict that they provoked or aggravated.[84]

There is little room here to elaborate this point, yet it is probable that the unusual circumstances of the Great European Famine would have promoted the diffusion of the infection across much of Europe along lines of trade (droving routes and markets), communication, transhumance and baggage trains.[85] An 'intolerable shortage of oxen' noted in Edward II's price edict of 1315 may have resulted in the importation of continental cattle, and hence the infection, into England. High prices for cattle and meat in England beginning *c*.1310 imply that demand was significant. As early as 1306 and again in 1307, English exports of grain and 'beasts' (presumably cattle) were banned.[86] The initial years of the grain shortage may have also resulted in higher consumption rates of cattle across much of Europe and, in turn, higher prices. Additionally, the significant (if regional and episodic) floods of the early fourteenth century, and the early famine years in particular, may have denuded cattle numbers in some areas of continental and insular Europe, such as Louth Park.[87] The grain scarcity *c*.1314–17 may have also adversely affected the nutritional status and immune function of cattle, and in so doing increased their susceptibility to infection. Wasting may have been common. Certainly all or any of these factors could have caused or intensified shortages of cattle and resulted in the greater traffic and trade of cattle across Europe, which would have facilitated the pathogen's dissemination if spread between cattle.

Some modern scholars seem to have envisioned a direct connection between the extreme weather and the livestock pestilences of the Great European Famine.[88] A strong connection

[84] Długosz claims that Mongol advances resulted in extreme dearths of draught animals in Hungary in the mid- and late thirteenth century. *Annals*, pp. 184, 228.

[85] However, it is possible that the infection's irruption had nothing to do with the Great European Famine or famine-oriented trade in cattle and grain. The infection may have simply entered regular lines of commerce and communication.

[86] C. W. Colby (ed.), *Selections from the sources of English history* (1899), pp. 92–3; *Calendar of Close Rolls, 1302–7* (1908), pp. 471, 522; Jordan, *Great Famine*, pp. 57–8, 171–2; Mate, 'High prices', pp. 1, 7–8, 10–11; Aberth, *Brink*, p. 22. Export bans on 'meat' (among other things) were also issued in 1317 and 1318; they also signify real shortage pre-panzootic. *Calendar of the Close Rolls, 1313–18* (1971), pp. 455, 588.

[87] *Parco Lude*, p. 24. On early fourteenth-century flooding see Jordan, *Great Famine*, pp. 18–9, 24, 99, 136; M. Bailey, '*Per impetum maris*: natural disaster and economic decline in eastern England, 1275–1350' in Campbell (ed.), *Before the Black Death*, pp. 184–208; J. A. Galloway, 'Storm flooding, coastal defense and land use around the Thames estuary, *c*.1250–1450' *J. Medieval Hist*. 35 (2009), pp. 171–88.

[88] For example, C. Thornton, 'Introduction', in D. V. Stern, *A Hertfordshire demesne of Westminster Abbey:*

between weather and the cattle pestilence is, however, hard to substantiate. Of course, pestilences of cattle have occurred without extreme or volatile weather, and while weather may have had much to do with sheep mortalities *c.*1314–17, it is unlikely that it caused the cattle panzootic per se as the pestilence persisted through several significant and seemingly abrupt changes of weather. Many infections do have specific environmental precursors and are conditioned to some degree by weather as well as the nutritional standing of the susceptible species. Not all, though, respond favorably to multiple variations in temperature and aridity, let alone extreme variations like those of the Great European Famine. It is doubtful that a pathogen would react favorably to a sequence of extreme environmental conditions or require extreme and volatile weather to erupt on a grand scale. Though some disease outbreaks have been thought to respond and closely adhere to El Niño and dust-veil events, the panzootic did not follow any one or particular weather trend as it spread across Europe.[89] In fact, the multiple extreme weather fluctuations of the famine strongly imply that the infection was not closely associated with weather nor was it vector-borne. An arthropod population would probably not have thrived in the periods of heavy precipitation, drought, heat, and cold that the panzootic spanned. There is also no evidence to indicate that the disease was spread primarily in water. It seems, particularly considering the speed of its dissemination over such a large geographical expanse, that the pestilence was a highly communicable respiratory infection. Weather may have been irrelevant to the infection, though it is certainly possible that famine conditions, that weather generated, facilitated the wide diffusion of the disease. Moreover, it is plausible that the poor yields and food shortages of the Great European Famine negatively influenced the nutritional status of cattle, compromised their immune systems, and heightened both their susceptibility to the infection and mortality rates.

If the pestilence was spread by those susceptible to it and was highly contagious and acute, it might be difficult to interpret cattle mortalities in England in the mid-1320s – and in England, Wales, Ireland and Iceland in the mid-1330s – as extensions or reoccurrences of the panzootic. Mortalities in the mid-'20s and '30s appear at present to be less prominent in manorial accounts than in other written sources. In addition to the evidence of disease among English cattle in the mid-1320s, reviewed earlier, Stone reports a cattle mortality of 54 per cent in the account year of 1327–8 at Hinderclay and Slavin finds losses on several more demesnes. However, herds seem to have fallen by a comparatively small 15 per cent on average in the mid-'20s.[90] The cattle mortalities *c.*1325–8 also appear to have been restricted to a few regions of England, though Dafydd ap Hywel's petition of 1328 may indicate that cattle had been dying in Wales in the mid-1320s as well. Nevertheless, it is possible that the panzootic spread back to England

Note 88 *continued*
*profits, productivity and weather* (2000), p. xlviii; Campbell, *Seigniorial agriculture*, pp. 23, 417. Mike Baillie likewise seems to seek a direct connection between the Black Death and contemporary climatic deterioration, noting that the 1340s were not 'an arbitrary point in time, when a plague just happened to arrive', in *New light on the Black Death: the cosmic connection* (2006), p. 34. This may be overly reliant on medieval opinion. As Jordan notes, authors contemporary with the Great European Famine 'describe a situation in which terrible weather ushered in or laid the foundation for livestock pestilences'. *Great Famine*, p. 35.

[89] For example, R. B. Stothars, 'Volcanic dry fogs, and plague pandemics in Europe and the Middle East', *Climatic Change* 42 (1999), pp. 713–23.

[90] Stone, 'Farm management', n. 77; Newfield and Slavin, 'Cattle pestilences'.

from Ireland *c.*1325. It is also possible that the pestilence persisted in wild animals, unnoticed or unrecorded by chroniclers.[91]

The cattle mortalities of the mid-1330s are even more difficult to connect with the *c.*1315–25 panzootic (let alone the losses of the mid-1320s). Stone reports a cattle mortality of 26 per cent in 1333–4 at Hinderclay and, at Wisbech Barton, he notes that more cattle died of disease in 1334–5 than in any other early fourteenth-century account year. Additionally, he observes that 12 per cent of Wisbech's herd died in 1332–3 and 17 per cent in 1333–4. Mavis Mate has also remarked on a pestilence on several demesnes in southern England in the mid-1330s, reducing herds from 54 to five, 25 to three, and 35 to nine.[92] While more work of this kind is needed, there is little reason at present to link these losses with those *c.*1320. Moreover, the evidence presently available is too scant to suggest an average herd mortality in the mid-1330s and, in any case, multiple outbreaks of disease cannot be judged to be biologically related on the grounds of mortality alone. Neither do the texts themselves connect the mortalities of the mid-1320s and '30s to the panzootic. The evidence is not even strong enough to state that most deaths *c.*1335 were the result of disease: annals and chronicles attribute mortalities in the mid-'30s to weather.[93] The substantial lapse between the mortalities of the mid-'20s and '30s is also hard to account for.

Ultimately, the written evidence may never prove that the mid-1320s or '30s mortalities were connected with the panzootic. The pathogen may have evolved or adapted, some animals may have developed resistance, or farmers may more regularly separated sick from healthy animals – any of which could have caused lower mortalities, limited the spread of disease, whilst passing undocumented by medieval authors. The dissemination of an infection in the 1320s and '30s may have also been inhibited by the inability of some areas to fully restock after the *c.*1315–25 panzootic. If herds were repaired slowly, the disease would have presumably spread

[91] Evidence of mortalities in deer parks at this time would be enlightening. If the panzootic was rinderpest, it may also have had something to do with the decline of wisents and urs in north-western Europe before 1400. T. G. Ahrens, 'The present status of the European bison or wisent', *J. Mammalogy* 2 (1921), p. 58; T. Barrett and P. B. Rossiter, 'Rinderpest: the disease and its impact on humans and animals', *Advances in Virus Research* 53 (1999), p. 100; Spinage, *Cattle plague*, p. 81.

[92] Stone, 'Farm management', n. 77; id., *Decision-making*, pp. 46, 72; M. Mate, 'The impact of war on the economy of Canterbury Cathedral Priory, 1294–1340', *Speculum* 57 (1982), pp. 772, 773; also see her 'The agrarian economy of south-east England before the Black Death: depressed or buoyant?', in Campbell (ed.), *Before the Black Death*, pp. 92–3; B. M. S. Campbell, 'Ecology versus economics in late thirteenth and early fourteenth-century English agriculture', in D. Sweeny (ed.), *Agriculture in the middle ages: technology, practice and representation* (1995), p. 77 also notes pestilential mortalities of cattle and sheep in 1334–35. Mortalities of sheep seem to be quite widespread again in the mid-1330s.

[93] Knighton records heavy rain and failing crops in England preceding the cattle deaths in 1335; the *Annals of Ulster* record 'a great plague of snow and of frost' and 'the ruin of grass and corn-fields' as the catalyst of cattle deaths in Ireland in 1336; the Icelandic annals attribute the mortalities to 'great' storms of rain as the cause for the cattle mortalities in 1336; and the *Annals of Connacht* and the *Annals of Loch Cé* record much snow, frost and crop failures as the agents of a cattle destruction in 1339. *Mageoghagan's book*, which does not document any mortality of cattle in the 1330s, does note that in 1339 'all the corn of Ireland was destroyed whereupon ensued a general famine'. The high mortalities reported by Stone and Mate suggest that there may have been two principal causes of cattle mortalities *c.*1335 or possibly that annals and chronicles misattribute the mortalities. Jeff Hartman advises me that the *Skálholts Annal*, the *Annalbrudstykke* of Skálholt, the *Flatöbogens Annal* and Lawman´s *Annal* all document cattle mortality in Iceland in 1341 and attribute it to heavy snow and a volcanic eruption. Pers. corresp. 10 June 2009. For the Irish annals see n. 72.

less effectively in the mid-'20s and '30s than it had *c.*1320. Outbreaks in the mid-'20s and '30s would, consequently, appear quite different than the panzootic, which would complicate attempts to articulate any connection between them and the initial pestilence. The infection may have so afflicted the host's population density *c.*1320 that a chain of transmission could not be easily maintained later. And while it is unlikely that contemporaries came to control or curb the spread of the disease on a grand scale, more measures may have been undertaken after the initial outbreak that reduced the exposure of cattle to the infection. Needless to say, it is difficult to discern whether the disease behind fourteenth-century panzootic became enzootic for several years or decades in parts of Europe. It is worth noting that in the eighteenth and nineteenth centuries, outbreaks of what are believed to have been contagious bovine pleuropneumonia, foot-and-mouth disease or rinderpest persisted in some regions of central, northern and north-western Europe for a decade or more. If the disease did persist in the fourteenth century or become enzootic and less virulent, it would have attracted far less attention.[94]

To some extent, whether the disease reoccurred or became enzootic and less acute, depends on whether cattle developed immunity to the infection. This is a subject on which little can be known for certain. If primarily young cattle perished in the mortalities documented in the mid-1320s and '30s or if mortality rates were notably lower and the disease was less prevalent in the mid-'20s and '30s than during the panzootic, and, of course, if the mortalities of the mid-'20s and '30s could be attributed to the same disease of the panzootic, more could be said of the acquisition of immunity. Conversely, if the same disease attained high mortality rates during the Great European Famine as well as in the mid-'20s and '30s, and affected cattle of all ages, it could be speculated that immunity was not conferred. High mortalities observed in the same locations during the panzootic and the mid-'20s would signify that animals did not acquire resistance. However, because cattle were often sold in bulk during the panzootic, as is discussed below, slaughtered at a relatively young age, and not infrequently transferred or traded, it is probable that most would not have been exposed to an infection on multiple occasions.[95] Most cattle on a farm in the mid-'20s may have had no connection to those on that farm *c.*1320, having been bought at market or brought in from elsewhere. In those instances where cattle were related, if less mortality occurred in the mid-'20s, it could be speculated that immunity was conferred. Though again it would be necessary to prove that the panzootic was related to later occurrences. The evidence is simply not enough to state whether cattle acquired immunity or not. That said, the development (or existence) of some resistance to the infection in European cattle may account for the unequal distribution of evidence for the panzootic across Europe. Fewer reports of disease in central and northern Europe may stem from the disease's relative inability to devastate cattle there. Some animals in these regions may have acquired some resistance to the infection following the outbreaks of the first decade of the fourteenth century.

[94] More attention to losses of cattle attributed to disease in manorial accounts in the 1320s, '30s and perhaps '40s, however, may provide substance to the idea that the pestilence did linger and continually eat away at herds. Campbell reports that on the Kent manors of Canterbury Cathedral Priory herds fell by 68 per cent from disease and bulk selling between 1318 and 1320; were increased by 1328 to 91 per cent of their 1318 level but then registered a 14 per cent fall between 1328 and 1329; and, after an almost full recovery, a 26 per cent fall between 1331 and 1332. Pers. corresp. 15 Sept. 2008.

[95] See comments in Slavin, 'Death and Survival', pp. 37–9.

It is not conclusively known, though, whether mortalities *c.*1300–10 were a product of the same disease, which spread across Europe five years later. The distribution of known evidence may simply be an artifact of the present state of research or merely reflect the location of interested (and literate) observers.

Generally speaking it would be expected that cattle suffering and or recovering from the acute disease of the panzootic would have exhibited significantly reduced reproductive success. A diminished pool of animals may itself have affected reproduction, but the general deterioration of livestock health would have been most likely to reduce fecundity and, it should be expected, resulted in some milk, meat and perhaps (depending on the disease and contemporary attitudes) hide losses. All of this is in addition to the loss of traction and manure. One may suspect that a disease as acute as the panzootic would have greatly strained animals and in all probability caused wasting and induced abortions.

Thus it seems that the panzootic was highly virulent and possibly virgin-soil, and that it burnt its way through the susceptible population without establishing balance in a host. Though the pestilence seems to have spread primarily between cattle, as contagious bovine pleuropneumonia, foot-and-mouth disease and rinderpest have in the modern era, it cannot presently be discounted that it was also spread by other domesticated or wild animals, the movement of grain, hides, wool or other goods, or on the clothing or footwear of travellers. Additionally, bedding, water, fodder and pasture may have been contaminated following contact with infected animals. At present there is no conclusive evidence to prove that the disease was or was not a recurring phenomena that repeatedly and consistently suppressed cattle populations.

## III

In addition to setting the English and Welsh cattle mortalities of *c.*1320 in their wider context and illuminating a pan-European pestilence, the literature reviewed here reveals the contours of the panzootic's epizootiology. Attention to this provides both a fuller appreciation of the phenomenon itself and the basis on which to advance a retrospective diagnosis. If confirmed via palaeomicrobiological analyses, a diagnosis could significantly enhance our understanding of the outbreak. A confirmed diagnosis may help articulate a past pestilence's modes of transmission, communicability and virulence, as well as identify the species the disease could have infected. It can help us understand whether the disease was less likely to spread in particular climates or environments, whether it was more or less likely to afflict the malnourished more severely and whether those susceptible to the disease could develop resistance. If one takes account of the density, distribution and movement of the susceptible population and the extent to which the spread of the disease could be controlled, a confirmed diagnosis could also provide some idea of the prevalence of the pestilence in any affected region, regardless of how scant the sources.

Though they rarely do, diagnoses of pre-modern pestilences should begin with a full assessment of the written sources. Everything that can be known about the past disease or outbreak needs to be laid out. Thorough consideration of modern diseases should follow. Naturally, a diagnosis of a pre-modern pestilence based on an analysis of written evidence is only as good as the comparisons that can be made between the pre-modern disease (or outbreak) and a 'modern' disease (or outbreak). Diagnoses advanced without regard for the

properties of the past pestilence or the pathogens diagnosed can gravely mislead interpretations of the scale and impact of that past pestilence as well as, potentially, the science of the pathogens superimposed onto it. Doubt about the identification of the Black Death and subsequent waves of 'plague' as bubonic plague stems from the diagnosis of *Yersinia pestis* being forced onto the outbreak without much or any consideration of the medieval sources. At its root, the diagnosis is unsubstantiated. So, to advance a diagnosis on the basis of written evidence, it is necessary to establish some degree of similarity between a pre-modern pestilence and a 'modern' disease.[96] This is so for three reasons: a retrospective diagnosis is the superimposition of a 'modern' pathogen onto a pre-modern phenomenon; knowledge of 'modern' pathogens is based on modern occurrences and studies of disease; and there is rarely any hard evidence – DNA or RNA – that a 'modern' pathogen capable of causing large outbreaks of disease existed, in a similar form, at the time of the past pestilence. While the symptoms of a past disease or the epizootiology of a past outbreak can be compared to the symptoms of a 'modern' disease and epizootiology of a modern outbreak, only the epizootiology of the fourteenth-century panzootic can be grasped. Symptoms are not reported in the vast majority of the known literature and the one symptom that is reported cannot be confirmed.[97] That said, several epizootiological properties can be discerned, some of which have already been touched upon. These include the general geographical and temporal parameters of the pestilence, its modes of transmission, the species it affected, its morbidity, its mortality rates in herds, and the rate of mortality in individuals. The relevance of nutrition and whether animals developed resistance are also pertinent but, as discussed, difficult to ascertain.

As we have already seen, however, the use of the written evidence collected here is not clear-cut. When the snippets of annals and chronicles presented above are considered in the context of the works from which they were extracted, problems regarding their interpretation arise. In fact, though the texts permit the general spatial and temporal parameters of the pestilence to be observed, it is only when non-manorial and manorial evidence is considered in tandem that most epizootiological properties can be confirmed. A good grasp of the species the disease affected as well as the infection's morbidity and mortality can be had only when both non-manorial and manorial evidence is considered. Manorial accounts not only help to verify that the pestilence was panzootic in scale, but they provide a means to test the claims of other sources.

The majority of the non-manorial evidence states that the pestilence affected cattle alone. Nonetheless, three issues must be addressed. First, though texts such as the *Annales Matseenses*, *Gesta Edwardi de Carnarvan*, *Chronicon Lanercost*, and especially the *Chronicon Regiae Aulae*,

[96] For more on diagnosing (and a pessimistic view of its possibilities) see J. Arrizabalaga, 'Medical causes of death in pre-industrial Europe: some historiographical considerations', *J. Hist. of Medicine* 54 (1999); id., 'Problematizing retrospective diagnosis in the history of disease', *Asclepio* 54 (2002); A. Cunningham, 'Identifying disease in the past: cutting the Gordian knot', *Asclepio* 54 (2002).

[97] The infrequency with which symptoms are reported has more to do with textual precedent and how medieval authors recorded cattle pestilences then the infection being asymptomatic. Medieval writers very rarely describe disease symptoms in non-human animals. The Devonshire chronicler's note that a 'harsh pain' made cattle 'anxious on the inside' may be telling of a stomach, intestinal or digestive issue. On the other hand, this detail may have been borrowed or adapted from an earlier source or invented for literary flair.

suggest that several species died of or during the pestilence, these sources do not necessarily tell of a disease that afflicted several species or of a zoonose (a disease that afflicts humans and other animals). Medieval authors commonly wrote of pestilential mortalities of multiple species that may have occurred concurrently, at different points in the same year, or not at all, in a single entry. A miasmic conception of contagion could have also nourished the idea that contemporaneous or near-contemporaneous deaths of different species were the result of the same cause. Furthermore, medieval Europeans could not deduce with much assurance whether multiple species had died of the same disease or, for example, if all the cattle that died in a region succumbed to a single infection.

Second, it needs to be emphasized that relatively few references to outbreaks of disease among horses, sheep, pigs or other domesticated or undomesticated animals are found in medieval annals and chronicles. Of course, this does not mean that pestilential mortalities of non-bovine livestock did not occur – manorial accounts clearly illustrate they did. Mortalities of non-bovine livestock were simply not considered as noteworthy.[98] Medieval accounts of non-human pestilences may be cattle-centric because cattle generally carried greater agrarian and economic significance in the pre-industrial period (this perhaps explains why the ox is often singled out as the animal affected in pestilences of cattle) and mass mortalities of them were more likely to entail dramatic repercussions. Moreover, classical authors, so often a source of inspiration for medieval writers, mentioned cattle more in their texts than any other domesticated animal.[99] The point is, a 'pestilence of cattle' documented in medieval annals or chronicles cannot with absolute certainty be accepted as evidence that other animals did not die too; cattle may have deserved most comment. 'Modern' infections that spread widely among cattle, causing significant mortality, primarily or only affect cattle. This may assure some that pestilences of cattle documented in medieval texts also primarily or only afflicted cattle. Ultimately, only the manorial evidence confirms that the early fourteenth-century panzootic devastated cattle alone.[100] However, undomesticated animals may have also been susceptible and, in other stock, the pathogen may have caused a milder reaction. Lastly, the 'other animals' or 'animals' referred to in several chronicles such as the *Flores historiarum*, *Chronica monasterii de Melsa*, and the *Vita Edwardi II* can be translated as 'other cattle' or 'cattle'. John Langdon has noted that *animalia* may, in a medieval context, often refer to non-draught or even young cattle, as in Domesday Book.[101] While manorial accounts do not employ this terminology, by illuminating only extensive mortalities of cattle *c*.1320, they illustrate that the 'animals' seen in several texts can safely be understood as 'cattle', particularly during the panzootic of *c*.1315–25. What remains unclear is whether the flesh of cattle that died in the pestilence was contaminated

[98] There are exceptions, for example C. Gillmor, 'The 791 equine epidemic and its impact on Charlemagne's army', *J. Medieval Military Hist.* 3 (2005), pp. 23–45. Manorial accounts give us the opportunity to test the assertion that texts do not regularly observe non-bovine livestock pestilences. For example, no medieval chronicler appears to have mentioned the mortality of geese recently uncovered by Philip Slavin in manorial accounts from several English counties *c*.1320.

[99] M. MacKinnon, *Production and consumption of animals in Roman Italy: integrating the zooarchaeological and textual evidence* (2004), p. 86.

[100] As Kershaw noted: 'Great Famine', pp. 14, 24; id., *Bolton Priory: the economy of a northern monastery, 1286–1325* (1973), p. 98.

[101] Langdon, *Horses, oxen and technological innovation*, p. 294.

and whether birds, dogs and humans who scavenged on cattle carcasses fell sick or even died, as Beka, Trokelowe, Dynter, and some English legislation against the selling of diseased meat indicate. Whether the disease appeared first in another species in the fourteenth century and jumped to cattle is likewise uncertain.

The panzootic's general spatial and temporal parameters in Europe have already been discussed. More work with manorial accounts will allow us to discern with greater precision where and when the pestilence spread in England and parts of Wales. At present, the contours of the pestilence's dissemination on the continent are still quite vague. Across Europe authors generally gave no specific geographical parameters to the outbreak, though some, like the Irish annals, vaguely report that the pestilence affected an entire region or country. It can rarely be known with any certainty, moreover, if the disease persisted precisely where a text was composed. Closer attention to the area with which a text is primarily concerned with may shine some light on the spatial parameters of the pestilence in several regions. This sort of consideration is particularly needed where manorial accounts do not exist: in Bohemia, Germany, Denmark, France, the Low Countries, Scotland and Ireland. It is quite plausible that the infection widely afflicted many of these poorly documented regions. Attention to the extent of the outbreak in England, made apparent via manorial data, emphasizes this point. Figure 1 clearly illustrates that the disease did not skim England but permeated herds throughout most of the country. It is also likely that much of Wales was affected. Manorial evidence places the pestilence in the south and south-east of that country, and petitions, in the north-west. Blank areas on the map, rather than representing regions spared by the pestilence, show where manorial accounts *c.*1320 do not survive or where modern scholars have not yet looked in them for cattle mortalities. It is quite possible that many of the blank areas will be filled in when manorial accounts are searched.

The ubiquity of the pestilence demonstrated by this map is evidence of its communicability and morbidity. Indeed, it is fortunate that the panzootic occurred when manorial accounts were kept. The accounts allow us, for the first time in western history, to check claims found in medieval annals and chronicles about the universality of an outbreak of disease among cattle. The manorial evidence, as depicted on the map, demonstrates unquestionably that the fourteenth-century pestilence attained wide prevalence in England. The disease, therefore, must have been highly contagious and so probably spread just as ubiquitously across central, northern and north-western Europe where detailed evidence is not available. Further, if many cattle died, many fell sick, and if herd mortalities could reach 100 per cent as manorial accounts suggest, the disease was undoubtedly very communicable. The ability of the disease to spread from Bohemia to Ireland in roughly five years, infect much of England within one year, and spread rapidly north and west in England against the flow of the cattle trade from pastoral to mixed and arable regions, further demonstrates its contagiousness.

Non-manorial evidence is again very ambiguous about mortality. Other than the indications that cattle died quickly, little trustworthy information about mortality can be gleaned from the textual evidence. Remarks that the pestilence and mortality were 'great' or 'unheard of', or that 'all' the cattle of a given region were infected are vague, and when they are set in the greater context of medieval annals and chronicles, they are found to be simple and common qualifiers that can offer no credible insight into the magnitude of an event. Rarely were medieval disease




FIGURE 1. Locations affected by the panzootic *c.*1320.
The maps show most of the affected locations mentioned in this paper.

*Key to Figure 1:*

1 Aberdeen (Aberdeenshire)
2 Aldenham (Herts.)
3 Ashford (Kent)
4 Bangor (Caerms.)
5 Berwick (Northumberland)
6 Beddingham (Sussex)
7 Birdbrook (Essex)
8 Bolton (Priory) (Yorks.)
9 Bourton on the Hill (Glos.)
10 Bridlington (Yorks.)
11 Broughton (Cambs.)
12 Byfleet (Surrey)
13 Cheddington (Bucks.)
14 Canterbury (Kent)
15 Clipstone (Notts.)
16 Culham (Oxon)
17 Cuxham (Oxon)
18 Eaton (Norfolk)
19 Ely (Cambs.)
20 Feering (Essex)
21 Gateley (Norfolk)
22 Gravesend (Kent)
23 Hemsby (Norfolk)
24 Hendon (Middx)
25 Hexham (Northumberland)
26 Hinderclay (Norfolk)
27 Hindringham (Norfolk)
28 Horsley (Suffolk)
29 Houghton (Cambs.)
30 Isleworth (Middx)
31 Kelvedon (Essex)
32 Kinsbourne (Herts.)
33 Lanercost (Cumberland)
34 Llangwm (Monmouthshire)
35 Llantissent (Monmouthshire)
36 Louth Park (Lincs.)
37 Marley (Sussex)
38 Martham (Norfolk)
39 Meaux (Yorks.)
40 Morgonac (Glamorgan)
41 Newcastle (Northumberland)
42 Newenham (Devon)
43 Nostell (Yorks.)
44 Penrhosllugwy (Anglesey)
45 Plumstead (Norfolk)
46 Rimpton (Somt)
47 St Albans (Herts.)
48 Sempringham (Lincs.)
49 Sheen (Surrey)
50 Stevenage (Herts.)
51 Stoneleigh (Warks)
52 Teddington (Middx)
53 Thorncroft (Surrey)
54 Thornham (Norfolk)
55 Thorny (Cambs.)
56 Todenham (Glos.)
57 Turweston (Bucks.)
58 Tutbury (Staffs.)
59 Upwood (Cambs.)
60 West Wycombe (Bucks.)
61 Wheathampstead (Herts.)
62 Winchester (Hants.)
63 Wisbech (Cambs.).

episodes said to be 'mild', 'moderate', or 'on a familiar scale'. To be sure, a chronicler's claim that a pestilence was 'great' or 'unheard of' has more to do with textual paradigms then material world events. Because such phrases were commonly employed in the relation of disease outbreaks does not, however, mean that the pestilence they qualify was not demographically significant or that most of the susceptible animals in an afflicted region did not perish. Manorial accounts clearly indicate that the early fourteenth-century cattle pestilence was huge. Manorial data already published, together with some of the literature gathered above, as well as forthcoming work by Slavin, not only show that cattle of all ages (and uses) died but that herds affected by the panzootic exhibited an average mortality of around 60 per cent.[102] Bulk, 'panic' sales often accompanied the mortality and further diminished herds. Though many animals sold in these sales may have been sick, not all should be regarded as proxy deaths. More work with manorial accounts may illustrate that losses on some demesnes stemmed chiefly from panic sales, not infectious disease. It would not be surprising if many animals were offloaded pre-emptively or soon after the disease's appearance in a region, as the sicker an animal was, the less it was worth. Nevertheless, across the country, substantial mortalities were the rule.[103]

[102] W. C. Jordan, *Europe in the high middle ages* (2001), p. 293, suggests that herds were often reduced by more than 90 per cent, while Aberth, *Brink*, p. 22, states that English losses ranged between 20 and 70 per cent. Meanwhile H. F. Diaz *et al*., 'Climate and human health linkages on multiple timescales', in P. D. Jones *et al*. (eds), *History and climate: memories of the future?* (2001), p. 275, make the unevidenced claim that over half of Europe's oxen died.

[103] It is quite probable, however, that more cattle (not necessarily a higher percentage but simply more animals) would have died in England had the disease irrupted there *c*.1315. The initial harvest failures of the Great European Famine may have forced the sale and slaughter of many animals. Some cattle may also have succumbed to conditions related to malnutrition or even the consumption

Kershaw reports that between the account years of 1318–19 and 1320–1, the size of ox herds at Bolton Priory (Yorks.) fell from 139 to 53 (62 per cent) and other cattle from 225 to 31 (86 per cent). Some of these losses stemmed from raiding by the Scots, though most seem to be have been caused by disease. Mark Bailey reports similar declines on several Breckland demesnes. In many counties, disease stripped demesnes of cattle. At Skipton (Yorks.) at least 13 out of 26 oxen died (50 per cent) and a 'severe shortage of stock' is reported at Tutbury (Staffs.) *c.*1320. The demesne herds of Ramsey Abbey were also greatly reduced. Because of disease, Broughton's herd fell from 54 to six (89 per cent), Upwood's 47 to two (96 per cent), and Houghton's from 65 to nine (86 per cent). Beddingham reported 21 losses out of a herd of 29 (72 per cent). Byfleet lost 13 of 18 cattle (72 per cent).[104] Ely was also devastated, as were several estates in Norfolk. Campbell reports that the cattle population of 12 Norfolk and Suffolk demesnes was exactly halved between Michaelmases 1319 and 1320, but from all causes, not just disease.[105]

In the account year of 1320–1 several demesnes of Merton College, Oxford, were likewise devastated. In Cheddington (Bucks.), the number of oxen was reduced from fourteen to four (71 per cent) while the cow herd fell from nine to three (67 per cent). At Thorncroft (Surrey), losses were less severe. Both bulls, seven out of the 15 oxen, four of the 13 cows, and four of the nine calves died (44 per cent). Even more cattle survived at Cuxham (Oxon). Here the number of oxen dropped from 13 to nine (30 per cent) and cows from nine to five (44 per cent). Three calves and a bull were also lost. In Wales, Llangwm's ox herd fell from 33 to 26 (21 per cent).[106]

The total ox herd of the estates of Winchester in 1319–20, despite 'considerable purchases' having been made in the same accounting year, fell from 1088 head to just under 500. On four Crowland demesnes Kershaw reports that the number of oxen was lower than ever before. Stone observes that animal numbers at Wisbech were severely depleted from the pestilence and at Hinderclay 80 per cent of cows and 55 per cent of oxen died in the account year 1319–20.[107] Derek Stern reports a significant mortality of cattle at Kinsbourne and Campbell finds a decline of 58 per cent between the account years of 1318–19 and 1320–1 on the twelve Westminster demesnes of Ashford, Aldenham, Birdbrook, Bourton on the Hill, Feering, Hendon, Kelvedon, Kinsbourne, Stevenage, Todenham, Turweston, and Wheathampstead.[108]

Slavin finds a mortality of all 24 of Gravesend's cattle, and other 100 per cent mortalities at both West Wycombe and Culham. He also notes of an 83 per cent decline in the cattle herd

Note 103 *continued*
of rotten or toxic fodder. Had the infection made its way to Bolton Priory in 1314, for example, the number of dead would have greatly exceeded the losses sustained *c.*1320. Kershaw, *Bolton Priory*, pp. 14, 16–7, 97–8.

[104] Ibid., 96–8; id., 'Great Famine', pp. 25–6, n. 159; J. A. Tuck, 'The northern borderlands', in E. Miller (ed.), *The agrarian history of England and Wales*, III, *1348–1500* (1991), p. 35; Bailey, *Marginal economy*, pp. 201. These may be the same mortalities Bailey refers to in *Medieval Suffolk: an economic and social history, 1200–1500* (2007), p. 88; M. Coleman, *Downham-in-the-Isle: a study of an ecclesiastical manor in the thirteenth and fourteenth centuries* (1984), pp. 94, 130; Campbell, *English seigniorial agriculture*, pp. 167–8; S. Wright, 'Barton Blount: climatic or economic change?', *Medieval Arch.* 20 (1976), p. 149; Jordan, *Great Famine*, 38; Raftis, *Ramsey Abbey*, pp. 137–40, 240, 319; Mate, 'Agrarian economy', p. 86.

[105] See also Slavin, 'Death and survival', p. 41–3. The demesnes Campbell refers to here are Eaton, Gateley, Hemsby, Hinderclay, Hindolveston, Hindringham, Martham, Monks Granges, Plumsted, Sedgeford, Taverham, and Thornham. Pers. corresp. 15 Sept. 2008.

[106] Kershaw, 'Great Famine', pp. 24–7.

[107] Stone, *Decision-making*, p. 72; id., 'Farm management', n. 73, n. 77.

[108] Stern, *Hertfordshire demesne*, pp. 145, 175; pers. corresp. with Campbell, 15 Sept. 2008.

at Horsley. At Martham, Slavin reports a 72 per cent mortality, and at Hemsby, Hindringham and Plumstead mortalities between 50 and 60 per cent. At Eaton, Gateley, Monks' Grange and Thornham he reports losses around 50 per cent. J. A. Tuck also finds a 100 per cent mortality of oxen and dairy cattle at Hexham, and Clipstone and Sheen are known to have lost over 60 per cent of their cattle. The former had 186 cattle in 1316–17 and sixty-four in 1320, thirty-two of which were described as currently *morbosi*, 'diseased'. A 77 per cent loss occurred at Teddington and Kershaw presumes that the herd at Isleworth was badly affected.[109] At Crawley four oxen remained in 1321, the smallest number between at least 1208 and 1449.[110]

Mate remarked of a sizable cattle mortality at Canterbury Cathedral Priory over the account year of 1319–20 and Campbell has advised me that cattle units on the Kent manors of the Priory fell by 68 per cent from disease and bulk sales between 1318 and 1320, which is not surprising given the correspondence discussed above.[111] It is clear that 38 of 43 oxen and cattle died (88 per cent) at Eastry and that at Ebony six out of 22 cattle died, while 13 were sold 'because they were in danger of death'.[112] Though he makes no note of the size of these herds before or after the pestilence, Colm McNamee observes that Nostell Priory lost 59 oxen and over 400 cows and calves to the pestilence, and that six oxen were lost at Ponteland. Further south, Eleanor Searle reports significant losses of around two thirds at Marley near Battle.[113] As noted, a south-western chronicler claims that the Newenham abbey lost 164 head of cattle, though perhaps not all to disease. Christopher Thornton's analysis of the account rolls at Rimpton likewise demonstrates serious cattle mortalities in the south-west between 1319 and 1321 and Kershaw notes of a general complaint of a 'lack of animals' in Devon and Cornwall in 1322, which is undoubtedly an indirect reference to the presence of the pestilence there *c.*1320.[114] Sizeable losses may have also occurred at Southampton and in the Forest of Rossendale, Lancashire.[115] Though more circumstantial, the de Lacy earls in Blackburnshire are known to have possessed over 2400 cattle *c.*1300 and only 415 in 1324.[116]

Some demesnes clearly fared much better than others. At Llantissent a 13 per cent mortality is observed, at Gnatingdon only 28 per cent of the herd perished, and some demesnes in, for example, Dorset, Essex, Hertfordshire, Norfolk and Yorkshire escaped the pestilence altogether.[117] Nevertheless, losses due to disease in affected demesne herds were generally

[109] Slavin, in preparation; id., 'Death and survival', pp. 41–3; Tuck, 'Borderlands', p. 35; Kershaw, 'Great Famine', pp. 25, 42.

[110] N. S. B. Gras, *The economic and social history of an English village (Crawley, Hampshire), A.D. 909–1928* (1930), p. 384.

[111] Mate, 'Impact of War', p. 771.

[112] Mate, 'High prices', p. 12.

[113] C. McNamee, *The wars of the Bruces: Scotland, England and Ireland, 1306–1328* (1997), pp. 107–8; E. Searle, *Lordship and community: Battle Abbey and its banlieu* (1974), p. 285, n. 38.

[114] C. Thornton, 'Efficiency in medieval livestock farming: the fertility and mortality of herds and flocks at Rimpton, Somerset, 1208–1349' in P. R. Coss and S. D. Lloyd (eds), *Thirteenth-century England*, IV (1992), p. 33; Kershaw, 'Great Famine', p. 42.

[115] Fleming, *Animal plagues*, p. 93, states that J. E. Thorold Rogers observed a cattle mortality at Southampton in his *A history of agriculture and prices in England* (7 vols, 1866–1902), II, *1259–1400*. However, I find no evidence of such an observation in volume I or II of this work. Fleming may have read too much into Roger's price indices. G. H. Tupling notes that a large number of cattle died from murrain in Rossendale but does not provide any specific dates, though he implies the early fourteenth century. *The economic history of Rossendale* (1927), pp. 26–7.

[116] McNamee, *Wars of the Bruces*, pp. 107–8.

[117] Slavin, in preparation; Slavin, 'Death and Survival', pp. 41–3.

quite significant. A larger sample of manorial data may slightly change the estimated herd mortality of 60 per cent, but much more research is needed to deduce an average mortality of all demesne herds, affected and unaffected, throughout England. Variation in herd mortality also warrants further study. It is possible that physical isolation caused by differences in cattle density, distribution and movement may have accounted for why some animals and whole herds escaped. The prolonged concentration of animals indoors during cold periods or around sources of water and food in areas afflicted by drought and scarcity could also conceivably account for some of the variation seen in mortality. The mortality rate in an individual animal would have been, like the morality rate of an infected herd, quite high. However, though 60 per cent of cattle in afflicted herds may have been lost on average, the mortality rate in an individual animal exposed to the disease would have been closer to 100 per cent. It cannot be assumed that 40 per cent of a herd recovered if 60 per cent perished, as it is impossible to tell how many animals in any infected herd were in fact infected. There is also no evidence to indicate that sick cattle got better.

Regardless of some uncertainties and tentative conclusions a relatively clear picture of the panzootic's epizootiology can be drawn. This allows us to compare the early fourteenth-century pestilence with 'modern' diseases of cattle and establish some degree of affinity between them, possibly providing the grounds for a diagnosis. This process is more complex and controversial than can be demonstrated here. While the strengths, weaknesses and motivations of the diagnosis require further thought, a preliminary inquiry indicates that of all 'modern' diseases of cattle, the most likely diagnosis is rinderpest. Indeed, there is a striking similarity between the epizootiology of the early fourteenth-century panzootic and the epizootiology of what are commonly thought to be outbreaks of rinderpest in the eighteenth and nineteenth centuries.

The rinderpest virus is thought to have originated in Asia around the Caspian Basin, but is currently believed to be confined to the Greater Horn of Africa. It is a severely acute and contagious disease of bovines. The virus, a member of the morbillivirus genus that includes measles, canine distemper and *peste des petits ruminants*, can cause mortality rates in excess of 90 per cent in virgin populations though strains range in virulence. The infection is primarily spread by direct contact between healthy and infected cattle, specifically via virus-rich aerosol droplets and secretions. Most modern outbreaks have occurred following the introduction of live, but sick cattle into healthy populations. Additionally, indirect transmission may occur following contact with infected bedding, water, fodder, blood, tears, semen, waste and other excretions. Following an incubation period of three and nine days, in acute strains like those seen among virgin populations, infected animals experience fever, restlessness, depression, anorexia, shallow and rapid breathing, and plentiful nasal secretions and salivation. Cattle begin to drink excessively and eventually exhibit profuse and uncontrolled diarrhea. They become reluctant to move, dehydrated, emaciated and the pregnant commonly abort. Animals that recover acquire life-long immunity. Peracute variants of the virus can cause death within two days of the appearance of fever (before the onset of diarrhea), while mild variants are characterized by low mortality.[118]

[118] T. Barrett *et al.*, *Rinderpest and* peste des petits ruminants*: virus plagues of large and small ruminants* (2006).

## IV

This paper has identified a cattle panzootic irrupting in Bohemia *c.*1315 and spreading westward across Europe to Ireland by 1321. It has sought to discern the origins, spread, and duration of the outbreak, as well as several of its epizootiological properties. Much about this pestilence, however, remains uncertain. Many of the aspects touched upon here require further research, from the chronology of its dissemination on the continent to its relation to cattle mortalities in the first decade of the fourteenth century and in the mid-1320s and '30s. The timing of the panzootic is of particular interest. Much of central, northern and north-western Europe suffered a remarkable number of major catastrophes in the first half of the fourteenth century. In a period of 35 years, these regions witnessed a massive subsistence crisis, the Great European Famine of 1314–22, pronounced mortalities of humans and sheep *c.*1314–17, the deterioration of climate and the onset of the Little Ice Age, and the Black Death of 1346–52, which, like the panzootic, diffused rapidly across Europe and caused vast mortality. Whether or not it was simply an unfortunate coincidence that a great plague of cattle irrupted in this period may never be determined.[119] The rinderpest diagnosis advanced here, it should also be stressed, remains merely a suggestion. This identification needs to be explored further and confirmed via interdisciplinary studies. While foot-and-mouth disease, as we know it, could not have so decimated cattle, other 'modern' infections, such as contagious bovine pleuropneumonia, should not yet be discounted.

In demonstrating the contours of the outbreak and drawing attention to the wealth of written evidence available for its reconstruction, it is hoped that scholars in the archaeological and biological sciences will take up interest in its diagnosis. A retrospective diagnosis, like the one suggested here, may provide direction for a palaeomicrobiological study of the panzootic's identity. Certainly we need laboratory analyses of the pathological causes of pre-modern disease outbreaks among all animals, not just humans. Though virulent infections that kill quickly are likely to affect soft tissues only and not leave observable stigmata on the skeleton, bacterial or viral DNA or RNA can be extracted from material remains.[120] It is hoped too that in commenting on the panzootic's temporal and spatial parameters, duration and epizootiology, the paper has set the stage for the examination of its impact. While there is a dearth of detailed evidence across much of Europe, a significant body of data survives in England and parts of Wales, allowing the consequences of the pestilence for human populations and economies to be examined in some detail. Several of the English texts discussed here, such as the *Flores Historiarum*, *Chronicon Lanercost* and *Gesta Edwardi II*, also observe some of pestilence's effects, though in rather basic terms. Consideration of the English experience will provide some idea of how the panzootic impacted other areas of Europe and how pre-modern Europeans

[119] For further comment, see Campbell, 'Nature as historical protagonist'.

[120] Many complications, however, must be overcome both when extracting viral or bacterial DNA or RNA from bones and when attempting biomolecular detection of 'modern' pathogens in pre-modern remains. Threats of contamination and false positives are real. Even if the disease did affect the skeleton, interpreting and diagnosing lesions is not a simple exercise. T. Waldron, *Palaeopathology* (2008), pp. 21–23, 83–4; C. Roberts and K. Manchester, *The archaeology of disease* (2005), pp. 167, 179–81, 220; S. Hummel, *Ancient DNA typing: methods, strategies and applications* (2003).

could be affected by and respond to large and sudden losses of draught animals. More generally, historians need to pay more attention to the written evidence available for medieval and early modern outbreaks of disease among livestock. Though the well-being of livestock had great ramifications for human populations and economies, the temporal and geographical parameters of most pre-modern livestock pestilences have yet to be identified. There is much work to be done in the field of medieval and early modern livestock health, of which this study of the early fourteenth-century panzootic is but a start.

# Subverting the ground: private property and public protest in the sixteenth-century Yorkshire Wolds*

*by* Briony A. K. McDonagh

*Abstract*

As a forum for litigating property disputes, the Star Chamber left records that provide crucial evidence for investigating the way people understood and experienced the landscape around them at precisely the time that the modern concept of property in land was emerging. Using cases from the Yorkshire Wolds, the paper explores the roles litigation, direct action and riots played in both asserting and subverting property interests, with the aim of reclaiming something of the materiality of the events reported in the court. Particular attention is paid to two key practices by which enclosure and common rights could be negotiated 'on the ground': that is, by grazing animals on the common fields or closes and by ploughing up – or subverting – grassland.

This paper uses the Star Chamber archive to explore land disputes and the meaning – and making – of private property in the sixteenth-century Yorkshire Wolds. It offers a 'pre-history' of enclosure in a county where research has typically focused on the parliamentary enclosures of the eighteenth and nineteenth centuries.[1] Yet the sixteenth century was a key period of change and the suits brought before the court shed considerable light on the roles litigation, collective action and riots played in articulating title to land and negotiating common rights.

Named after the painted ceiling of the room in which it was held at Westminster, the Star Chamber was one of the central equity courts, and emerged as a separate court of law in the early sixteenth century. The records of Star Chamber suits survive in some numbers for the

* I am grateful to the two anonymous referees for their immensely helpful comments, and to Richard Hoyle for his thoughts on an earlier version of the paper presented at the British Agricultural History Society conference in April 2007.

[1] For example, J. Lawler, 'The effect of enclosure on four Wolds villages: Weaverthorpe, Helperthorpe, East Lutton and West Lutton', *East Yorkshire Historian* 3 (2002), pp. 55–145; J. P. Dodd, 'Politics and agriculture in the East and North Ridings of Yorkshire', *Yorkshire Archaeological J.* [hereafter *YAJ*] 60 (1988), pp. 159–72; J. E. Crowther, 'Enclosure, topography and landownership in Eastern Yorkshire', in M. Turner and D. R. Mills (eds), *Land and property: the English Land Tax, 1692–1832* (1986), pp. 71–90; B. Loughbrough, 'An account of a Yorkshire enclosure: Staxton, 1803', *AgHR* 13 (1965), pp. 106–15; A. Harris, *The rural landscape of the East Riding of Yorkshire, 1750–1850: a study in historical geography* (1961); O. Wilkinson, *The agricultural revolution in the East Riding of Yorkshire* (East Yorkshire Local History ser. 5, Hull, 1956).

Yorkshire Wolds from the early sixteenth century onwards.[2] Although undoubtedly structured by narrative and legal frameworks dictating the way evidence should be presented and people's stories told, the pleadings and depositions from the Star Chamber nevertheless provide crucial evidence for investigating the way people defined, understood and experienced the landscape around them.[3] Moreover they do this in precisely the period when the modern concept of property in land was first emerging.

Late medieval ideas about property were very different from modern ones. Firstly, the medieval concept of property expressed in the common law did not equate the concept of property with the thing itself, but with rights in the thing. In this sense, property was expressed as a right in or claim to land or chattels, rather than acting as a shorthand for the chattels themselves as in modern usage.[4] As a result, property was in Harding's words 'more conditional and less exclusive and individualistic than it is now. Contemporaries recognized the simultaneous existence of a plurality of interests in one space – some of them deferred, some contingent, and some barely enforceable'.[5] Secondly, throughout the later medieval period the term 'property' strictly applied only to personal, rather than real, property; that is, to goods and animals rather than land. Thus the medieval Year Books draw a strict distinction between *propreté* in chattels and *dreit* (rights) in land.[6]

Only in the fifteenth century did the abstract Romanized concept of property begin to emerge and by the first decades of the sixteenth century common lawyers had started to apply the notion of absolute property to land disputes. For example, Christopher St German's *Doctor and student*, published in the late 1520s, used an extensive, abstract and universal 'law of property' (*lex proprietatis*) which was applicable to land and goods.[7] Yet this abstract notion of property was not universally accepted and the rigid distinction between personal and real property was maintained by some throughout the seventeenth century: in 1607, John Cowell recognized property in personal goods, but denied its existence in land, and as late as 1651 William Noy's posthumously published *The complete lawyer* applied the word property solely to moveable goods.[8]

In the same period multiple use rights gradually gave way to individualized ownership, as increasing amounts of land were enclosed in severalty by landlords and the common rights of their neighbours extinguished. A wholly enclosed landscape was not achieved in East Yorkshire or much of the Midlands until the parliamentary enclosure movement of the late eighteenth and nineteenth centuries.[9] Yet the sixteenth century was, nevertheless, an important period of change. The sheep-corn economy was well developed in the Wolds by the late medieval period, but both sheep and rabbits seem to have made significant inroads into the economy in

[2] A. Wood, *Riot, rebellion and popular politics in early modern England* (2002), p. 46.

[3] B. A. Hanawalt, *'Of good and ill repute': gender and social control in medieval England* (1998), pp. 124–41; L. Gowing, *Common bodies: women, touch and power in seventeenth-century England* (2003), pp. 13–14.

[4] D. J. Seipp, 'The concept of property in the early common law', *Law and Hist. Rev*. 12 (1994), pp. 29–91.

[5] V. Harding, 'Space, property, and propriety in urban England', *J. Interdisciplinary History*, 32 (2002), pp. 549–69.

[6] Seipp, 'Concept of property', pp. 32–3 and 35–51; M. Sampson, '"Property" in seventeenth-century English political thought', in G. J. Schochet, P. E. Tatspaugh and C. Brobeck (eds), *Religion, resistance and civil war: papers presented at the Folger Institute seminar* (1990), pp. 259–75.

[7] Seipp, 'Concept of property', pp. 31 and 47.

[8] Sampson, 'Property', p. 265; G. E. Aylmer, 'The meaning and definition of "property" in seventeenth-century England', *Past and Present* 86 (1980), pp. 87–97.

[9] Harris, *Rural landscape*, p. 18.

the later fifteenth and sixteenth centuries.[10] Enclosures and evictions were reported in the 1517 inquisitions of depopulation at Wharram Percy, Thirkleby (par. Kirby Grindalythe), Hanging Grimston (par. Kirby Underdale) and Caythorpe (par. Rudston), all of which were linked to the expansion of sheep walks or warrens.[11] The Wolds are, of course, famed for deserted villages, and the Star Chamber suits offer insights into the circumstances in which some settlements were depopulated. Elsewhere in the Wolds there is evidence for an expansion of land held in several ownership, as common field systems were reorganized, deer parks extended and demesnes consolidated. For example, at Risby (par. Rowley) Sir Ralph Ellerker laid out the deer park in *c*.1540 at the same time as he created a consolidated block demesne and enclosed the East Field. Further north at Scorborough a deer park was laid out in the late fifteenth century, whilst at neighbouring Leconfield the medieval park was extended in the first decades of the sixteenth century over the site of a previously deserted hamlet.[12] Moreover, as the paper will show, most of the enclosures recorded in the Star Chamber, like the vast majority of those reported in 1517, were undertaken with the intention of converting arable land to pasture, a profitable undertaking at a time when grain prices were low and wages high.[13]

Thus the sixteenth century was a key period in the transition from complex use rights to more individualized forms of land ownership. Enclosure and assarting had, of course, taken place throughout the medieval centuries, sometimes engendering fierce opposition, but the pace of enclosure seems to have quickened in the sixteenth century at the same time as concerns about enclosure and the related process of amalgamating or engrossing farms were first raised at the national level.[14] The late sixteenth and early seventeenth centuries in particular were marked by popular and sometimes violent opposition to the extension of private property rights. The failed uprising of 1596 and the Midland Revolt of 1607 focused on the champion landscapes of Leicestershire, Northamptonshire and Warwickshire, but they were followed in the late 1620s and 1630s by widespread enclosure riots in the wood-pasture regions of south-west England and in the fenlands of Lincolnshire, East Anglia and Somerset.[15]

[10] E. Miller, 'Farming practice and techniques: Yorkshire and Lancashire', in E. Miller (ed.), *The agrarian history of England and Wales*, III, *1348–1500* (1991), pp. 182–94; J. Thirsk, 'The farming regions of England', in J. Thirsk (ed.), *The agrarian history of England and Wales*, IV, *1500–1640* (1967), pp. 1–112, especially pp. 33–4.

[11] I. S. Leadam, 'The Inquisition of 1517: inclosures and evictions' (in two parts), *Trans. Royal Hist. Soc.*, sec. ser. 6 (1892), pp. 167–314 and 7 (1893), pp. 127–292, especially pp. 247–9; VCH, *East Riding* II, p. 315; VIII, p. 138; M. W. Beresford, 'The lost villages of Yorkshire', *YAJ* 38 (1954), pp. 325–59; J. W. Clay (ed.), Testamenta Eboracensia, *or, Wills registered at York*, VI (Surtees Soc. 106, 1902), pp. 106–7.

[12] Borthwick Institute of Historical Research, University of York, [hereafter BIHR], CP G 2654; Leadam, 'Inquisition', [pt 2], p. 248; VCH, *East Riding* IV, p. 13; Beresford, 'Lost Villages', p. 67. For a fuller discussion of these examples, see Briony A. K. McDonagh, 'Manor houses, churches and settlements: historical geographies of the Yorkshire Wolds before 1600' (Unpublished PhD thesis, University of Nottingham, 2007), pp. 201–4.

[13] B. M. S. Campbell, 'People and land in the Middle Ages, 1066–1500' in R. A. Dodgshon and R. A. Butlin (eds), *An historical geography of England and Wales* (1990), pp. 69–121.

[14] C. Dyer, 'Conflict in the landscape: the enclosure movement in England, 1220–1349', *Landscape Hist.*, 29 (2007), pp. 21–33; I. Blanchard, 'Population change, enclosure and the early Tudor economy', *EcHR* 23 (1970), pp. 427–45.

[15] E. F. Gay, 'The Midland Revolt and the Inquisitions of Depopulation of 1607', *TRHS*, sec. ser., 18 (1904), pp. 195–244; K. Lindley, *Fenland riots and the English Revolution* (1982); M. Williams, *The draining of the Somerset Levels* (1970); B. Sharp, *In contempt of all authority: rural artisans and riot in the West of England, 1586–1660* (1980).

Much of the existing research has focused on these revolts and uprisings, along with the rebellions of 1536–7 and 1548–9, while those who have examined the records of Star Chamber have generally used them to investigate the geography of enclosure riots and their changing characteristics over the sixteenth and seventeenth centuries.[16] Relatively little attention has been paid to the role these riots and other small-scale, localized breaches of the peace played in negotiating and resisting the extension of private property rights, or to riots as a means of negotiating property disputes more generally. This is precisely what this paper seeks to do. The paper begins by introducing the Court of Star Chamber, its role in litigating property cases, and the nature of the surviving archive. Part II examines the Star Chamber suits for the Yorkshire Wolds in more detail, focusing on the nature of the riots reported in the court cases, the violence they involved, and the social status of the litigants and rioters. Parts III and IV explore the plaintiffs' and defendants' accounts of the riots for what they reveal about how property interests – including both enclosures and common rights – were negotiated in the sixteenth-century Wolds. Particular attention is paid to two key practices by which private property rights could be both promoted and resisted: that is, by grazing animals on the common fields or closes and by ploughing up grassland. The final section offers some concluding comments.

## I

Despite statutes issued under Edward III which forbade the council to determine matters of freehold, many suits concerning title to land were brought before the Star Chamber in the later fifteenth and early sixteenth century.[17] Bills of complaint typically alleged various criminal offences had been committed including riot, unlawful assembly, forcible entry, dispossession, assault and theft of personal goods. By framing their bills in terms of criminal offences, petitioners used the court to decide matters of title. There was nothing inherently new in this. In the fifteenth century, actions for trespass and the detinue of charters were much used to try title to land, just as the statutes of forcible entry, introduced between 1381 and 1429, and the assize of novel disseisin, had earlier served the same function.[18]

Moreover, because the equity court procedure was distinct from the common law in that it was based on written rather than spoken evidence, the Star Chamber produced a large body of written material.[19] That said, the archive is not complete. Guy estimated that as much as half the original archive has been lost, and the presence or absence of material also reflects the activity or inactivity of other courts. The Council of the North at York took the place of the

[16] A. Wood, *The 1549 rebellions and the making of early modern England* (2007); R. W. Hoyle, *The Pilgrimage of Grace and the politics of the 1530s* (2001); B. L. Beer, *Rebellion and riot: popular disturbances in England during the reign of Edward VI* (1982); R. B. Manning, *Village revolts: social protest and popular disturbances in England, 1509–1640* (1988); A. Charlesworth (ed.), *An atlas of rural protest in Britain, 1548–1900* (1983).

[17] J. A. Guy, *The Court of Star Chamber and its records to the reign of Elizabeth I* (1985), p. 52; R. W. Hoyle (ed.) *A handlist of Star Chamber proceedings before 1558 for northern England* (2003), pp. vii, viii–ix.

[18] A. W. B. Simpson, *A history of the land law* (1986), pp. 42–6.

[19] *Chancery proceedings: equity suits from 1558*, TNA Legal Records Information 22, available at www.nationalarchives.gov.uk/catalogue/RdLeaflet.asp?sLeafletID=165; *Early chancery proceedings: equity suits before 1558*, TNA Legal Records Information 42, available at www.nationalarchives.gov.uk/catalogue/RdLeaflet.asp?sLeafletID=19, both accessed 10 May 2005.

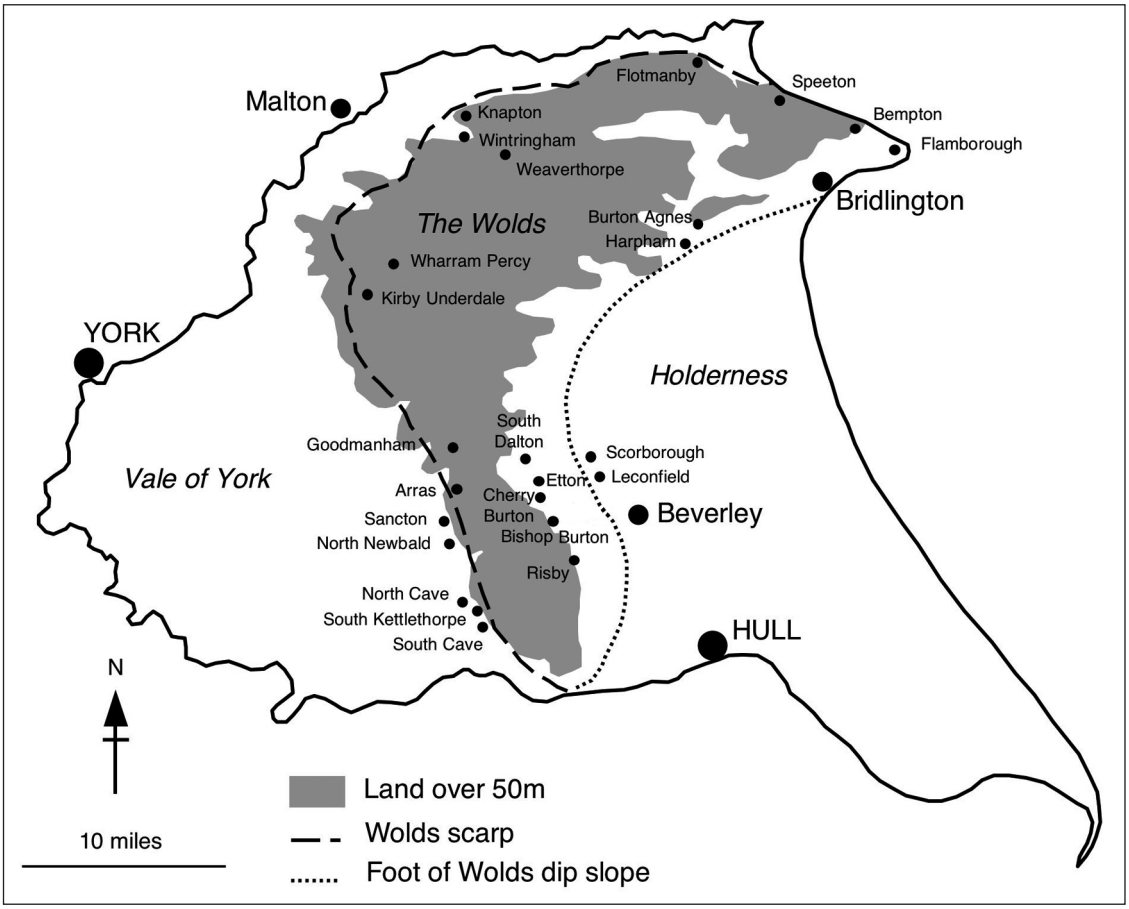



FIGURE 1. Places mentioned in the text.

Star Chamber in northern England for those periods when it was active, but its records have not survived.[20] The local common law courts also dealt with riots and trespass, and the Quarter Sessions and Assizes may in fact have been the first ports of call for many litigants. Yet nothing survives for the East Riding before the late seventeenth century. Manorial courts too dealt with minor riots and occasional boundary disputes, but the extant records for the Wolds are highly fragmentary and have not been analyzed in detail here.

Nor are the surviving Star Chamber records easy to use. The original cataloguing procedure was complex: related material was filed in several bundles or series, and though the pleadings were catalogued under the principal plaintiffs' and defendants' surnames, the court commonly altered the principal plaintiff, so the same suit might be listed under several different names. The initial bills of complaint were varyingly accompanied by answers, replications, rejoinders, interrogatories and depositions, only some of which generally survive for each suit. There are no decrees, orders or arbitration awards extant; hence the outcome of most suits is unknown.

[20] F. W. Brooks, *The Council of the North* (1953), pp. 20–21; Hoyle, *Handlist*, pp. ix–x.

Moreover, only some of the surviving records are indexed by place although there is a useful handlist of northern suits dating from before 1558.[21]

Much of the material discussed in this paper was published by the Yorkshire Archaeological Society Record Series in four volumes between 1909 and 1927, covering the volumes and bundles now catalogued at The National Archives as STAC 1 and STAC 2. The series includes papers from *c.*1485 to 1625, but the 20 suits which relate to events or property in the Wolds, the location of which is shown in Figure 1, are dated between 1514 and 1536. The reconstituted Council of the North was active from 1537, and it is therefore not surprising that the small, unpublished series covering the reigns of Edward VI and Mary contain only one further suit.[22] The remainder of the material discussed here is drawn from STAC 5, the largest series of Star Chamber records containing around 35,000 documents covering the reign of Elizabeth I. STAC 5 has no place or county index, so it is often impossible to identify suits relating to a particular place without consulting the original documents. This makes it difficult to identify material pertaining to the Yorkshire Wolds, except where the name of the plaintiff or defendant and the existence of the suit can be identified from another source. The suits discussed here were identified by searching for all the surnames of individuals known from property records and other documents used elsewhere in the doctoral project.[23]

## II

Like many Star Chamber suits, the vast majority of the 28 suits relating to the Yorkshire Wolds were concerned with rights in land and a smaller number with the theft of agricultural produce or goods.[24] Some of the suits refer to disputes over rights in common or recently enclosed land – sometimes culminating in enclosure riots – or to disputes between neighbouring lords over tenants' rights in common land. The suits are interesting not only for what they reveal about how land and other property might be conceived as privately owned, but also for what they tell us about how private and common rights in land might be negotiated through litigation, collective action and riot.

The vast majority of the litigants from the Yorkshire Wolds alleged riot or riotous assembly against the defendants.[25] Much the same is true at the national level: for example, Guy found that in his sample of 473 suits filed under Wolsey (*c.*1515–1529), 48 per cent of plaintiffs alleged riot, rout or unlawful assembly against the defendants.[26]

Yet with the exception of the 1536 Pilgrimage of Grace and the 1549 uprisings in the northern Wolds and the Vale of Pickering, the riots recorded in the Star Chamber archive were not widespread rebellions but local breaches of the peace.[27] While the actions of the Wolds rioters were no doubt at least partially informed by the wider political climate, the riots generally

[21] Hoyle, *Handlist*.

[22] Hoyle, *Handlist*, p. 16; TNA, STAC 4/10/11.

[23] McDonagh, 'Manor houses'.

[24] Only three suits have been identified that included no claim to land or agricultural goods, but focused instead on defamation or violent crimes such as attempted murder.

[25] Wood, *Riot*, p. 46. The plaintiffs alleged riot or riotous assembly in 20 out of 28 – or 71 per cent – of the Wolds suits.

[26] Guy, *Star Chamber*, p. 52.

[27] Beer, *Rebellion and riot*, pp. 159–161; A. G. Dickens, 'Some popular reactions to the Edwardian Reformation in Yorkshire', *YAJ* 34 (1939), pp. 151–69.

aimed to protect specific agrarian practices or the local allocation of resources, rather than to affect central government policy towards the peasantry, yeomen class or religious institutions. In general, the Wolds riots were relatively small in scale. On average, plaintiffs claimed they had counted 20 rioters, although the numbers reported in individual incidents ranged from as few as three at Bishop Burton in 1523 to 105 in another riot in the same village in 1524. Perhaps not surprisingly, most plaintiffs could produce the names of less than half the number they claimed were involved, so that the mean number of people actually named as rioters in the bills of complaint was only eight.[28] This is apparently much the same across the country, for as both Wood and Manning have noted, small-scale, local crowd actions easily make up the bulk of riotous suits heard by the Star Chamber and other courts.[29]

Guy drew a distinction between real and alleged cases of riot, arguing that only 7 per cent of his sample 'yields evidence of genuine rioting', whilst the remaining 41 per cent of suits were concerned with title to property.[30] Yet one should be wary of assuming that the criminal offences alleged in the bills were fictional or grossly exaggerated. The Star Chamber seems to have worked with a very broad definition of riot, no doubt at least partially based on the common law which defined a riot as 'three or more persons assembled in a violent and tumultuous fashion, under their own authority, with the mutual intent of committing a breach of the peace'. While the Star Chamber's definition of riot included both extended disturbances and lesser collective actions, the dispossessions and thefts reported in the bills for the Yorkshire Wolds and elsewhere were generally accompanied by some degree of violence against the person.[31]

Many plaintiffs claimed they had been seriously assaulted, something which was often not disputed by the defendants in their answers. Thomas Gowle was not untypical when he claimed that men who had riotously arrayed themselves with weapons and entered into his tenement and land at Bempton in May 1579, had beaten and wounded him so severely that he was 'still lame of his armes and leges' some months later.[32] In a single bill of 1600 Michael Wharton Esq. of Beverley Parks complained that he had been assaulted on no less than six occasions between May 1598 and April 1599 in places as far apart as London and Thorpe-le-Street near Market Weighton (East Riding), as well as on the ferry between Barton and Hull.[33] Other petitioners complained that their servants and tenants had been beaten and wounded or that the defendants 'lay in wayte' for the plaintiff or his men so as to kill or maim them.[34] Several petitioners alleged that the defendant or defendants had attempted to murder them, their kin or servants. At the other end of the spectrum, violence included intimidating words spoken whilst bearing offensive weapons, hence the emphasis in many of the bills of complaint on crowds who carried 'billes, staffes, clubbes, pycheforkes and oder wepons after the maner of warre'.[35]

[28] Where counter bills describing the same riot were lodged with the Star Chamber, the mean number of rioters reported in the two or more bills was calculated. This was then used in calculations of the overall mean number of rioters involved in the 20 Wolds riots.

[29] Wood, *Riot*, p. 41; R. B. Manning, 'Patterns of violence in early Tudor enclosure riots', *Albion* 6(1974), pp. 132, 129.

[30] J. A. Guy, *The cardinal's court: the impact of Thomas Wolsey in Star Chamber* (1977), p. 15; Guy, *Star Chamber*, p. 52.

[31] Wood, *Riot*, pp. 41, 47.

[32] TNA, STAC 5/G23/5.

[33] TNA, STAC 5/W15/32.

[34] W. Brown *et al.* (eds), *Yorkshire Star Chamber Proceedings* [hereafter *YSCP*] (4 vols, Yorkshire Archaeological Society Record Ser., 41, 45, 51, 70, 1909–27), II, p. 135.

[35] Manning, *Village revolts*, p. 57; *YSCP*, I, pp. 131–7.

The status of the litigants and rioters in the Star Chamber can be fruitfully considered. Of the great magnate families, only the earls of Northumberland appear in the Star Chamber papers for the Wolds. Despite owning land in the Wolds at Londesborough and being involved in the widespread enclosure riots in Craven in 1535, the earls of Cumberland do not appear in the Wolds suits.[36] Members of local gentle families like Sir John Hotham of Scorborough and Sir Robert Constable of Flamborough were more frequent litigants, and the latter was cited in numerous bills of complaint. Yet the litigants were by no means all members of the gentry and nobility. Some were freeholders, and even husbandmen or their widows might petition the Star Chamber, as in the case of Isabel Goddishalf, widow of a husbandman from Newbald, who described herself as the mother of 'iiij poor children'.[37]

Rioters, like litigants, were drawn from a wide variety of social groups. Gentle individuals were often identified as the leaders of the riots, but rather than assume like Manning that rivalries between the gentry were always in the background of enclosure riots, we might suggest that litigants in the Star Chamber were often keen to ascribe the leadership of riots to the gentry.[38] Hoyle suggests that landowners sometimes assumed that neighbouring gentry were behind unrest rather than acknowledge the role played by the lower orders in organizing riots.[39] The role played by the gentry might also be exaggerated by those keen to ratchet up the charges against the defendants: by arguing that their tenants had confederated with a neighbouring landowner who had no private interest in the enclosed land, plaintiffs might imply that the riot was a strike against enclosures more generally and was thus technically punishable as treason.[40] In reality, yeomen and husbandmen were usually said to have made up the majority of those present at riots in the Wolds, even where the gentry were identified as playing a leading role. In other words, aristocratic, gentle and 'middling' householders all played a significant role in negotiating access to and property in land, as did women who might play the role of litigants or rioters.

## III

The plaintiffs lodging bills in the Star Chamber generally claimed title to the land as private property, arguing that they had been wrongfully and often violently dispossessed. Many of them complained that the land in question had been mismanaged or its use changed whilst wrongfully occupied by the defendants. These suits are revealing not only for what they disclose about the meaning of enclosure, private property and ownership, but also because they imply that title to land might be successfully articulated through possession, use and practice.

The Star Chamber papers for the Yorkshire Wolds include a number of suits in which plaintiffs complained that defendants had wrongfully pastured sheep, horses or cattle on their land. Some of these suits explicitly referred to issues of title. For example, Sir John Hotham complained in

[36] R. W. Hoyle, 'Clifford, Henry, first earl of Cumberland (*c*.1493–1542)', *Oxford Dictionary of National Biography* (2004), available at www.oxforddnb.com/view/article/5647, accessed 7 Nov. 2006; Manning, 'Patterns', pp. 128–9.

[37] *YSCP*, I, p. 133.

[38] Manning, 'Patterns', p. 121.

[39] R. W. Hoyle, 'Thomas, Lord Darcy, and the Rothwell tenants, *c*.1526–34', *YAJ* 63 (1991), pp. 85–107.

[40] Wood, *Riot*, p. 42.

1506 that horses belonging to the earl of Northumberland had been feeding in closes of corn and hay at Scorborough, a parish at the bottom of the Wolds dipslope.[41] The allegation was part of a long list of complaints against the earl, which explicitly aimed to assert Hotham's title over meres, pastures and meadows which lay between his estate at Scorborough and the earl's manor of Leconfield. The suit was part of a property dispute between neighbouring manorial lords and the grazing animals were used as a means of articulating and negotiating the boundary between the manors. In this sense, what one sees at Scorborough is not necessarily *popular* opposition to the extension of *private* property interests.

However in other suits, complaints about the depasturing of animals on crops or leys signal an element of popular discontent at enclosure or the loss of common rights. The type of land depastured varied from suit to suit, but included arable at Scorborough and Bishop Burton, meadow balks at Sancton and woodland at Goodmanham and Weedley. At least some of this land was enclosed and it is clear that hedges, fences and ditches were removed at North Cave in 1534, at Houghton in 1588, and at Goodmanham in 1599.[42] In 1588, more than twenty men from the neighbouring village of North Cliffe had armed themselves with weapons and assembled in a riotous manner near a close called Gill Garth in Houghton (par. Sancton). The rioters had 'Entered into the said close … and there in most ryotus and dispitefull mannor did with there swords and pytcheforkes did cut and break down the hedge and cut upp the Earth'. The plaintiff Peter Langdale complained that they had then occupied the close, driven his cattle out and menaced him, saying that they would kill or maim him.[43]

Some defendants were explicit about the fact that they had removed hedges specifically with the intention of reasserting common rights. For example, Marmaduke Grimston Esq. of Goodmanham submitted two bills to the Star Chamber in 1599 complaining that various inhabitants of the parish had thrown down the fence at Wood Nooke, a close which contained spring and young wood which Grimston had fenced at his own cost. Grimston complained that in casting down the fence and filling in the ditches, the defendants had laid the close open and beasts had depastured the wood. In their answers, the defendants argued that the ground was a part of the common of Goodmanham which Grimston had caused to be enclosed and fenced for his own profit. Two husbandmen denied casting down the fence, but admitted they had willed their wives to do so, presumably because they believed the women were less likely to be prosecuted.[44] According to the two husbandmen, the womenfolk of the village had met at a tavern or alehouse where they had 'agreed together to throwe the said fences downe to thend that the parish might have common in that grounde as they had before tyme'.[45]

Both hedge-breaking and depasturing animals on arable and grass crops provided a physical means by which title and ownership could be inscribed on the land through use and daily practice. Another incident from the Wolds provides support for this idea. In 1548, a dispute erupted in the ecclesiastical courts at York over tithes of fleece due from a sheep walk called Great Wharram Pasture in the north-west Wolds. The dispute turned on whether the sheep

[41] *YSCP*, I, pp. 157–8; II, pp. 134–7.

[42] *YSCP*, III, pp. 68–9; TNA, STAC 5/L3/40; STAC 5/G23/4; and STAC 5/G17/35.

[43] TNA, STAC 5/L3/40.

[44] Hoyle, 'Rothwell tenants', p. 104; R. A. Houlbrooke, 'Women's social life and common action in England from the fifteenth century to the Civil War', *Continuity and Change* 1 (1986), pp. 171–89.

[45] TNA, STAC 5/G23/4 and STAC 5/G17/35.

walk lay in the parish of Kirby Underdale or the neighbouring township of Thixendale, itself part of Wharram Percy parish. Several witnesses claimed that the long-standing use of the pasture by sheep and cattle belonging to inhabitants of Kirby proved that the pasture was part of Kirby Underdale.[46] In other words, local custom and agricultural land use were understood by contemporaries to demonstrate ownership. In this context, we can begin to see how various types of agricultural practice, including the depasturing of animals on arable and grass crops, might function as a means to assert private ownership of land or common rights.

Local discontent at the loss of customary and common rights at Newbald in the southern Wolds led to the largest and most serious breach of the peace recorded as a riot in the extant Star Chamber records for the Yorkshire Wolds. In June 1524 the inhabitants of Newbald had riotously assembled on the green, demanding turves and thorns (probably hawthorn or gorse) from an area known as the West Ground, part of the prebendal estate which lay close to the green and an area of common grazing known as the Mires.[47] It is not known if the prebendary, Henry Machell, had recently enclosed the land from the common, but it is clear that he was trying to curtail customary rights.[48]

According to the prebendary, the riot started after a local husbandman, Richard Bank, had gone house-to-house telling the inhabitants of the village to assemble at the green and demand the thorns and turves. By six o'clock in the morning, sixty people had armed themselves with bills, clubs, pitchforks and other weapons and assembled on the green in what Machell described as 'a great rout'. The rioters demanded to speak with the prebendary and when Machell arrived on the green, he offered to try the inhabitants' right in the forthcoming court. At this, Bank grabbed Machell, and demanded that the villagers should have the turves and try their right afterward, shouting 'Thou prest, what makyst thowe here, gete the hens, or els thow shalt haue that thowe comyst fore'. A riot ensued in which stones were thrown and blows dealt. Machell fled the scene, and while some of the rioters followed him, others rang the church bells to assemble the rest of the villagers.[49]

Sixty inhabitants of the village were involved in the initial assembly on the green and others joined them after the church bells were rung. Moreover, at least one person was killed during the riot. Isabel Goddishalf sued the initial bill in which she complained that Machell and others had murdered her husband Anthony, one of the husbandmen who had helped Bank call the villagers out of their houses. Perhaps not surprisingly, Isabel offered a very different version of events to the prebendary. She alleged that on the morning of the supposed riot, Anthony and other husbandmen had been at the common forge preparing their tools, when Machell and others came through the streets of Newbald 'in terrible maner … to thintent to haue murdred and beten your said poore subiectes'. She described the events vividly in her bill, stating that on arriving at the forge members of Machell's riotous company:

> violently drue the said Anthony … hauyng noo maner wepon for his defence, bakwarde to a wall ther being, and with a bill then and ther strake the said Anthony upon the hedd in soo

[46] BIHR, CP G 379; J. S. Purvis (ed.), *Select sixteenth-century causes in tithe, from the York Diocesan Registry* (YASRS 114, 1947), pp. 23–34.

[47] *YSCP*, III, p. 52.

[48] F. W. Brooks, *Yorkshire and the Star Chamber* (East Yorkshire Local History Ser. 4, 1954).

[49] *YSCP*, III, pp. 51–3; I, pp. 131–7.

> pituous wise that the brayne ranne and issued out of the hedd … by force of which stroke and pitefull wounde the same Anthony, then and ther, immediatly, without ony woorde speking, fell down and died.

In his answer, Machell denied unlawfully assembling his servants or killing Anthony Goddishalf, although by his own admission, he had subsequently fled the town. Isabel complained that, although a coroner and jury had already indicted Machell, and his goods were therefore forfeit to the Crown, she feared that he would escape without due punishment.[50]

Like all of the Star Chamber suits, the outcome of the court proceedings is unknown and one can only guess at whether Machell was brought to justice or the inhabitants succeeded in claiming the customary rights they demanded. However, it is clear from the bills and answers that this was the largest and most violent public assembly in the Yorkshire Wolds to be litigated in the Star Chamber. This underlines the fact that allegations of riot were not simply a means to ensure a hearing at the Star Chamber. Rather, property disputes and customary rights litigated in the central equity courts might concurrently be negotiated through a variety of other practices, including counter-litigation, evictions, dispossessions, thefts and riots, which were often violent and bloody.

## IV

Complainants often alleged that defendants who wrongfully occupied their land had broken up pastures by ploughing them. For example, in an undated early sixteenth-century bill Thomas Portington Esq., lord of the manor of Speeton in the north-east Wolds, complained that the prior of Bridlington and 16 riotous persons had entered then 'subverted and tilled' the demesne at Speeton, as well as wrongfully taking £20 of Portington's goods and chattels.[51] To subvert the ground meant to turn over pasture with a plough, a practice which was also favoured by rioters elsewhere in the Yorkshire Wolds. For example, the owners of the rectorial estate at Bishop Burton complained that various riotous persons had forcibly entered the parsonage grounds in March 1523 and 'with their ploughs subverted the ground'.[52] Much the same was alleged at South Kettlethorpe in 1533, when a local farmer Marmaduke Monkton complained that rioters had entered a close belonging to him and 'with 36 ploughs with force subverted, manured and sowed'.[53]

These were undoubtedly organized forms of protest rather than spontaneous incursions on private property. The bills of complaint did not specify the number of ploughs used at Speeton and Bishop Burton, but 36 were said to have been used at South Kettlethorpe in 1533. Although the plaintiffs may have exaggerated the number of ploughs involved in these incidents, mobilizing even a small number of ploughs and the necessary plough-beasts to pull them would have required days of planning and a significant degree of community involvement. Dyer and Blomley both make much the same point with reference to hedge-breaking, drawing attention to the considerable effort that went into destroying hedges and

[50] *YSCP*, I, pp. 131–7.
[51] *YSCP*, II, p. 147.
[52] *YSCP*, II, p. 104.
[53] *YSCP*, IV, pp. 16–7.

filling in substantial features like ditches, and arguing that enclosure-breaking often took place over several days or weeks.[54]

Wrongful ploughing was also alleged at South Cave in 1529, and here the survival of additional documents helps to recover something about individuals' motivations in property disputes and the complex web of interests whereby landowners might sometimes support and other times oppose enclosure. In his bill of complaint, Richard Smetheley Esq. complained that he had been forcibly evicted from the manor of East Hall by Sir Robert Constable, who had menaced Smetheley's tenants and driven his sheep and cattle out of closes which Sir Robert then ploughed up.[55] Though he disputed the degree of violence involved in the dispossession, Sir Robert did not deny ploughing up the closes in his answer. He claimed instead that Smetheley had not only wrongfully occupied the manor, but also failed to manage the estate for the 'best profit' of the heir, on whose behalf Sir Robert claimed he was acting.

Chancery cases of the 1530s make it clear that Smetheley was enclosing parts of the parish.[56] At Weedley on the wold above the village, Smetheley impounded 300–400 sheep that the inhabitants of South Cave pastured there, claiming that the sheep had destroyed grass and wood in an area in which he was tenant. Smetheley was clearly trying to extinguish common rights, create a fully private form of ownership and lay the land down to more profitable pastoral farming. In their answers, the tenants claimed that Smetheley had also wrongfully impounded their sheep and thereby disturbed them in taking their common both in the common fields and in Wallingfen, a low-lying area of waterlogged carrs to the south-west of the parish, over which the lords of South Cave had periodically and largely unsuccessfully claimed superior jurisdiction. In Wallingfen at least, Smetheley's aggressive stance was part of a long-running dispute which had also involved Smetheley's predecessor at East Hall, John London, in a Star Chamber suit.[57]

What was perhaps new in the early sixteenth century were Smetheley's plans to enclose parts of the common fields. According to the inhabitants' answers in the Chancery, Smetheley had grazed his sheep on their crops, thereby destroying 700 quarters of corn and peas in the common fields and at Cold Wold, another area of high wold land above the village. The enclosures that Smetheley wanted to lay out in the common fields and at Cold Wold were clearly intended for pasture, although Smetheley was careful to state that his existing pastures at Weedley were still 'open upon the feeldes of Cave'.[58] Hence where Smetheley depastured his animals on the tenants' corn, it was a means not of reversing enclosures as in the suits discussed before, but of promoting them.

The tenants complained that as a consequence of Smetheley's actions, the town was 'greately decayed withyn the foure or fyve yeres as well in plowes & other substaunce But is also depopulate of people'.[59] South Cave was a large village split between two main manors and, as

[54] Dyer, 'Conflict', p. 24; N. Blomley, 'Making private property: enclosure, common right and the work of hedges', *Rural Hist.* 18 (2007), pp. 1–21.

[55] *YSCP*, III, pp. 140–4.

[56] TNA, C 1/845/35; 839/21.

[57] Hull University Archives [hereafter HUL], DDBA/10/1; VCH, *East Riding* IV, p. 48; TNA, C 1/535/21; *YSCP*, IV, pp. 56–9.

[58] TNA, C 1/845/36. Weedley had certainly been enclosed by 1574/75, when the lessee of East Hall was charged with providing 100 kids a year for maintenance of the Weedley hedges (HUL, DDBA(2)/6/42).

[59] TNA, C 1/839/21.

such, Smetheley would have recognized the impossibility of total depopulation and wholesale conversion of the common fields to sheep walk.[60] Yet unemployment and the resultant fall in population would have been a foreseen side-effect of Smetheley's decision to convert demesne and common field arable to pasture. By destroying the tenants' crops and pursuing them through the courts with 'wrongfull vexaciones and suytes', Smetheley was presumably attempting to make their tenancies unviable and rid himself of those tenants who most vehemently opposed his plans for enclosure.[61]

All this suggests that by ploughing up the closes, Sir Robert Constable was reversing Smetheley's new enclosures. In this sense, Sir Robert aligned himself with the other parishioners, supporting them in their opposition to an enclosing landlord. Sir Robert first appears in the South Cave records between 1518 and 1525, when he was one of the men chosen by the inhabitants as surveyor and ruler of Wallingfen, and thus became involved in the dispute between John London and the villagers over rights in the marsh.[62] He was then farmer of the parsonage, though by no means a universally popular figure. A Chancery suit brought against him around the same date claimed that Sir Robert owed tithes on the parsonage, and maintained the parish clerk against the will of the parishioners.[63]

Born in *c.*1478, Sir Robert was the eldest son of Sir Marmaduke Constable (*c.*1456/7–1518), head of an established gentle family who held a considerable estate centred on Flamborough Castle, a large fortified manor house in the north-east Wolds. Sir Robert was knighted in 1497 after fighting for the royal army at Blackheath, and in 1513 he fought at Flodden alongside his father, brothers and cousins. He was a man of considerable local importance, serving as Justice of the Peace and commissioner of array for the East Riding from the early 1500s, as well as a member of the king's Council of the North from the early 1530s.[64] Sir Robert succeeded to the family estates in 1518 after the death of his father, who reputedly choked to death on a frog which hopped into his glass whilst he relaxed in the garden of Flamborough Castle.[65]

Sir Robert was also reversing recent enclosures elsewhere in the southern Wolds. John Key of North Cave complained in 1534 that Sir Robert had sent more than 40 of his servants and tenants to the village where they had riotously entered a close, pulled up and burnt the hedge. The rioters had then grazed their horses, oxen and cattle in the close, thereby destroying 13 cartloads of wheat and rye, presumably in an attempt to reassert common grazing rights claimed by Sir Robert, who was then managing a local estate on behalf of the young son of his cousin Marmaduke Constable of North Cliffe (d. 1525).[66] In the previous year, another local landowner Marmaduke Monkton had complained that Sir Robert and 40 riotous persons had unlawfully entered into closes at South Kettlethorpe, a farm between South Cave and Newbald, where they had ploughed, manured and sowed the land.[67] Like hedge-breaking, ploughing up pasture

[60] VCH, *East Riding*, IV, pp. 43–5.

[61] TNA, C 1/839/21.

[62] TNA, C 1/535/21.

[63] TNA, C 1/563/27.

[64] C. M. Newman, 'Constable, Sir Robert (1478?–1537)', *Oxford Dictionary of National Biography* (2004), available at www.oxford.com/view/article/6110, accessed 21 Nov. 2006.

[65] W. E. Hampton, *Memorials of the Wars of the Roses* (1979), pp. 219–20.

[66] *YSCP*, III, pp. 68–9; J. H. Baker 'Constable, Robert (late 1450s–1501), lawyer', *Oxford Dictionary of National Biography* (2004), available at www.oxforddnb.com/view/article/49669, accessed 18 May 2009.

[67] *YSCP*, IV, pp. 16–7.

closes functioned as a means to resist – or subvert – attempts to extend pastoral husbandry in the region.

Yet if ploughing functioned as a form of resistance to enclosure in the incidents cited above, this is not to suggest that Sir Robert was always an anti-enclosure figure. In fact, he was responsible for the only instance of forcible depopulation in the Yorkshire Wolds to be recorded in the Star Chamber. In 1532, Sir Robert was accused of evicting four husbandmen from their houses and lands at Arras, and thereby largely depopulating the hamlet.[68] Arras had probably always been a small settlement with only 35 taxpayers at the Poll Tax, though it was then bigger than other surviving settlements. It may have been badly affected by the Black Death for it received a 46 per cent reduction in tax and a waste plot was recorded there in 1368.[69] A recent resistivity survey suggested that the tofts were arranged to the north and south of the surviving trackway, backing directly on to the arable land. Pottery finds from the site were largely confined to the period between the twelfth century and the end of the fifteenth century. The surviving settlement was evidently very small by the early sixteenth century, and probably consisted solely of the five tofts and crofts mentioned in 1526.[70]

The 1532 case was brought against Sir Robert by the four husbandmen, who complained to the Star Chamber that Sir Robert had not only riotously expelled them from their houses and land, but had also put forth their cattle, which had died of starvation. He also depastured 400 sheep on 10 acres in the common fields, which the tenants had recently sown with oats. As a consequence, the husbandmen complained that they were 'utterly impoverysshed for ever'.[71] The outcome of the Star Chamber suit is unknown, but the court probably found in favour of the husbandmen, for there were still at least four farmers at Arras in the late 1550s.[72] However, the Constable family were probably responsible for the final depopulation of the hamlet. By *c.*1600 Philip Constable owned nine-tenths of the township and was attempting to prosecute the only remaining farmer in Chancery, claiming that the farmer had wrongfully entered into Constable's property, and overstocked the surviving common with a great numbers of animals 'in suche disorderly manner, that your said orator can make no profit … at all'.[73] Philip Constable's complaints suggest that the disorderly behaviour of animals, as well as humans, might reduce profits and thwart a landowner's plans for enclosure.

Despite his good public standing, Sir Robert Constable was brought before the Star Chamber on at least nine occasions between 1524 and his death in 1537.[74] In addition to the land disputes in the southern Wolds, Sir Robert was twice accused of abduction. Sometime before 1521, Thomas Lutton of Knapton complained that Sir Robert had abducted his niece from the nunnery at Yeddingham in the Vale of Pickering, and in 1524, he was accused of kidnapping a 10-year old royal ward from the manor house at Bishop Burton.[75] Although later pardoned

[68] TNA, STAC 2/1/42.

[69] Beresford, 'Lost villages', pp. 44–70; W. Brown (ed.), *Yorkshire Deeds*, III, (YASRS 63, 1922), p. 3.

[70] M. Phillpott, 'A landscape study of the deserted medieval settlement of Arras, East Yorkshire', *Medieval Settlement Research Group Annual Report* 20 (2005), pp. 31–3; TNA, C 1/925/30.

[71] TNA, STAC 2/1/42.

[72] TNA, C 1/1444/64–6.

[73] TNA, C2/Eliz/C5/33.

[74] TNA, STAC 2/1/42; STAC 2/8/205–10; STAC 2/16/204; *YSCP*, I, pp. 186–8; II, pp. 140–2; III, pp. 18, 68–9, 98, 110–3 and 140–4; IV, pp. 16–7 and 28–36.

[75] *YSCP*, IV, pp. 28–36; I, pp. 186–8; II, pp. 140–2; TNA, STAC 2/24/353.

for the abduction, Sir Robert was publicly reprimanded several times in the 1520s and 1530s for his involvement in local feuds.[76] Moreover, he went on to play a key role in the Pilgrimage of Grace, being captured by the rebels with Thomas Lord Darcy at the fall of Pontefract castle. Constable was amongst those who urged that the North should protect itself against the King in the autumn of 1536 although he later acted to stifle Bigod's second East Riding revolt in January 1537.[77] He was ultimately executed at Hull in July 1537. This was a local execution for a local man, no doubt reflecting his previous involvement both in county administration and in local disputes including the enclosure riots discussed in this paper.

## V

The conclusion addresses three related points concerned with the making and meaning of private property in sixteenth-century England. Firstly, in exploring the roles of litigation, collective action and riot in negotiating property rights, the paper has argued for the materiality of events reported in the Star Chamber. Contrary to the view of some writers, the riots and violence reported in the bills of complaint were not solely a means to get an action into the Star Chamber and thus determine property disputes by legal means.[78] Many rioters were undoubtedly legally sophisticated, but litigation at the Star Chamber was only one of the means by which access to land and common rights could be asserted, and individual suits should be viewed as part of a process of negotiation taking place both within *and outside* the court. Nor was the violence reported in Wolds cases always superficial: several of the riots and dispossessions discussed in this paper resulted in bloodshed or even death, and men like Sir Robert Constable clearly used abductions, assaults and forcible evictions as means to negotiate claims to property. Thus, rather than subscribe to Guy's distinction between real and alleged rioting, we should view the riots, dispossessions and thefts alleged in the bills as some of the 'self-help' remedies available to those asserting titles to land and chattels. Here the paper draws on new histories of riot, rebellion and popular politics which have recently emerged within both post-revisionist social history and cultural geography, and which highlight more everyday acts of resistance.[79]

[76] Newman, 'Constable'.

[77] Hoyle, *Pilgrimage*, pp. 327–8, 355, 383–5 and 419.

[78] For example, Blomley, 'Private property', p. 5 sees the Star Chamber suits as part of a realm of signs and stories distinct from the materiality of hedges; Beer, *Rebellion and riot*, p. 10; Blanchard, 'Population change', p. 440; E. Kerridge, *Agrarian problems in the sixteenth century and after* (1969), p. 82; Guy, *Cardinal's court*, p. 15; Guy, *Star Chamber*, p. 52.

[79] K. J. Kesslering, 'Deference and dissent in Tudor England: reflections on sixteenth-century protest', *History Compass* 3 (2005), pp. 1–16; C. Marsh, 'Order and place in England, 1580–1640: the view from the pew', *J. British Studies* 44 (2005); M. J. Braddick and J. Walter, 'Grids of power: order, hierarchy and subordination in early modern society', in M. J. Braddick and J. Walter (eds), *Negotiating power in early modern society: order, hierarchy and subordination in Britain and Ireland* (2001), pp. 1–42; J. Walter, 'Public transcripts, popular agency and the politics of subsistence in early modern England', in ibid., pp. 123–48; Wood, *Riot*, pp. x–xii and 5–17; M. Rose, 'The seductions of resistance: power, politics, and a performative style of systems', *Environment and Planning D: Society and Space* 20 (2002), pp. 383–400; S. Pile, 'Introduction: opposition, political identities and spaces of resistance', in S. Pile and M. Keith (eds), *Geographies of resistance* (1997), pp. 1–32; J. P. Sharp, P. Routledge, C. Philo and R. Paddison, 'Entanglements of power: geographies of domination/resistance', in J. P. Sharp, P. Routledge, C. Philo and R. Paddison (eds), *Entanglements of power: geographies of domination/resistance* (2000), pp. 1–42.

Secondly, the paper has drawn attention to the multiple and continually shifting practices of power by which individuals and communities negotiated property ownership and common rights. The evidence from the southern Wolds – and the actions of Sir Robert Constable in particular – are revealing in this context. At both North and South Cave Sir Robert seems to have acted as a champion for a local cause, though he no doubt also had his own familial interests in mind, while at nearby Arras he evicted the villagers with the aim of extending pastoral husbandry in the area. Rather than a binary opposition between the interests of villagers on one hand and an enclosing landlord on the other, this was a tangled web of interests in enclosure, which cut across local socio-economic structures. We see something similar in the Kirby Underdale tithe case, where there was a temporary alliance of interests between the rector, local gentleman-grazier and tenant farmers in claiming use rights in Wharram sheep pasture. All this suggests we need to think beyond simple dichotomies between lord and community or between enclosure and custom, and instead recognize a much more complex nexus of power relations in which allegiances and alliances were constantly shifting.

Thirdly, and finally, the Star Chamber cases discussed in this paper provide good evidence about the practices by which individuals and communities could negotiate property interests 'on the ground'. Possession, use and daily practice were often seen as the key to demonstrating ownership, and direct action like mass ploughings or grazing the town herd on new enclosures could function as a means to resist the extension of private property rights. Land was difficult to possess physically in the same sense as chattels but hedges and fences were one means of symbolizing property rights, hence the significance of hedge-breaking.[80] Similarly, land use could be a highly visible symbol of ownership and physical acts like ploughing up closes and depasturing animals on grass and arable crops functioned as means to assert – or conversely, subvert – claims to own land privately. This was perhaps especially the case in areas like the Yorkshire Wolds where common field arable was often converted to sheep walks without necessarily being physically enclosed by hedges or fences. Fields and commons – like fences and hedges – were sites for wider negotiations about the meaning of community, property, and private ownership. As I argued in the introduction, the modern concept of absolute property in land first emerged in the late fifteenth century, and increasingly solidified in the sixteenth and seventeenth centuries. In this sense, both the legal actions and the dispossessions and riots recorded within them were part of the ongoing debate whereby complex use rights gradually – and perhaps haltingly – gave way to individualized property rights. As such, the Star Chamber papers provide crucial evidence not only for charting the emergence of modern attitudes towards property, but also for exploring how contemporaries understood and experienced the changing landscape around them.

[80] Blomley, 'Private property', pp. 13–16.

# The Smithsonian Bequest, Congress, and nineteenth-century efforts to increase and diffuse agricultural knowledge in the United States*

*by* Dana G. Dalrymple

*Abstract*

James Smithson's bequest to the United States in 1829 to establish an institution in Washington to increase and diffuse knowledge initiated an extended debate in Congress about the use of his legacy. The new nation was largely agricultural and it is not surprising that one of the major proposals was to use a large portion of the funds to establish an agricultural institute along German lines. This led to a broader proposal in Congress, of a more scientific nature, which would have encompassed agriculture. Neither proposal was adopted, but both stimulated and helped shape mid-century debate about the need to improve agricultural education and research. This culminated in federal legislation in 1862 and 1887 as well as complementary state actions. By the turn of the century, a substantial institutional structure was in place at both federal and state levels, which was beginning to have a measurable impact on agricultural productivity and serve as an example for other nations.

> [A]lthough, both in point of time, and of importance, [agriculture] stands at the head of all branches of industry, it has derived less direct advantage from discovery and invention, than almost any other. Abraham Lincoln, 1858[1]

> The nineteenth century stands at the overlap between two great sources of [agricultural] productivity increase … the end of the great expansionary movement and the … beginning of … accelerated technological change. William Parker, 1967[2]

* Pamela Scott, a Washington architectural historian, initially drew my attention to what is now Figure 1 and provided several key figures and references. Marc Rothenberg, former editor of *The papers of Joseph Henry*, was of particular help on matters relating the Smithsonian Institution. I benefited from correspondence with Nina Burleigh, Jonathan Harwood and Robert Post, and review comments by Louis Ferleger, Richard Nelson, Alan Olmstead, Margaret Rossiter, and two anonymous reviewers. I am also indebted to numerous librarians, particularly those in the Agency for International Development, the National Agricultural Library, and the Library of Congress.

[1] A. Lincoln, 'First lecture on discoveries and innovations', Bloomington, Illinois, 6 Apr., 1858, in R. P. Basler (ed.), *The collected works of Abraham Lincoln* (1953), p. 440.

[2] W. N. Parker, 'Sources of agricultural productivity in the nineteenth century', *J. Farm Economics* 49 (1967), p. 1466.

The nineteenth century was a period of significant institutional development and change for science and technology generally and agriculture in particular. As Parker put it, the century 'contains the prehistory of … modern agricultural research'.[3] The concept of integrating science with practice in order to develop more productive technologies was beginning to emerge in Europe and was finding adherents in the United States.

Both dimensions were well reflected in an extended debate about the utilization of Smithson's bequest to found in Washington 'an establishment for the increase and diffusion of knowledge among men'. This was a logical combination of functions, but one that was relatively novel at the time. One of the earliest and most persistent proposals for the use of the grant related to agriculture: first for a large 'agricultural institute' modeled along German lines, and then for a more modest and more general programme of applied research and education to be located on the Mall between the Capitol and the Washington Monument.

Neither was directly realized but the associated debates highlighted important public needs and formed the first steps in a procession of related efforts that led to a significant increase in public support of agricultural science, technology and education in the United States, particularly the establishment of the United States Department of Agriculture and the passage of the Morrill Act in 1862 which greatly stimulated the development of state colleges of agriculture. It was followed in 1887 by the Hatch Act, which provided funding for state agricultural experiment stations.

These actions were quite appropriate since the nation was primarily agricultural. More than 80 per cent of the population 'wrestled their living from the soil' early in the century, but the character of agriculture was beginning to change. There was an 'accelerated emergence and firm establishment of a new agricultural economy and technology'.[4] This was stimulated by a concern about, and a need to increase, agricultural productivity and led to increased interest in applied science, particularly agricultural chemistry.[5]

While production expanded significantly during the century, crop yields – as measured nationally – did not increase markedly until late in the century. This was because the western expansion of farming was often into more arid lands or faced a plethora of new pests and pathogens. Biological innovations, such as the long-practised introduction of new varieties, helped to cope with these and other challenges. But their initial impact was more to maintain, rather than increase, yield levels.[6]

[3] Id., 'From the colonies: a tempered tribute', *AgHR* 25 (1977), p. 10.

[4] A. L. Demaree, *The American agricultural press, 1819–1860* (1941), p. xi; C. C. Danhof, *Change in agriculture: the northern United States* (1969), pp. vii, ix. For further background and detail on this period, see P. W. Gates, *The farmer's age: agriculture, 1820–1860* (1960).

[5] M. W. Rossiter, 'The organization of agricultural improvement in the United States', in A. Oleson and S. C. Brown (eds), *The pursuit of knowledge in the early American republic: American scientific and learned societies from colonial times to the Civil War* (1976), pp. 279–97. Also see G. H. Daniels, 'The process of professionalization in American science: the emergent period, 1820–60', *Isis* 58 (1967), pp. 151–66.

[6] A. L. Olmstead and P. W. Rhode, *Creating abundance: biological innovation and American agricultural development* (2008), pp. 40–59. The expansion to western wheat lands, by one calculation, reduced yield levels by nearly 30 per cent (ibid, p. 20). Also see: R. E. Gallman, 'Changes in total U.S. agricultural factor productivity in the nineteenth century', *Agricultural Hist*. 46 (1972), pp. 206–10; Y. Mudlak, 'Economic growth: lessons from two centuries of American agriculture', *J. Economic Literature* 43 (2005), pp. 989–1024. For British comparisons,

While the mid-century debates surrounding the Smithsonian bequest helped set the stage for larger steps in the public sector and cast additional light on the role of Congress and the scientific and technological fabric of the era, they have been relatively overlooked and overshadowed by the legislation of 1862 and subsequent events.[7] This paper attempts to define and analyse the developing role of the public sector in increasing and disseminating agricultural knowledge during this transformational century.

## I

During the early half of the century, some observers – perhaps most notably Alexis de Tocqueville in 1840 – lamented a lack of emphasis on theoretical science in the United States.[8] Dupree later referred to the years between 1829 and 1842 as the 'age of the common man' and viewed it in terms of 'practical achievements'.[9] Others agree that the nation 'showed a remarkable indifference to basic science'.[10] Margaret Rossiter has suggested, however, that 'the study of applied science reveals far more of a society's attitude toward science than does the study of the more abstracted pure science'.[11]

In 1620 Francis Bacon argued in *The new organon* that science has a two-fold purpose: to produce 'experimenta lucifera' or 'illuminatory experiments,' and 'experimenta fructifera' or 'fruit-bearing experiments'. They might be thought of, respectively, as pure and applied science.[12] The latter provides the basis for the development of improved technologies and increases in productivity. This division was subsequently reflected in early institutional approaches, starting with the French *Académie des Sciences* (1668). The *Académie* was a highly centralized, government-funded organization, which carried out a variety of scientific tasks with an emphasis on weights and measures.[13] The French academy was followed by two less centralized

Note 6 *continued*
see: J. R. Walton, 'Varietal innovation and the competitiveness of the British cereals sector, 1760–1930', *AgHR* 47 (1999), pp. 29–57; G. Clark, *A farewell to alms: a brief economic history of the world* (2007), pp. 193, 233, 238.

[7] A notable exception is A. C. True, *A history of agricultural experimentation and research in the United States, 1607–1925, including a history of the United States Department of Agriculture* (USDA, Misc. Pub. 251, 1937), pp. 8–163.

[8] A. De Tocqueville, 'Why Americans are more attracted to practical rather than theoretical aspects of the sciences', in De Tocqueville, *Democracy in America* (2 vols, 2003), II, pp. 529–36.

[9] A. H. Dupree, *Science in the federal government: a history of politics and activities to 1940* (1957, repr. 1964), p. 46. One notable step was the establishment of the Rensselaer School in 1824 for the 'sons and daughters of farmers and mechanics' to further 'the application of science to the common purposes of life' (not a new phrase, see below) including agriculture: P. C. Ricketts, *History of Rensselaer Polytechnic Institute, 1824–1934* (1934, third edn.), p. 9; S. Rezneck, *Education for a technological society: a sesquicentennial history of Rensselaer Polytechnic Institute* (1968), pp. 3–22.

[10] W. E. Washburn, 'Introduction', in Washburn (ed.), *The great design: two lectures on the Smithson bequest by John Quincy Adams* (1965), p. 35.

[11] M. W. Rossiter, *The emergence of agricultural science: Justus Liebig and the Americans, 1840–1880* (1975), p. xi.

[12] A. Chapman, *England's Leonardo: Robert Hooke and the seventeenth-century scientific revolution* (2005), p. 34; drawn from book I, aphorism XCIX in an 1860 translation, n. 3, p. 274. By comparison, a recent translation of the text into modern English refers only to 'illuminating' and 'profitable' experiments: Francis Bacon, *The new organon* (ed.) L. Jardine and M. Silverthorne (2000), p. 81.

[13] See, for example, K. Adler, *The measure of all things* (2002). He states that: 'For years the academicians had been attacked as self-appointed elitists who disparaged popular inventors and thinkers', but that by 1793 'the creation of a metric system had become the main justification for the state-funding of science' (p. 99).

and independent British groups: the Royal Society of London (1663), which mostly emphasized pure science, and the Royal Institution (1799), which initially focused on the application of science 'for the common purposes of life'.[14] There was, however, some overlap in word and deed between the two.[15] The Royal Society is thought by some to have served as the model for the American Philosophical Society (1743) founded by Benjamin Franklin, and the Royal Institution the model for the Smithsonian.[16]

Each approach had strengths and weaknesses. The *Académie des Sciences* was subject to the whims and vagaries of government funding; the Royal Society and Royal Institution had a broader base and focus but no one principal source of financial support.[17] But none of these groups, nor others – such as the London Mechanics Institution (1825) and the Society for the Diffusion of Useful Knowledge (1825) – initially combined the increase and the diffusion of science under one national public organizational structure. Moreover, by the late 1830s strains had begun to develop between the objectives of increase and diffusion.[18] The search for an appropriate structure for doing both is demonstrated in the varied proposals for the use of the Smithsonian bequest.

At that time, one of the areas where Europe was far ahead of the United States was agricultural science and education – as perhaps reflected in the motto of the Royal Agricultural Society of England (established in 1839–40): 'Practice with Science'.[19] Hence it is not surprising that a German-born and agriculturally-trained employee of the United States Patent Office, Charles Fleischmann, was one of the first to develop a major proposal for the use of Smithson's bequest: the establishment in Washington of a large agricultural institute and farm on European lines. This was later followed by Congressional proposals to include agricultural research and

[14] Chapman, 'Hooke', pp. 35–6; F. A. J. L. James, 'Introduction' in James (ed.), '*The common purposes of life*': *science and society at the Royal Institution of Great Britain* (2002), pp. 1–7; H. Ewing, *The lost world of James Smithson: science, revolution and the birth of the Smithsonian* (2007), pp. 202–4; M. Berman, *Social change and scientific organization: the Royal Institution, 1799–1844* (1978), pp. 18–19; and W. J. Sparrow, *Count Rumford of Woburn, Mass.* (1964), pp. 107–41. (Rumford, born Benjamin Thompson, on a farm, proposed the Institute in 1799 and played a key role in its establishment).

[15] In its early years, at least, the Royal Society was also interested in 'The application of scientific solutions to practical, everyday problems' (Chapman, *Hooke*, p. 47) and the Royal Institution soon moved toward pure science (Sparrow, *Rumford*, pp. 121, 139). Subsequently, Humphry Davy established scientific research as a crucial feature of the Royal Institution, 'something that was never envisaged, or indeed intended, by the founders' (James, 'Introduction', p. 8).

[16] The Royal Society was well known, having served as the 'learned society of the British colonies in North America': G. F. Frick, 'The Royal Society in America', in A. Oleson and S. Brown (eds), *The pursuit of knowledge in the early American republic* (1976), pp. 70–83, quotation from p. 70. James observed that 'it is difficult to believe that Smithson did not have the Royal Institution in mind as a model when he drafted his will' (James, 'Introduction', pp. 2–3). Similarly, Count Rumford may have served as 'something of a role model for Smithson' (Ewing, *Smithson*, p. 305).

[17] Chapman, *Hooke*, pp. 35–6; Sparrow, *Rumford*, p. 137. At that time, 'There were no models, in England, of how scientific research and teaching should be supported other than by private initiative and subscription' (Berman, *Royal Institution*, p. 19).

[18] W. L. Bird, Jr., 'A suggestion concerning James Smithson's concept of "increase and diffusion"', *Technology and Culture* 24 (1983), pp. 246–55.

[19] E. J. Russell, *A history of agricultural science in Great Britain, 1620–1954* (1966), pp. 110–12. The Society's aim, viewed by an American visitor as 'to cheapen, and perfect, and multiply the prime necessities of life', was held up to be an example for the Agricultural Society of the United States (see Sections IV and VII), anonymous, 'Agricultural Tour in England, no. 1', *The American Agriculturalist*, 1/1 (1842), p. 13.

development as part of a broader programme of applied science in the proposed Smithsonian Institution on the Mall.

John Quincy Adams – former diplomat, Senator, and President – who was then a member of the House of Representatives, played a major – if sometimes seemingly quixotic – role, from the announcement of the bequest to the final Congressional decision.[20] In the end, and undoubtedly to his satisfaction, none of these proposals were adopted as such and the Smithsonian went on to develop essentially as we know it now. But, as Ewing states, 'At dozens of points the story of the Smithsonian could have taken a markedly different turn'.[21] The same could be said for the early development of agricultural education and research in the United States. But, even so, the Smithsonian discussions articulated the needs of a new period in agriculture and formed leading steps towards its realization.

While references are to be found to a projected Smithsonian 'farm' in histories of the Institution, they are brief or mentioned in passing.[22] Similarly, curiously little is said in the related literature on agricultural history.[23] Hence we next turn to a more fully developed treatment of the early proposals and those that followed and attempt to weave them into a broader historical, geographical, technological, and cultural framework.

## II

James Smithson was a wealthy English chemist and mineralogist, a member of the Royal Society and one of the early supporters of the Royal Institution, which is thought to have had a particular influence on his thinking. In 1829, for reasons that are not entirely clear, he willed his estate to a nephew with the condition that if he died intestate, it should be bequeathed to the United States, 'to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men'.[24]

When this eventually came to pass in 1835, President Jackson notified Congress, explaining that he did not have the authority to handle it.[25] Congress was not immediately receptive, but former president John Quincy Adams, then serving in the House, had very clear views on its importance. In his remarkable first State of the Union address on 6 December 1825, he had stated that: 'Among the first, perhaps the very first instrument for the improvement of the condition of men is knowledge' and that 'public institutions and seminaries of learning are

[20] Adams was a scholar and linguist with extensive diplomatic experience in Europe and as Secretary of State, and is rated as having had the highest IQ of American presidents: J. Shepherd, *The Adams chronicles: four generations of greatness* (1975), pp. 104, 139–40, 171–3, 215; 'Presidential smarts,' *Science*, 313 (2006), p. 419). He was, however, initially less experienced in domestic politics and took a national view rather than a party perspective: Shepherd, *Adams*, pp. 227, 229, 232–5; J. Wheelan, *Mr. Adams's last crusade: John Quincy Adams's extraordinary post-presidential life in Congress* (2008), pp. 18–20, 23.

[21] Ewing, *Smithson*, p. 329.

[22] This is exemplified by: Ewing, *Smithson*, pp. 325, 328; Wheelan, *Adams*, p. 125; and N. Burleigh, *The stranger and the statesman: James Smithson, John Quincy Adams, and the making of America's greatest museum: the Smithsonian* (2003), pp. 212, 243, 287.

[23] The two exceptions are: Gates, *Farmer's age*, pp. 366–8; and A. C. True, *A history of agricultural education in the United States, 1785–1925* (U.S. Department of Agriculture, Misc. Pub. 36, 1929, repr. 1969), pp. 88–9.

[24] Burleigh, *Smithsonian*, pp. 168–9, 193; Ewing, *Smithson*, pp. 224–5, 317; P. H. Oehser, *The Smithsonian Institution* (1970), pp. 16–17.

[25] Burleigh, *Smithsonian*, p. 193; Ewing, *Smithson*, p. 317.

essential'. He spoke of the need for national involvement in 'those parts of knowledge which lie beyond the reach of individual acquisition' and applying 'our portion of energy to the common stock'.[26] In later years, these would be referred to as public goods.[27]

But by 1835, as Burleigh puts it: 'No one in politics was still seriously talking about federal support for the arts and sciences … Jackson saw not a gift but potential political trouble'. Adams, as might be expected, viewed it quite differently. On 7 December 1835, he was appointed to head a committee on the bequest and persuaded Congress to send an emissary to London to secure the funds. Richard Rush, an experienced diplomat, was assigned the task, which proved to be formidable.[28] Shortly thereafter, in his first major speech on the bequest to the House in January 1836, Adams reiterated some of the same prescient points he made in 1825, arguing that 'To furnish the means of acquiring knowledge is … the greatest benefit that can be conferred upon mankind'.[29]

In September 1838, Rush returned successfully with 105 sacks of gold worth $508,318 (£104,960). President Van Buren officially notified Congress in December that the money had arrived and been invested in state stocks (where they drew 6 per cent interest) and urged them to 'formulate a plan for now to manifest the stranger's wishes in a timely fashion.' At that time, 'America was not known for its scientists, its intellectual life, or its diffusion of knowledge'.[30]

Adams was again appointed to head a committee to consider what to do with the funds. Many ideas were offered but most were for educational institutions of various types. However, he wrote in his diary on 22 June 1838 after one such appeal: 'I did not think the Smithsonian Institution should be a college, or a university, or a school of education for children, but altogether of a different character'.[31] His views were further developed in two letters to the Secretary of State in October 1838, in which he offered three suggestions: to keep the principal of the fund intact and spend only the interest; not to apply any of it to a school for the education of youth; and, as a first step, to use the interest to erect an astronomical observatory.[32]

With respect to education, which might seem to have fitted Smithson's specification of 'diffusion', Adams stated in two lectures in November 1839 that: 'The express purpose declared

[26] From the text of the talk – which is to be found at http://stateoftheunion.onetwothree.net/texts/18251206.html. Dupree termed these views 'the clearest statement ever made by a president of the government's duty toward knowledge' (*Science*, p. 39). They were, however, much too visionary for the times: his cabinet reacted with 'shock and horror' and the political reaction was 'catastrophic' (pp. 39, 41).

[27] See D. G. Dalrymple, 'Scientific knowledge as a global public good: contributions to innovation and the economy', in J. Esanu and P. Uhlir, *The role of scientific data and information in the public domain* (2003), pp. 35–51; id., 'Scientific knowledge as a public good', *The Scientist*, 19/12 (2005), p. 10; and id., 'International agricultural research as a global public good: concepts, the CGIAR experience and policy issues', *J. International Development* 20 (2008), pp. 347–79.

[28] Burleigh, *Smithsonian*, pp. 192–205 (quotations from pp. 192–3). Also see Ewing, *Smithson*, pp. 319–24. Another account states that Rush requested that Dr. Henry Perrine, a physician turned horticulturalist from Florida, 'accompany him … as an able scientist to convince England that … Smithson's legacy would be ably handled for the purpose … of introducing foreign plants and trees': S. R. W. Palmer, 'Henry Perrine, pioneer botanist and horticulturalist', *The Florida Historical Society Quarterly* 5 (1926), pp. 112–13.

[29] Burleigh, *Smithsonian*, p. 220. These points are elaborated in S. F. Bemis, *John Quincy Adams and the Union* (1956), pp. 504–5.

[30] Burleigh, *Smithsonian*, pp. 203, 206, 227, 238.

[31] C. F. Adams (ed.), *Memoirs of John Quincy Adams, comprising portions of his diary from 1795 to 1848* (12 vols, 1874–77; repr. 1969), X, pp. 23, 89.

[32] S. F. Bemis, *John Quincy Adams and the Union* (1956), pp. 507–9.

by the testator being not the education of children or of youth, but the *increase* and diffusion of knowledge among *men*' and that Smithson's aim 'was not learning but knowledge … [for] the whole race of mankind'.[33] He had spoken favorably of government-sponsored research in his State of the Union address of 1825, but continued to think in terms of basic science in the form of astronomy.[34]

Others, however, continued to think in more applied terms. After a college or school, 'the most persistent proposal … was the creation of a capital-city agricultural college, including a farm where improvements to crops and livestock could be displayed. For many years, politicians seriously considered this idea'.[35] While this may not have been what Smithson had in mind, and certainly not one that Adams would have favored, it was probably the most fully defined and developed proposal at the time, and continued to be brought up until 1850 or later.

## III

Two proposals (they were termed 'memorials' at the time) were made to the House of Representatives in 1838 by Charles Lewis Fleischmann, a native of Bavaria, where he had attended the newly established Royal Agricultural and Technical School at Schleissheim. Fleischmann was a naturalized citizen and a draftsman in the United States Patent Office.[36] The first proposal was entitled 'On the subject of improving the agriculture of this country',[37] and the second, 'In relation to the Smithsonian legacy'.[38]

In his first submission, Fleischmann noted that agriculture had made very substantial progress in Europe and that in the process:

> it was found necessary to erect schools, and educate the young men scientifically and practically. Such schools were established on large, properly conducted farms, where all the sciences were taught connected with agriculture, illustrating the practical applications … Within the short period of six years, the influence of these institutions was felt throughout the whole country.

One of the first and best-known schools was founded, in 1806, by Albrecht Thaer – a famous German agricultural physician and agriculturalist – at Moeglin, outside Berlin. He emphasized

[33] Washburn, *Great design*, Lecture I, pp. 60–1, and Lecture II, p. 69. Comments on the lectures and Adam's subsequent involvement with the Congressional process are provided in Washburn's 'Introduction', pp. 13–38.

[34] M. Portolano, 'John Quincy Adam's rhetorical crusade for astronomy', *Isis* 91 (2000), pp. 480–503.

[35] Burleigh, *Smithsonian*, p. 243.

[36] P. W. Gates, 'Charles Lewis Fleischmann: German–American agricultural authority', *Agricultural Hist*. 35 (1961), pp. 14–15; Gates, *Farmer's age*, pp. 367–8. He was not the first to propose government involvement: following correspondence with George Washington in 1789, Baron Pöllnitz, a German nobleman who was conducting experiments on a farm in what is now lower Manhattan, suggested the 'establishment of an experimental farm under government patronage' (True, *Research*, p. 18).

[37] 'Memorial of Charles Lewis Fleischmann on the subject of improving the agriculture of this country,' April 16, 1838, House Docs., 25th Cong., 2nd Sess., vol. 10, doc. 334, 1838.

[38] 'Memorial of Charles Lewis Fleischmann in relation to the Smithsonian legacy,' December 14, 1838, House Docs. 25th Cong., 3rd Sess., vol. 3, doc. 70, 9 Jan. 1839. Ordered repr. by the House of 5 March 1840, House Docs., 26th Cong., 1st Sess., vol. 3, doc. 129. The text is reproduced, without drawings, in W. J. Rhees, *The Smithsonian Institution: documents relative to its origin and history, 1835–1899* (2 vols, 1901), I, pp. 155–63.

the necessity of both science and practice. 'It became the most influential model for agricultural education during the first half of the century.'[39] As described by an English visitor in 1820: 'It comprised … 1200 acres, and a college for instruction. The education was partly theoretical and partly of a practical description'. Three professors lived on the premises and 'practical instruction was communicated by an experienced agriculturalist'.[40] By 1858, eleven such academies had been established in Germany.[41]

Fleischman went on to observe that America 'is at length making every possible effort to improve her agriculture' but that:

> as long as agriculture is a mere mechanical or practical imitation, unaided by science, it will never so far succeed as to answer the expectation of American enterprise … The next step is to establish agricultural schools, where that science can be taught theoretically as well as practically.

They would be 'the nursery of valuable citizens for a republic'. To do this, there would be three levels of instruction and:

> a pattern farm of about one thousand acres … All of this would be effected through our federal government, with a small sum of money – an appropriation much smaller than is made annually for the Military Academy.

Should federal support not be possible, he proposed the establishment of an agricultural botanical garden:

> The land unoccupied west of the Capital, bounding of the canal, would be the proper place; … it would improve the desolate appearance of the metropolis, and procure every visitor and instructive and pleasant promenade.

The arrival of the Smithson funds provided an opportunity for federal participation. Fleischmann responded quickly and prepared a second detailed memorial to the House. It was 'presented' by Adams, referred to his select committee, and, on a motion by him on 9 January, ordered to be printed with the instruction that 'the drawings accompanying the same be lithographed'. The entry characterizes it as 'showing the importance of and the benefits which may arise from the establishment of a national agricultural school as a branch of the Smithsonian'.[42]

Fleischmann referred to his earlier proposal in terms of showing 'the utility and importance of establishing an agricultural school at the seat of government'. He also stated, elaborating on an earlier theme, that 'such an institution, being the first in the United States, would be the nursery of scientific agriculturalists for the whole Union; their education should therefore be as perfect as possible, to enable them to qualify themselves as directors, professors, and superintendents

[39] J. Harwood, *Technology's dilemma: agricultural colleges between science and practice in Germany, 1860–1934* (2005), pp. 78–9.

[40] As cited in *The Agricultural College of Pennsylvania: embracing a succinct history of agricultural education in Europe and America … Drawn up by a committee appointed for the purpose by the Board of Trustees* (Philadelphia: 1862), pp. 6–7.

[41] True, *Education*, pp. 3–4; Harwood, *Technology's dilemma*, p. 79.

[42] Rhees, *Smithsonian documents*, p. 146.

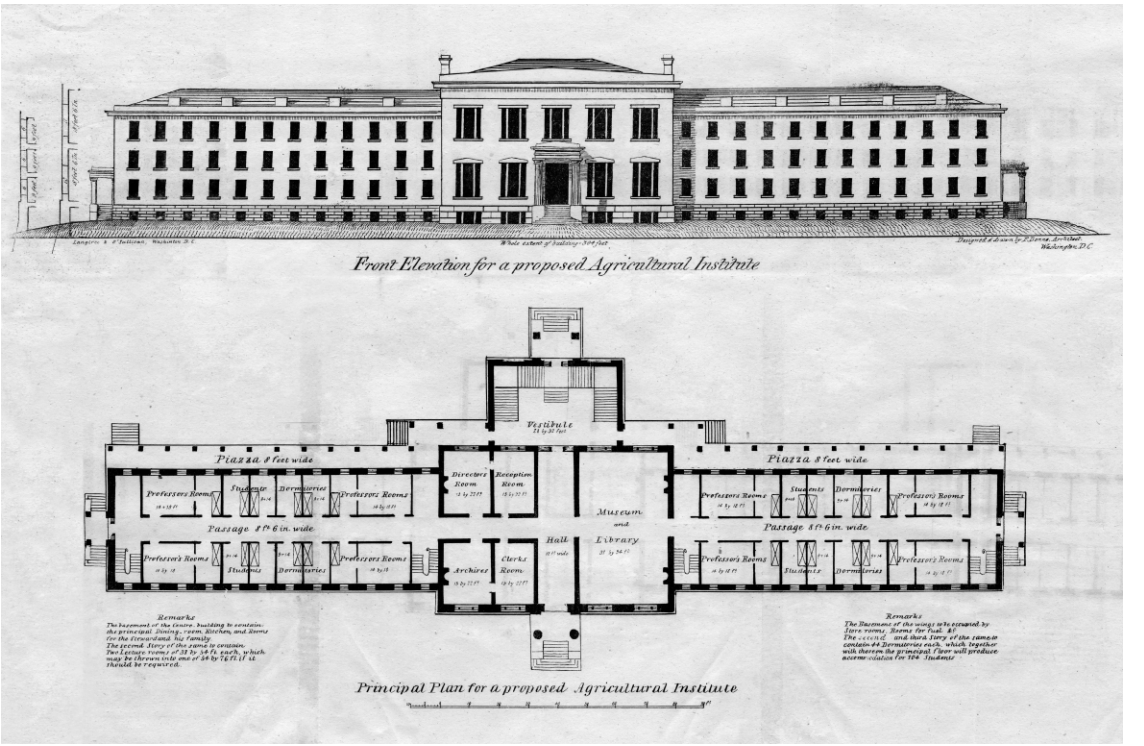



FIGURE 1. Architectural drawings of the proposed main building of the Agricultural Institute, December 1838. The first floor included professors' rooms, student dormitories, a museum and library, and administrative offices.

*Source:* Pamela Scott; also in 'Memorial of Charles Lewis Fleischmann in relation to the Smithsonian legacy,' 14 Dec. 1838, House Docs. 25th Cong., 3rd Sess., vol. 3, doc. 70, 9 Jan. 1839.

for similar establishments'. It was planned for 100 students and would, in accordance with the specifications the Smithson grant, 'be located within the boundary of the city of Washington'.

Three levels of instruction, as outlined in his first presentation, would be offered: one was to be practical (two years); the second, and largest group, a combination of practical and theoretical (also two years); and the third, for graduates of the second programme, who 'desire to perfect themselves as professors for similar establishments'. (The need for this group became very evident later in the century.) Applicants would require a certificate of moral character and be examined for 'an ordinary English education' and to determine whether they would be capable of 'comprehending a popular course of lectures'. Physical strength would be required to work on the farm and 'they should be at least of the age of 14 years', which now seems low but was not uncommon at that time. A strict 'order of the day' was outlined.

One of the most striking characteristics of the new institute would have been, echoing European precedents, its size. The proposed area totaled 1360 acres (3360 ha.), of which 640 were for cultivation, 100 for meadows, 80 for pasture, 40 for experimental fields, 20 for an orchard and nursery, 6 each for a vegetable garden and mulberry plantation, 4 each for a vineyard and hop garden, and 3 for a botanical garden. A substantial main building (Figure 1) and a number of auxiliary buildings (Figure 2) were proposed. The main structure and layout

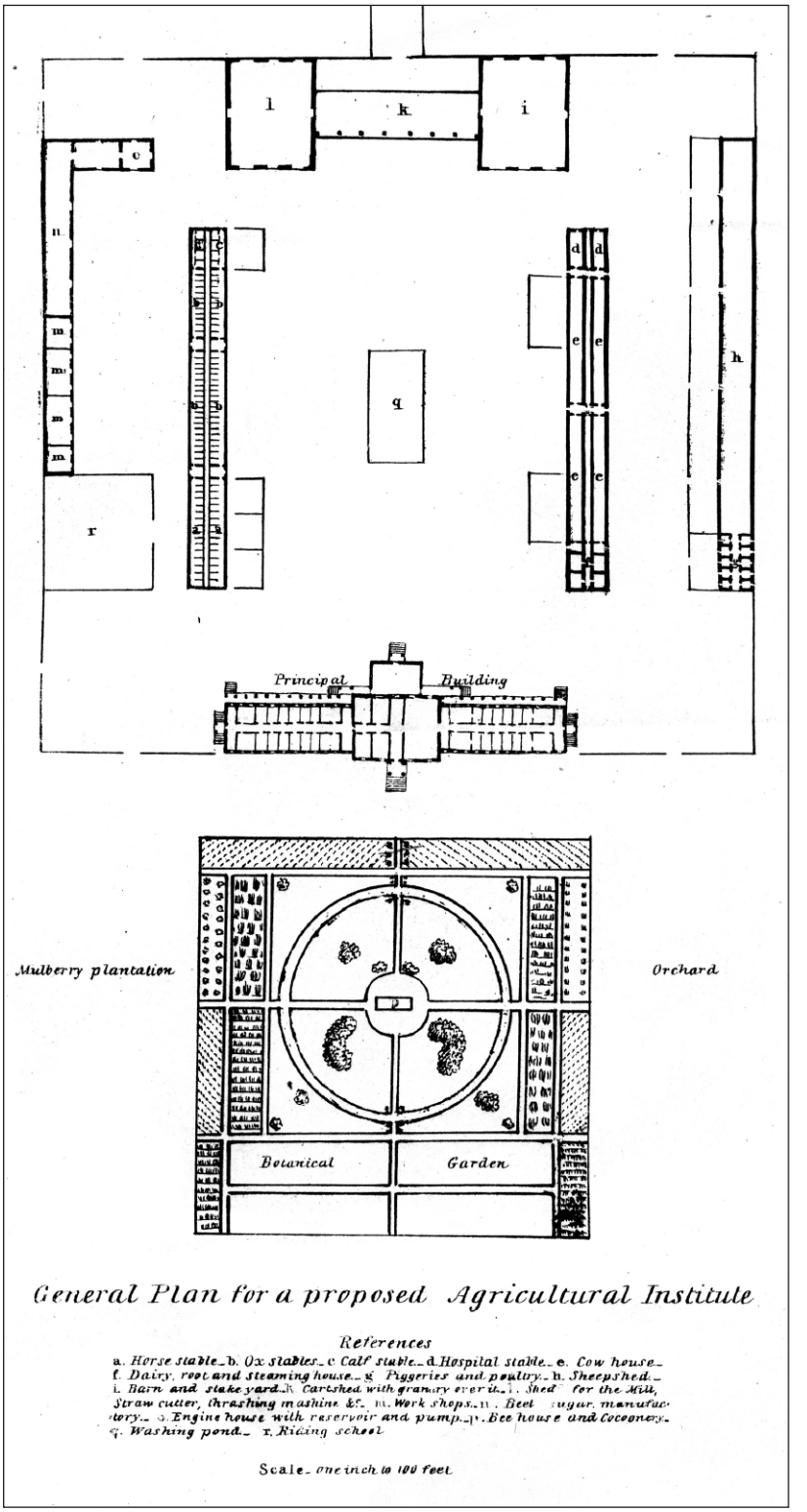



FIGURE 2. Architectural drawings of proposed building layout and gardens of the Agricultural Institute, December 1838. The outlying structures included stables, pig and poultry sheds, a barn, a workshop, engine room, etc.

*Source:* 'Memorial of Charles Lewis Fleischmann in relation to the Smithsonian legacy,' December 14, 1838, House Docs. 25th Cong., 3rd Sess., vol. 3, doc. 70, 9 Jan. 1839.

were designed and drawn by Francis Benne, a Washington architect who had close ties to the Patent Office, and Fleischmann.

The total capital investment for land, buildings, animals, and equipment would have also been substantial for the times: $158,700. Of this, $40,800 would have gone for the land, $60,000 for the buildings and furniture, and $20,000 for livestock. The remainder was spent on equipment of various forms ($17,999) or kept as 'floating capital' ($20,000). It appeared that an endowment for paying the salaries of the principal, professors and teachers would be set up at a 'capital' cost of $140,000; the salaries of the other staff would be paid from fees and revenue of the farm. Thus, the 'total sum required for the institution would amount to $298,700', 58.8 per cent of the total Smithson bequest. The proposal could have been reduced in size, but it never got to that stage of discussion.[43]

According to Paul Gates, the memorial caught the fancy of spokesmen for agriculture and aroused commendation and discussion. He notes that: 'The New York State Agricultural Convention meeting in Albany in 1840 approved a petition to Congress praying for use of part of plans proposed in Congress for the use of the funds.' He also cites the New York *Herald* and some other publications.[44] A closer look at them provides further insights.

The proposal was first mentioned in the *Morning Herald* on 18 December 1838. In noting various proposals, their correspondent stated that:

> there is one which has been submitted be a gentleman of this city, a German by birth, which deserves serious consideration … It is an Agricultural Institute to be established in the borders of the city … It is an important subject and should be carefully digested by Congress.

On 20 December, the same correspondent provided further details from the proposal, noting that it is intended to 'serve as a nursery of scientific agriculturalists for the United States', adding that:

> If this should be adopted, it will be the only institution of the kind in the United States, and the first attempt ever by Congress to promote the most valuable and important branch of our national industry and wealth.[45]

The *Herald*'s report of 20 December was reproduced in *The New England Farmer and Grower's Journal*, Boston, on 2 January 1839 with the following comment:

> [T]he plan proposed … appears very well on paper; but we apprehend the difficulty of executing it will be very great. Perhaps it will prove too cumbrous, and proposes too much. We, will not, however, decide prematurely. The danger to be feared is that the money will fall into the hands of theoretical instead of practical men, and prove in the end of little utility.[46]

[43] Rhees, *Smithsonian documents*, p. 163.

[44] Gates, 'Fleischmann', p. 15.

[45] Horace, 'From Washington' (dated 15 Dec.), *Morning Herald* (New York), 18 Dec. 1838. Horace, 'Private Correspondence: the Smithson bequest', dated 17 Dec. 1838), *Morning Herald* (New York), 20 Dec. 1838.

[46] The *New England Farmer and Gardner's J.* (2 Jan. 1839), XVII, no. 26, p. 203; 'Smithsonian legacy' (*NEF&GJ*, editorial comment, 2 Jan. 1839), p. 203; C. L. Fleischmann, 'To the editor of the *N.E. Farmer*' (*NEF&GJ*, 2 Jan. 1839), p. 202.

The text of Fleischmann's December memorial was reproduced without comment in the *Silk Grower and Farmer's Manual* for April 1839.[47] And reference to the New York petition was made in the *Cultivator* (Albany), one of the leading agricultural publications of its time, in March 1840.[48] The degree to which the proposals were published and discussed more widely, however, cannot be assessed from the available documentation.

Additional support was provided by the Agricultural Society of the United States, organized in 1841. A key purpose of the society as expressed in a petition to the House of Representatives of 27 August 1842, was to support 'the establishment of a school and farm in this district, with a course of lectures for instruction and experiments to advance the condition of agriculture throughout the Union, and thus diffuse wider among men that knowledge so essential to the improvement of this most important pursuit'. Its article of constitution added:

> and, appurtenant thereto, a course of public lectures of agriculture, chemistry, botany, mineralogy, geology, and entomology as appropriate sciences to the great business of agriculture, and experimental farm, which, with the buildings and improvements thereon, shall be set apart forever as an establishment for the increase and diffusion of knowledge among men.[49]

A more oblique endorsement came from the United States Patent Office (then arguably the most scientifically-oriented federal agency and locus of such agricultural work as was carried out).[50] In the report of the Commissioner of Patents on 1 February 1843, Commissioner Ellsworth stated that:

> I can confidently say, that the agricultural class look forward with bright anticipations to some benefit from the Smithsonian bequest, and to the time when the sons of agriculturists, after years of toil at the plough, can attend a course of lectures at the seat of government, and there learn not only the forms of legislation, but acquire such a knowledge of chymistry [sic] and the arts as will enable them to analyze the different soils, and apply agricultural chymistry to the greatest effect … Little indeed has been done for husbandry by the general government, and since 80 per cent of the population are more or less engaged in this pursuit, the claim on this most beneficent bequest will not, it is hoped, be disregarded.[51]

## IV

Proposals for the use of the funds continued to flow into the House committee of nine headed by Adams, some of which resulted in Congressional actions.

[47] 'Statistical: Smithsonian legacy', *The Silk Grower and Farmer's Manual* (1839), I, no. 10, pp. 232–6; repr. of 'Memorial' of 14 Dec. 1838.

[48] Demaree, *Press*, pp. 340–4. Also see Rossiter, 'Organization', p. 290.

[49] Rhees, *Smithsonian documents*, pp. 238–39.

[50] True, *Research*, pp. 22–4; Dupree, *Science*, pp. 46–7, 111–13. 'The antebellum Patent Office constituted one of the few places outside academia that employed men on the basis of their scientific competence': R. C. Post, *Physics, patents, and politics: a biography of Charles Grafton Page* (1976), p. 11.

[51] 'Report from the Commissioner of Patents, showing the operations of the Patent Office during the Year 1842', 27th Cong., 3rd Sess., Senate doc. 129, 1843, pp. 1–3.

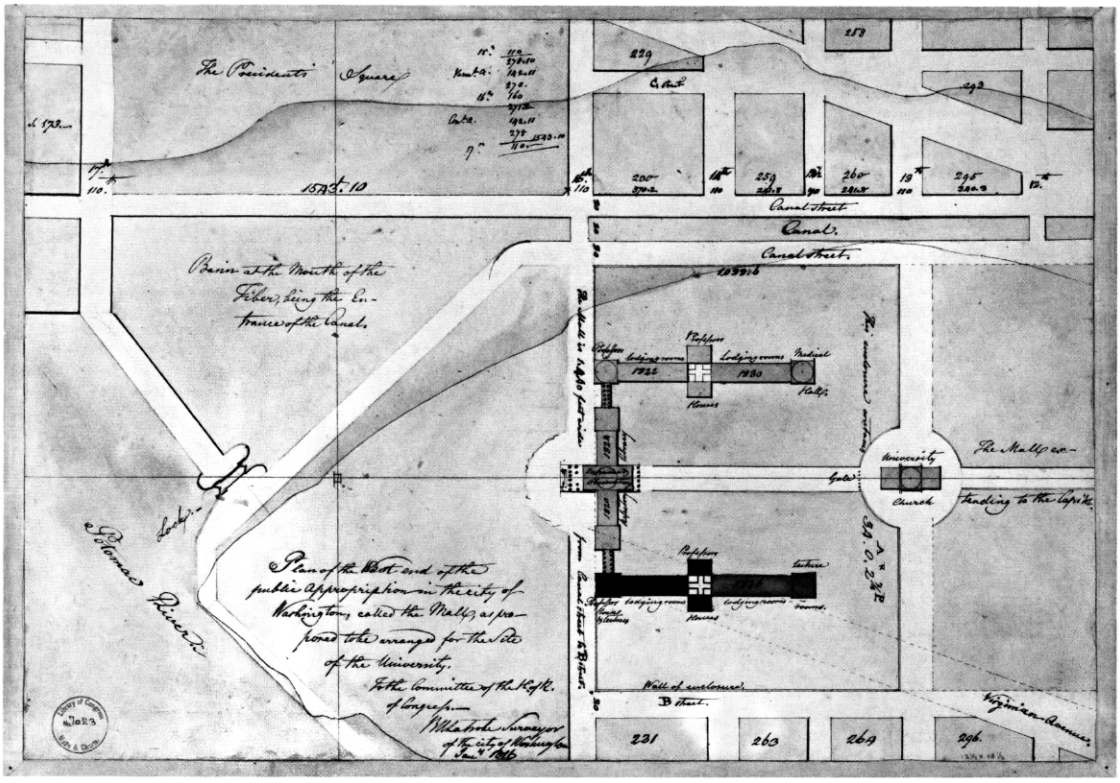



FIGURE 3. Proposed buildings and site layout for the proposed National University at the west end of the Mall by Benjamin Henry Latrobe, January 1816. It would be built in sections, starting in 1818 with the wing that is shaded darker in the plan, and finishing in 1830. Student lodging is interspersed among faculty houses and there are lecture rooms, a library, a refectory, an observatory and a church.

*Source:* Geography and Map Division, Library of Congress (G3852.M3G45 1816.D5 Vault).

One of the more venerable proposals, dating back to 1775 and mentioned by Washington in 1790, was for a national university. As developed by Joel Barlow in 1806, and discussed with Jefferson, it called for both '*research* and *instruction*', combining advancement of knowledge with the 'dissemination of its rudiments' and would have included a veterinary college. President James Madison proposed its establishment in his last message to Congress in 1817; a site plan by Benjamin Latrobe, a friend of Barlow, would have placed it at the west end of the Mall (Figure 3).[52]

While the Senate would have preferred a national university, Adams – as mentioned earlier – was opposed to the use of the funds for school or university purposes, but instead, favoured

[52] D. Madsen, *The National University: enduring dream of the USA* (1966), 15–56; A. Castel, 'The founding fathers and the vision of a National University', *Hist. of Education Quarterly* 4 (1964), pp. 280–302; Dupree, *Science*, pp. 14–15, 23–4, 33; F. Gutheim and A. J. Lee, *Worthy of the Nation: Washington DC, from L'Enfant to the National Planning Commission* (2006), p. 33; and C. B. Todd, *Life and letters of Joel Barlow, LL.D., poet, statesman, philosopher* (1886), pp. 208–9.

a national observatory.[53] Richard Rush advocated an organization that would cooperate with the government in its scientific work, provide lectures, receive and exhibit collections, publish scientific documents.[54] Others proposed using the funds for the National Institute, a scientific society founded in 1840 (to be discussed later). Further suggestions included a national library, an art gallery, and the founding of a journal of useful information.[55]

But as late as 1842 little sign appeared that opinion had gelled in any one mould.[56] Congressional efforts evidently began to focus on the issue in 1844. Curiously, Adams did not play a highly visible leadership role at this stage:

> His part in the work of establishing the Smithsonian lay rather in preventing Congress from entering into too hastily considered schemes than in developing the finally adopted plans himself.[57]

Fleischmann, still at the Patent Office, was neither mentioned nor heard from, but soon was to reappear on several fronts.[58]

Senator Tappan of Ohio presented a bill, S.188, on 6 July 1844, reintroduced on 12 December as S.18, to establish the Smithsonian Institution. Section 2 of the bill called for the 'erection of suitable buildings, the inclusion of suitable grounds, and for the purchase of books and instruments'. Among the provisions was one for:

> suitable ground for horticultural and agricultural experiments, which ground may be taken and appropriated out of that part of the public ground in the city of Washington called the Mall, lying west of Seventh street.

Section 3 suggested, further, that:

> the grounds selected for these purposes would be enclosed and secured, and a suitable building erected to preserve such plants as will not bear exposure to the weather at all seasons; and the sum of $20,000 is hereby appropriated for such a building and enclosure.[59]

In terms of staff, Section 5 authorized the board of managers to appoint a superintendent who 'shall also discharge the duties of professor of agriculture, horticulture, and rural economy in said institution'. In Section 7, provision was made for professors of natural history, chemistry, geology, astronomy 'and other professors as the wants of science may require'. They were to:

> direct experiments to be made by the professor of agriculture … to determine the utility

[53] Adams also considered the 'education of youth … a sacred obligation, binding upon the people of the Union themselves, at their own expense and charge, for which it would be unworthy of them to accept an eleemosynary [sic] donation from any foreigner whomsoever' (Dupree, *Science*, p. 69).

[54] W. P. True, *The Smithsonian Institution* (Smithsonian Institution Series, Inc., 1929), pp. 239–40.

[55] R. W. Leopold, *Robert Dale Owen: a biography* (1940), pp. 219–220 (repr. 1968). The library proposals are discussed in a larger context by C. Ostrowski in *Books, maps, and politics: a cultural history of the Library of Congress* (2004), pp. 145–78.

[56] Dupree, *Science*, p. 70.

[57] True, *Smithsonian*, p. 239.

[58] In 1853 he joined forces with two Patent Office colleagues to establish the *American Polytechnic Journal*, devoted to 'Science, the mechanic arts, and agriculture;' it was published for two years (Post, *Page*, pp. 128–39, plate 23) and is cited in n. 84.

[59] Rhees, *Smithsonian documents*, pp. 266–80.

> and advantage of new modes and instruments of culture, to determine whether new fruits, plants and vegetables may be cultivated to advantage in the United States; and they shall direct the distribution of all … as shall be found useful and adapted to any of our soils and climates, so that the people in every part of the Union may enjoy the benefit and advantage of the experiments made by the Institution … They shall also direct a professor of chemistry to institute a chemical analysis of soils from different sections of the United States, to make experiments on the various modes of improving and enriching the several kinds of soil found within the United States, and at all times to include in his course of lectures the subject of agricultural chemistry'.[60]

The chief opponent of the Tappan proposal in the Senate was Rufus Choate of Massachusetts who proposed using nearly all of the interest of the bequest to build a national library, feeling that it would 'not only increase knowledge effectively but also wipe away the stigma of [national] inferiority'. It won 'immediate and widespread approval' despite the fact that it was not specifically oriented to science or the diffusion of knowledge.

Representative Robert Dale Owen of Indiana, who shared Tappan's interest in the more active diffusion of knowledge, drew up an amended bill in the House (10 February). It reduced expenditure on books and included provisions from Tappan's bill, including 'provisions for scientific cabinets and horticultural experiments.' While evidently approved by both Choate and Tappan, it was strongly opposed by Adams, whose stand proved quite unpopular.[61] Thereafter, leadership fell to Owen. He introduced what seems to have been essentially the same bill on 19 December 1845. It included provision to 'enclose grounds suitable for agricultural and horticultural experiments and to erect a plain building capable of housing laboratories, lecture rooms, scientific cabinets [collections of specimens], and a library'. The expenditure on books for a library was further reduced. Adams strongly opposed the section dealing with agricultural experiments, noting in his diary that he considered it 'a cumbersome, expensive and useless burden upon the Institution'.[62] A substitute bill by Representative Hough of New York eliminated the 'provisions for professorships, experimental research, and the publication of cheap tracts', and the amount to be spent on books was set at $25,000. The bill went on to be passed by the Senate. Thus Choate's library proposal appeared to have triumphed.[63]

But there was still one more step. As a reward for other duties that he had carried out, Owen was appointed as one of the three House representatives on the Board of Regents of the Institution. He was made chairman of a sub-committee 'to digest a plan to carry out the provisions of the act'. When his committee's report was presented on 1 December 1846, it fulfilled 'every specific requirement of the statute, it reintroduced certain items previously eliminated by Congress, such as the permanent professorships, the experimental farms, and the conservatories'. It met the same fate in the board of Regents and all these provisions were

[60] Ibid., pp. 67–79. Other professors would have been natural history (useful animals and injurious insects), geology, architecture and domestic science, and astronomy.

[61] Leopold, *Owen*, pp. 220–2; Rhees, *Smithsonian documents*, p. 276.

[62] Adams, *Memoirs*, XII, pp. 239–40, 245–6.

[63] Leopold, *Owen*, pp. 223–7; Rhees, *Smithsonian documents*, pp. 280–319. While the amount appears modest by current standards, it would have represented over 80 per cent of the operating funds of the Smithsonian, which were to be derived from interest on the bequest.

eliminated, though the 'scientific cabinets' were retained. This ended the proposed agricultural dimension of the Smithsonian, except for one unexpected proposal that was to come later.[64]

Clearly, Tappan's emphasis was on applied science and would have been similar in outlook to the initial focus of the Royal Institution.[65] However, according to Leopold, his 'highly utilitarian scheme proved very unpopular, at least among those who could register their views in Congress or had access to the columns of the leading newspapers'.[66] But some 120 years later, it was termed 'the most thoughtful legislative reflection of a museum-cum-university conception of the Smithsonian'.[67]

The Fleischmann and Tappan–Owen proposals were quite different in nature and resource requirements. Fleischmann's essentially followed the European example of the time. It was built around a large model farm and a course of instruction; research would presumably play a role but was secondary. Its basic elements were proposed before the Smithson bequest had been received; they were quickly developed a few months later in response to the bequest and before much thought had been given to its use.

Little of what Fleischmann proposed – beyond the general notion of improving agriculture – was reflected in the Tappan–Owen proposal. Adams was acquainted with his proposal, had some familiarity with agriculture, was interested in science, and had earlier spoken eloquently of the role of knowledge, but showed little or no interest in applied science or agricultural matters at this point.[68]

Although the Fleischmann proposal was never embodied in the form of a prospective legislative bill, the Tappan–Owen proposal clearly was, and the agricultural components survived to nearly the end of the legislative process. It provided for a rather different organization: a more general scientific group of modest size which would have included agriculture as one component, and one that was oriented to research and dissemination of information, but not formal instruction.

In conceptual terms, the Fleischman proposal would have combined theory with practice, while the Tappan–Owen proposal focused more on the combination of theory with experiment, not altogether a new concept.[69] Both contained many of the research and outreach characteristics of the subsequent United States Department of Agriculture and land grant college system.

[64] Leopold, *Owen*, p. 231.

[65] The early work of Humphry Davy was heavily focused on agricultural matters, principally agricultural chemistry (Berman, *Royal Institution*, pp. 45–61; Rossiter, *Leibig*, pp. 11–19; David Knight, 'Establishing the Royal Institution: Rumford, Banks and Davey' in James, 'Common purpose', p. 111; Russell, *Agricultural science*, pp. 67–76). His *Elements of agricultural chemistry in a course of lectures for the Board of Agriculture* was published in 1814 in London (Longman) and in the U.S. in 1815 (Fredericksburg, Va.: William Gray) and 1821 (Philadelphia: John Conrad & Co.).

[66] Leopold, *Owen*, p. 220.

[67] G. T. Hellman, *The Smithsonian: octopus on the Mall* (1966), p. 50.

[68] Adams's contributions to science are well reviewed in A. H. Dupree, 'Science policy in the United States: the legacy of John Quincy Adams,' *Minerva* 28 (1990), pp. 259–271, and noted in Wheelan, *Adams*, pp. 111–28. He was perhaps more at home discussing Cicero's views on agriculture or the role of tillers of the soil as the third stage of civilization (Adams, Quincy Lecture II, Supplementary Address; in Washburn, *Great design*, pp. 89–91).

[69] 'By 1800 the educated recognized that the revolution in science had been due the development of a scientific method: the combination of theory … and experiment': D. Goodman, 'Conclusion' in D. Goodman and C. A. Russell (eds), *The rise of scientific Europe, 1500–1800* (1991), p. 423.

If combined, they could have provided the vital four-way linkage between theory, experiment, practice, and education that was to come later.

## V

One observer of research and education in American agriculture has termed the mid-nineteenth century the 'American Renaissance'.[70] Another commented that 'Some progressive farmers … believed they had passed from a dark age into one of agricultural development'.[71] The mid-century is taken as the period from roughly 1840 to 1865, but neither assessment was altogether evident before about 1860. However, important seeds were planted during this period that led to landmark Congressional legislation in 1862 and the substantial changes that followed.

During the first decade, key and parallel roles were played by the Patent Office, the National Institute for the Promotion of Science, and the Agricultural Society of the United States. Concurrently, individual and then group steps were taken to improve the status of agricultural education within the country. Let us consider each in turn.

The United States Patent Office was established in 1836 and Henry L. Ellsworth was appointed its first commissioner. The son of a chief justice, he was an individual of large ideas and saw the possibilities of establishing 'a great scientific bureau'. This vision included the natural sciences and he attempted to make his office a clearing house for seeds and plants. In 1839, $1,000 was appropriated for statistics and other agricultural services. Particular attention was given to agricultural statistics and the application of chemistry to agriculture.[72] Hence, it is not surprising that he supported Fleischmann in his efforts concerning the Institute and Ellsworth later commissioned Fleischmann (who retired in 1845) to study agricultural conditions in Europe. One report included a section entitled 'On agricultural schools' and involved a visit to Thaer's school (then run by Thaer's son) in Moegelin.[73]

The National Institute was established in Washington in 1840, as an heir to the old Columbian Institute (which had played a key role in establishing an embryonic botanic garden on the Mall in 1818).[74] Once organized, 'the leaders began to work toward acquisition of the Smithson grant … The name was selected to reassert its superiority over the proposed Smithsonian Institution'. Membership was divided into eight classes, one of which was agriculture. In 1844, along with an unsuccessful attempt to get an appropriation, it held a grand annual meeting along with some other professional societies, but was little heard of it thereafter.[75] Still, one

[70] P. E. Waggoner, 'Research and education in American agriculture,' *Agricultural Hist*. 50 (1976), pp. 230–47.

[71] G. P. Colman, *Education and agriculture: a history of the New York State College of Agriculture at Cornell University* (1963), p. 18.

[72] Dupree, *Science*, pp. 47 (source of quotations), pp. 110–12. Also see: Gates, *Farmer's age*, pp. 299–301, 329–36.

[73] 'Result of observations made during a visit to Germany in 1844–5, by Charles L. Fleischmann, Esq., formerly draughtsman in the Patent Office and furnished by him at the request of the Commissioner of Patents for the Agricultural Report on 1847,' 'Annual Report of the Commissioner of Patents for the Year 1847,' House of Representatives, 30th Cong., 1st Sess., Ex. Doc. 54, 1848, App. 1, pp. 310–25.

[74] Dupree, *Science*, pp. 70–6.

[75] S. G. Kohlstedt, 'A step toward scientific self-identity in the United States: the failure of the National Institute,' in N. Reingold (ed.), *Science in America since 1820* (1971), pp. 79–103, quotation from p. 85, repr. from *Isis* 62 (1971), pp. 339–62. Also see Leopold, *Owen*, pp. 217–18. Fleischmann was a member (repr. in Post, *Page*, p. 45).

historian suggests that it helped to set the stage for 'a general agency for the advancement of scientific interests of all kinds'.[76]

More to the point, the Agricultural Society of the United States was organized in 1841 with the principal objective of securing the Smithson fund to 'establish a great school and library of agricultural science and experiment, with a garden, that should bear and be worthy of the name of Smithson'. But failure to achieve this purpose perhaps dampened the enthusiasm of its founders and its seal and records were turned over to the United States Agricultural Society in 1859.[77]

The 'renaissance' also moved slowly in terms of agricultural education. A number of agricultural schools and academies were established early in the 1800s.[78] Their purpose was generally to combine theory with practice, and in this respect they were no different from the agricultural institute proposed for Washington. But in True's view:

> They were premature developments, because there was not yet a body of knowledge relating to agriculture which could be successfully used in secondary schools. As experimental ventures in education they served, however, to stimulate the movement that was to result in the establishment of agricultural colleges and experiment stations.[79]

The experience of one such school may be illustrative. The Mount Airy Agricultural College was established in Germantown, Pa. in 1847 (Figure 4). 'The response from the public was not enthusiastic … The school operated for eight years with very small enrolment' and was discontinued in March 1853. In looking back, the principal commented that 'I have … had under my tuition in that time 217 pupils. Among these but four were sons of farmers … A large majority of my pupils have engaged in agriculture'.[80] Whether a national institute located in Washington would have had the same experience is uncertain.

A more promising start on a renaissance had its roots in Europe. During the 1840s, besides Fleischmann, other Americans reported on agricultural conditions in Europe. They included Henry Coleman, a prolific writer, who was impressed with European agricultural education. The same decade saw a number of Americans travel to Europe to seek graduate-level scientific training relating to agriculture, particularly in chemistry, and in the laboratory of Justus Liebig in Giessen, Germany.[81]

[76] M. E. Pickard, 'Government and science in the United States: historical backgrounds', I. The Columbian Institute, II, The National Institute, *J. Hist. of Medicine and Allied Sciences*, 1 (1946), p. 289. In doing so, in her view, it helped save the Smithsonian from being 'a school, an observatory or an agricultural experiment station'.

[77] True, *Education*, p. 89; L. Carrier, 'The United States Agricultural Society, 1852–1860,' *Agricultural Hist*. 11 (1937), p. 279.

[78] These included the Gardner Lyceum in Maine, the Agricultural Seminary at Derby, Connecticut, the Cream Hill Agricultural School in Connecticut, and the Boston Asylum and Farm School (True, *Education*, pp. 33–9; W. Stemmons, *Connecticut Agricultural College – a history* (1931), pp. 5, 20–1. Others in New York State are noted in Colman, *Cornell*, pp. 12–13.

[79] True, *Education*, p. 35.

[80] S. Fletcher, *Pennsylvania agriculture and country life, 1840–1940* (1955), pp. 480–1; *Catalogue of the Mount Airy Agricultural Institute, Germantown, Pa., Designed for instruction in scientific and practical agriculture, mathematics and the natural sciences* (Philadelphia: T. K. and P. G. Collins, Printers, 1849). For the experience of a similar French school, see A. R. H. Baker, 'Farm schools in nineteenth-century France and the case of La Charmoise, 1847–65,' *AgHR* 44 (1996), pp. 47–62.

[81] C. H. Danhof, 'American evaluations of European agriculture,' *J. Economic Hist*., Supplement 9 (1949), pp. 66–7; Gates, *Farmer's age*, p. 355; Rossiter, *Liebig*, pp. 49–67.

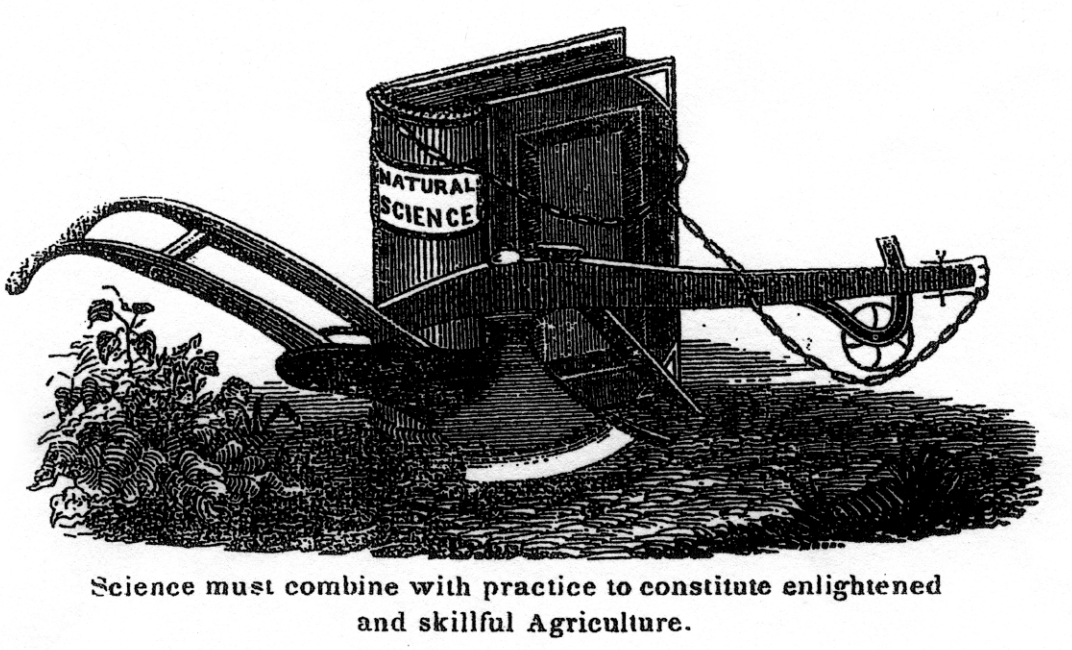



FIGURE 4. Emblem and motto of the Mount Airy Agricultural Institute, Germantown, Pa., 1849.

*Source: Catalogue of the Mount Airy Agricultural Institute, Germantown, Pa., Designed for instruction in scientific and practical agriculture, mathematics and the natural sciences* (1849).

Interest in establishing agricultural schools and training continued in these years. In February 1850 George Watterston wrote to the *National Intelligencer* (Washington), observing that other countries had established agricultural schools, and suggested one of 600 acres (1480 ha.):

> The fittest and most suitable locality for the proposed college would be the District of Columbia, the seat of the general government, where land can be easily obtained, and the Institution would be immediately under the eye of Congress. To this college youths of different ages and from all parts of the Union, may be sent, and go through a complete course of scientific agricultural education … by diffusing this knowledge every where among their countrymen, they will be able to call out, to an unlimited extent, the agricultural resources of the country.[82]

Similarly, Charles Fleischman reemerged in 1853 with an article on 'Agricultural Education' in the short-lived *American Polytechnic Journal*.[83] As before, he emphasized agricultural schools and included a copy of his 1838 proposal, noting that 'we thought it would form a

Note 81 *continued*
A similar pattern was followed in veterinary medicine: A. L. Olmstead, 'The first line of defense: inventing the infrastructure to combat animal diseases', *J. Economic Hist*. 69 (2009), p. 333.

[82] G. Watterston, 'Agricultural College – No. III', *National Intelligencer* (19 Feb. 1850), p. 3. In Apr. 1850, a letter to the editor of the *Intelligencer* supported a memorial presented to the Agricultural Committee of the Senate 'praying' for such a college (letter to the editor from 'A friend to agriculture,' 4 Apr. 1850, p. 3).

[83] See n. 58.

central agricultural institute, from which hundreds would have gone forth and built up new institutions'. This time his emphasis was on the southern states: 'instead of making their sons military or professional men, let them be sent to agricultural schools where practical, theoretical agriculture is properly taught'.[84]

Qualified teachers, however, were in short supply. In an article in the *Cultivator* in March 1852, John P. Norton, a noted professor of agricultural chemistry at Yale – which by 1860 was a leader in agricultural science – expressed his concern about the lack of properly qualified teachers and scientists:[85]

> I consider this lack of first rate instructors, one of the most pressing and urgent; it is useless for him to establish schools, unless he can find proper teachers, and he ought not to be driven, by their premature establishment, into any dependence on those who can only mislead and disappoint him … If but fifty or one hundred intelligent young men, would for the coming few years, devote their efforts to the acquisition of the various branches of science connected with agriculture, they would control the whole field, and be able to sweep away the glaring errors which are now so prevalent.[86]

This didn't immediately come to pass, but interest in establishing state agricultural colleges of agriculture and research stations continued to grow, though with some dissident voices.[87]

Among the national groups, the United States Agricultural Society (a successor to the Agricultural Society of the United States) made the most effort. An inaugural meeting was held in Washington in June 1851. The group, which flourished from 1852 to 1860, established its headquarters in Washington and held all of its meetings at the Smithsonian. The principal item of business at its June 1852 meeting was consideration of a recommendation for the establishment of 'a Department or Bureau of Agriculture by Congress'.

At the June 1852 meeting of the Society, Senator Stephen Douglas and Secretary Joseph Henry of the Smithsonian crossed philosophical swords, creating what was later viewed as a 'pivotal

[84] C. L. Fleischmann, 'Agricultural education', *American Polytechnic J.* II (1853), pp. 166–77, quotations from pp. 169–70. Gates later wrote: 'Had the men in charge of the new institutions that were created in the sixties and seventies carefully examined Fleischmann's treatise, they might have avoided some of the blunders into which they fell' (*Farmer's age*, p. 370).

[85] Norton was appointed to a newly created chair of agricultural chemistry and animal and vegetable physiology in 1846, 'it being the understanding that [his support] … is in no case to be chargeable to the existing funds or revenue of the college': D. J. Struik, *Yankee science in the making: science and engineering in New England from colonial times to the present* (1991), pp. 430–1. Short courses later provided one source of income and according to one account drew more than 125 students from 'a great number of different states': L. Bartlett, 'Agricultural lectures at New Haven,' *The Country Gentleman* (16 Feb. 1860), p. 105).

[86] J. P. Norton, 'The necessity for a proper system of agricultural instruction in agricultural science' *Cultivator* IX (Mar. 1852), pp. 107–8 (repr. in Demaree, *Press*, pp. 245–9); Gates, *Farmer's age*, p. 366. The shortage of qualified teachers continued to at least 1889: W. H. Shepardson, *Agricultural education in the United States* (1929), pp. 49–50.

[87] One farmer from Massachusetts, for instance, wrote that such schools would confer 'upon a few men a rich and lucrative office, which they never were by experience calculated to fill, and an attempt to educate a few of the sons of certain families in an art which they are entirely unfitted by nature and habit to follow, and one which they *rarely* would adopt as an occupation', W. A., 'Agricultural colleges', *New England Farmer*, IV (1852), pp. 267–8 (repr. in Demaree, *Press*, pp. 250–2).

moment' for the Institution. On the first evening, according to an account of the time, Douglas proposed that 'a department of agriculture should be attached to the Smithsonian Institute and believed that this would be more in accordance with the views of Smithson than the course pursued at present by those in charge of the Institution'. He went on to observe that 'There were now no practical results' and that 'the Institution must make itself useful and not waste its investigations upon the stars and heavenly planets and other matters which had no practical bearing'.

Secretary Henry, provoked, responded that the proposal 'was sprung on him now for the first time' and: 'As for the plan … to make the Institution an agricultural society, he would rather blow it up, and send the funds back to the Chancery of England'. He went on to say: 'For the *diffusion* of knowledge there were thousands of institutions where there was *one* for its increase' and felt that 'agriculture is to be more advanced by the microscope than the plough and harrow'. Douglas, replying, asked 'why did it not devote itself to corn instead of sea weed' and stated that last year when he had 'privately stated his views on the subject to Prof. Henry', the latter had taunted him and said that it would be turning the Institution into a 'cow pasture'. The next day, things cooled down considerably. Henry apologized 'for anything objectionable in his speech or manner' and promised that the Institution would do all that it could 'for the cause and interests of agriculture'. Douglas said that he had misunderstood Henry's comments of a year before and that 'what the professor had spoken in joke he had supposed to have been seriously said'.[88]

Joseph Henry was a prominent physicist who had became Secretary of the Smithsonian in 1846. His 1847 'Program of Organization' laid out activities that he felt were in accordance with Smithson's will and were shaped by the legislation establishing the Institution. He advocated support of original scientific research and its publication (to increase knowledge) and included popular publications, lectures, a museum, and a library (to diffuse knowledge; largely in response to the legislation). While the 'Program' did not specifically include agriculture under original research, it did appear under the types of more general reports that might be issued.[89]

One of Henry's guiding principals was that the Smithsonian would not fund activities that could be funded by other government agencies or the private sector. Taking advantage of the opportunity offered by the Patent Office, he later provided detailed reports on 'Meteorology in Connection with Agriculture' in the annual 'Report of the Commissioner of Patents' from 1855 to 1859. He also used funds appropriated to the Patent Office to support the Institution's meteorological and climatological research.[90] Perhaps he might have been receptive to proposals

[88] 'National agricultural convention,' *National Intelligencer* (26 June 1852), p. 3; M. Rothenberg (ed.), *The papers of Joseph Henry* (12 vols, 1972–2008), VIII, pp. xviii–xx, 344–5, 351–2; pers. com. from Rothenberg, Nov. 2006.

[89] Washburn, *Great design*, unnumbered annex after p. 95, 4pp.; pers. com. from Marc Rothenberg, April 2009. The 'Program' and its early implementation is discussed in Rothenberg (ed.), *Papers*, VIII, pp. xiii–xxv. Henry viewed the provision that up to $25,000 be used for a library as a particular threat. He was not interested in this function and in 1847 the Board agreed to use half of the income from the bequest (which totaled about $30,000), for science and half for the museum and the library. Thereafter, Henry shed the library function to the Library of Congress whenever he could: Ostrowski, *Books*, pp. 151–170; Dupree, *Science*, pp. 80–5; C. A. Goodrum and H. W. Dalrymple, *The Library of Congress* (1982), pp. 22–3.

[90] This link is briefly discussed in J. R. Fleming, *Meteorology in America, 1800–1870* (1990), pp. 125–8.

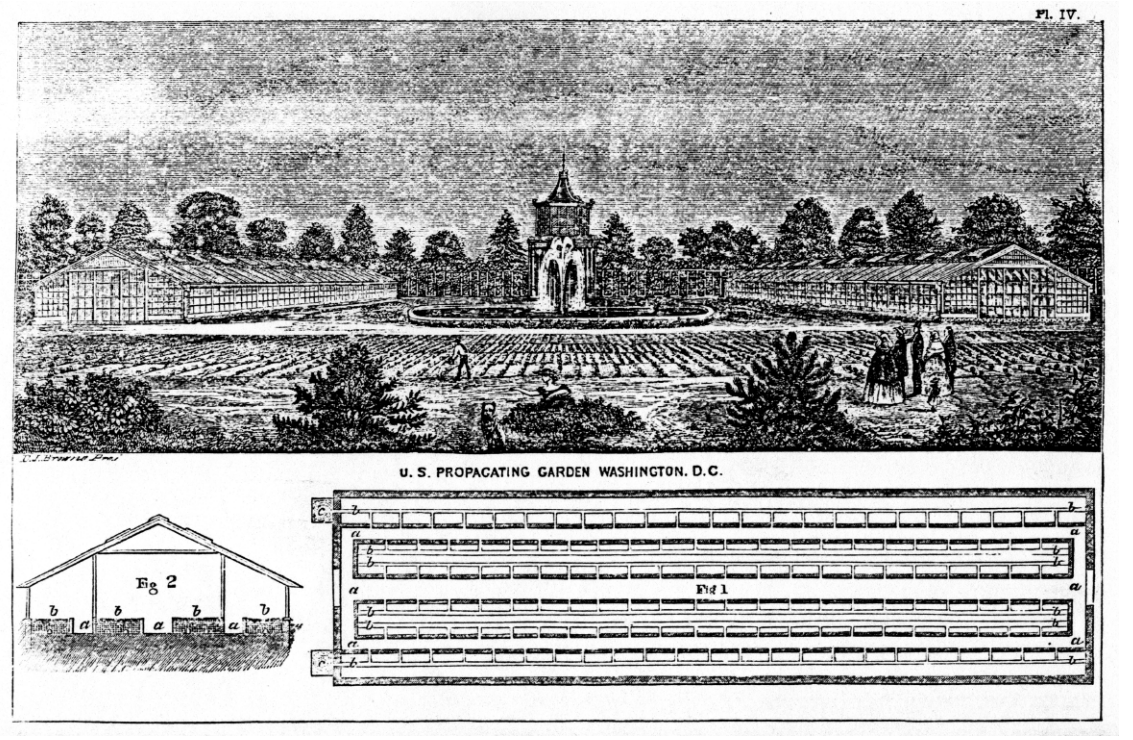



FIGURE 5. Proposed design of the Propagating Garden on the Mall between 4½ and 6th Streets, presently part of the area occupied by the National Gallery of Art, 1858 (the central structure evidently was not built).

*Source:* 'Report of the Commissioner of Patents for the Year 1858, Agriculture', House of Rep., 35th Congress, 2nd Session, Exec. Doc. No 105, 1859, frontispiece.

for scientific research of some type in agriculture (he was the keynote speaker at the opening ceremonies of Maryland Agricultural College in 1859).[91] But none of this came to pass and his comments marked the end of Smithsonian involvement in agriculture at the time, although some linkages emerged later.[92]

Beyond this, other federal agencies continued their agricultural work or were established. In 1856, the Commissioner of Patents requested a tract of land where work on 'cultivating and propagating seeds and cuttings' might be undertaken. He was allocated six acres on the Mall, north of the canal and fronting on Missouri Avenue, and between 4½ Street (no longer extant) and 6th Street. In 1858, this was designated as the Propagating Garden and the erection of

[91] 'Maryland Agricultural College', *Daily National Intelligencer* (6 Oct. 1859), issue 14, p. 719. Also mentioned in a longer article on 10 Oct., p. 722.

[92] These involved the biological sciences. In 1869, Henry initiated the transfer of the embryonic herbarium to the Department: True, *Research* (1937), pp. 48–9; Ewing, *Smithson*, p. 332; P. J. Pauly, *Biologists and the promise of American life: from Meriwether Lewis to Alfred Kinsey* (2000), p. 62. In 1876, interactions involving the USDA insect collections began: in 1886 they were transferred to the Smithsonian and in 1895 several USDA staff members were designated as custodians: J. M. Aldrich, 'The division of insects in the United States National Museum', *Annual Report of the Smithsonian Institution for 1919* (1921), pp. 367–8; W. C. Sorensen, *Brethren of the net: American entomology, 1840–1880* (1995), pp. 57–8.

buildings and greenhouses followed (see Figure 5). Responsibility was later transferred to the new Department of Agriculture.[93]

During the 1850s, the Agricultural Society had focused its efforts on securing two key pieces of legislation: the Morrill Land Grant Act for the establishment and support of state colleges of agriculture and mechanic arts, and the law creating the United States Department of Agriculture. With the onset of the Civil War in April 1861, the Southern opposition to these efforts literally seceded and, with the ascendancy of the agricultural states in the west stimulated by the Homestead Act, increased educational and scientific support for agriculture became possible. The two acts, both signed into law by Lincoln in 1862, were indeed 'the culmination of campaigns begun during the American Renaissance'.[94]

While neither law was explicit about research, the House Committee on Agriculture, in its report on the Department bill, noted the establishment of agricultural experiment stations in England and France and stated that accurate knowledge of the processes of nature 'can be obtained only by experiment, and by such and so long continued experiments as to place it beyond the power of individuals or ordinary voluntary associations to make them'.[95]

But as we will see, the realization of both the educational and research goals proved to be a difficult and protracted process. In retrospect, one might wonder if – had the Smithsonian grant arrived later, during the period of the 'agricultural renaissance' – some of the proposals put forward by Fleischman and others might have received wider and more effective support and the Institution itself might have been involved in the generation and diffusion of agricultural knowledge.

## VI

During the last third of the century, the groundwork that had been laid in the public sector during the first two thirds began to bear fruit, although not quickly or easily. But by the turn of the century a solid base had been laid in the state colleges of agriculture and agricultural experiment stations and in the United States Department of Agriculture for the increase and diffusion of agricultural knowledge in the nation.

In the case of the colleges, the period from 1860 to 1890 has been termed as one of 'slow beginnings' by Rossiter and 'a very dull childhood' by Waggoner.[96] It exemplified some of the earlier concerns

[93] V. Wiser and W. D. Rasmussen, 'Background for plenty: a national center for Agricultural research', *Maryland Historical Magazine* 61 (1966), pp. 284–6.

[94] Dupree, *Science*, pp. 149–51; L. Carrier, 'The United States Agricultural Society, 1852–1860', *Agricultural Hist.* 11 (1937), pp. 278–88; True, *Education*, pp. 89–90; Rhees, *Smithsonian documents*, pp. 238–9; Waggoner, 'Research', p. 234 (source of quotation).

[95] 'U.S. Department of Agriculture', *The Congressional Globe* 33 (17 Feb. 1862), pp. 885–6; see also E. W. Hilgard, 'Progress in agriculture by education and government aid', *Atlantic Monthly* (Apr. and May 1882), p. 659. In the summer of 1862, American agriculturalists, including Ezra Cornell, visited Rothamsted and agricultural trials in Grignon, France: R. O. Cummings, 'American interest in world agriculture, 1861–1865,' *Agricultural Hist.* 23 (1949), p. 118). Cornell and President White also 'visited British and other European agricultural colleges in 1868 in the hope of bringing home some useful ideas': Colman, *Cornell*, p. 53.

[96] M. W. Rossiter, 'The organization of the agricultural sciences,' in A. Oleson and J. Voss (eds), *The organization of knowledge in modern America, 1860–1920* (1979), pp. 213–16; Waggoner, 'Research and education', pp. 243–4. Also see: Hilgard, 'Progress in Agriculture', pp. 531–41, 651–2; D. B. Danbom, 'Publicly sponsored agricultural

of Norton. By 1872, eleven new colleges had been started and another fifteen added to state universities.[97] The first group included Michigan Agricultural College in 1855 and Maryland Agricultural College in 1858.[98] In the latter case, the President of the Board of Trustees, Charles Calvert, stated that: 'This was not to be only an American edition of a European Manual Labor School – its aims and its destiny, he trusted, were to be far higher, and its results would be felt, if not immediately, yet ultimately [by] … the great, but not sufficiently co-operating agricultural class'.[99]

Such aspirations, however, faced two challenges that had emerged in earlier efforts in agricultural education or were forecast by Norton. First there was difficulty in identifying suitable agricultural teachers and, second, a shortage of students. These problems were typified by the College of Agriculture at Cornell University, established in 1868. Finding staff proved difficult and involved recruiting from the existing agricultural colleges, 'which had recently gone through the same difficult process'. Scientific staff proved considerably easier to obtain than qualified professors of agriculture who were definitely 'scarce'. In the latter case, after several missteps, the first successful appointee (who did not even have a college degree) was not in place until 1874.[100] Student numbers at Cornell and elsewhere were initially disappointing. In Cornell's case, enrolment totalled only 30 in 1868–9 and was composed largely of 'city boys'. Numbers dropped to seven in 1873, creating a crisis, but subsequently increased to an average of 35 from 1876–7 to 1880–1. Many students, however, only stayed for relatively short periods, resulting in fewer actual graduates.[101] A similar situation existed at Michigan Agricultural College.[102] Enrolment levels were initially even lower at some other land grant institutions – the Universities of Wisconsin, Minnesota and California, for instance – throughout the early 1880s. Thereafter, enrolments generally expanded.[103]

Under these conditions, relatively little research was initially done by the colleges. Moreover, there were widespread differences in opinion concerning the appropriate balance between science and practice.[104] But there was keen interest in state agricultural experiment stations and

Note 96 *continued*
research in the United States from an historical perspective,' in K. A. Dahlberg (ed.), *New directions for agriculture and agricultural research* (1986), pp. 110–14.

[97] L. Ferleger and W. Lazonick, 'Higher education for an innovative economy: land-grant colleges and the managerial revolution in America', *Business and Economic Hist*. 23 (1994), pp. 118, 123. Some colleges included mechanic arts.

[98] W. J. Beal, *History of the Michigan Agricultural College and biographical sketches of trustees and professors* (1915), pp. 14–15; Madison Kuhn, *Michigan State: the first hundred years* (1955), pp. 9–17; True, *Research*, pp. 71–2, 74–5.

[99] 'Maryland Agricultural College – laying the corner stone', *The American Farmer* XIV, No. 3 (Sept. 1858), pp. 65–66. The college was established on 428-acre farm sold by Calvert: M. Callcott (ed.), *Mistress of Riversdale* (1991), p. 393. He, with others, 'initially aspired to make that institution, with its experimental farm, national in scope" (Wiser and Rasmussen, 'National center', p. 285) and was also a leader in efforts to establish the U.S. Department of Agriculture (True, *Research*, pp. 37–9).

[100] Colman, *Cornell*, pp. 45–56.

[101] Colman, *Cornell*, pp. 49, 57–8, 61, 69.

[102] Beal, *Michigan*, pp. 287–94.

[103] Colman, *Cornell*, p. 79; Waggoner, 'Research and Agriculture', p. 243; Ferleger and Lazonick, 'Land Grant', p. 118.

[104] These differences were also found in Europe. The German case has been explored in depth, and other nations briefly noted, by Harwood, *Technology's dilemma*, pp. 77–234. In England, the South-Eastern Agricultural College (Wye, Kent) gave initial emphasis to the science, was fortunate in the calibre of its staffing, and was quickly well received by the agricultural community: S. Richards, 'The South-Eastern Agricultural College and public support for technical education, 1894–1914,' *AgHR* 36 (1988), pp. 172–87).

15 were established between 1875 and 1887.[105] In 1887 the Hatch Act was passed, providing each state with $15,000 annually to fund an agricultural experiment station. They in turn experienced growth problems stemming in part from a lack of trained personnel.[106]

Up to this point, the German agricultural experiment stations – which gave considerable attention to laboratory-based and longer-term research – were widely venerated. According to Finlay: 'Rhetoric praising [of] German stations accelerated in the 1870s, appearing in countless discussions on the future of American agricultural science. Several federal and state organizations sent delegations to the German states for reports on the stations'. But with the passage of the Hatch Act, 'German stations' importance suddenly diminished' and 'foreign governments sent delegates to tours of the United States … to inform plans for future stations'.[107]

Still, there was substantial interest in international developments. In 1902 the Department of Agriculture issued an extraordinarily detailed bulletin on 'Agricultural experiment stations in foreign countries', with a revision in 1904.[108] It also published three lectures sponsored by the Lawes Agricultural Trust on its work at Rothamsted, which were delivered in the United States from 1891 to 1901.[109]

The Department experienced a mixed pattern in its early growth.[110] In physical terms, it faced limitations. It initially inherited the Propagating Garden from the Patent Office. In April 1863 it was assigned Reservation #2, 40 acres on the Mall between 12th and 14th streets and the

[105] H. C. Knoblauch, E. M. Law and W. P. Meyer, *State experiment stations: a history of research policy and procedure*, (Washington: U.S. Department of Agriculture, Misc. Pub. 904, 1962), pp. 19–28; True, *Research*, pp. v, 82–106.

[106] See: True, *Research*, 34–164; C. E. Rosenberg, 'Science, technology, and economic growth: the case of the agricultural experiment station scientist, 1875–1914', *Agricultural Hist*. 45 (1971), pp. 1–20; Rosenberg, 'Rationalization and reality in the shaping of American agricultural research, 1875–1914', *Social Studies of Science* 7 (1977), pp. 401–22; Rossiter, 'Organization of science', pp. 211–48; 'The role and development of public agricultural research' in *An assessment of the United States food and agricultural system* (Congress of the United States, Office of Technology Assessment, December 1981), pp. 28–43; and L. Ferleger, 'Uplifting American agriculture: experiment station scientists and the Office of Experiment Stations in the early years after the Hatch Act', *Agricultural Hist*. 64 (1990), pp. 5–23. A. I. Marcus, *Agricultural science and the quest for legitimacy: farmers, agricultural colleges, and experiment stations, 1870–1890* (1985), provides a particularly detailed history of the background and enactment of the Hatch Act.

[107] M. R. Finlay, 'Science, practice and politics: German agricultural experiment stations in the nineteenth century' (Unpublished Ph.D. diss., Iowa State University, 1992), pp. 351, 367–8 (further details are provided on pp. 352–67). Also see L. A. Ferleger: 'Transatlantic travails: German experiment stations and the transformation of American agriculture,' in T. Summerhill and J. C. Scott (eds), *Transatlantic rebels: agrarian radicalism in comparative context* (2004), pp. 245–63; L. A. Ferleger, 'European agricultural development and institutional change: German experiment stations, 1870–1920', *J. Hist. Soc*. 3 (2005), pp. 417–28.

[108] A. C. True and D. J. Crosby, *Agricultural experiment stations in foreign countries* (U.S. Department of Agriculture, Office of Experiment Stations, Bulletin 112, 1902), pp. 1–230. This now little-known survey was a response to 'considerable demand for information of this type' (p. 3). Altogether, 45 nations and 720 programmes were included. The introduction (pp. 21–7) and country information provide a remarkable overview of the state of global agricultural research at the turn of the century. A revised and expanded version (Bulletin 112 Rev.) was issued in 1904; it included 51 nations and 798 activities.

[109] These were Bulletins 8, 22, and 106. The latter was titled 'Results of investigations on the Rothamsted soils' and was delivered by Dr. Bernard Dyer to the Association of American Agricultural Colleges and Experiment Stations at New Haven and Middletown, Connecticut in November 1901 and was issued in 1902. The first two lectures were published in editions of 5,000 and 6,000 and were out of print by that time.

[110] Hilgard, 'Progress in agriculture', pp. 654–61; Danbom, 'Agricultural research', p. 114.

Washington Canal (now Constitution Avenue) and B street (now Independence Avenue), just west of the Smithsonian. Trials of various crops were carried out in 1866 and 1867, but the area was both limited and inappropriate and trials were discontinued in 1868. The Department then requested a large farm of 200 acres 'contiguous to the city'. Its Mall site was increasingly used for buildings and greenhouses, though some field trials were continued to a diminishing extent. The first structure of consequence was a three-story brick structure (Figure 6), not notably different in size from Fleischman's proposed building (Figure 1), constructed on the south side of the Mall in 1867–8.[111]

Meanwhile, the hunt for land for experimental purposes continued. In 1878, the Commissioner of Agriculture requested 1000 acres in the vicinity of the city. Subsequently, in 1890, another Commissioner requested use of 400 neglected acres of the Arlington tract near the river (the former Lee estate and subsequently Arlington Cemetery). There was no immediate action and the Department was permitted temporary use of up to 75 acres on the Potomac flats (reclaimed land now known as Potomac Park and south of the Jefferson Memorial). Approval for transfer of the Arlington tract came in 1900 and land preparation began.[112]

The Department, paradoxically, was able to move more quickly and with greater effect on the scientific side. While, as Dupree put it, the evolution of its organization was 'somewhat halting and painful … scientific excellence, thriving in unexpected places, became increasingly prominent'. Although 'the dirt farmer … did not look to science for his salvation, possibilities of research producing relevant answers to the urgent problems confronting agriculture were apparent to pressure groups responding to the farmer's plight'. They could reach the federal government through Congress and between 1880 and 1897 the Department 'answered the call'.[113] It was able to recruit some outstanding scientists and by 1890 had evolved into what one scholar said, perhaps arguably, was 'the strongest voice for scientific policymaking in the federal government'.[114] The overall effect was that by 1900, the 'USDA had in place a managerial organization to enhance the nation's capability to promote agricultural science' and that, 'despite myriad problems, agricultural science was firmly footed'.[115] Moreover, it had established a reputation 'as the principal scientific agency of American government'.[116] During

[111] Some of the early story is recounted in D. G. Dalrymple, 'Agriculture, architects and the Mall, 1902–1905: the plan is tested', in S. Kohler and P. Scott (eds), *Designing the nation's capital: the 1901 plan for Washington, D.C.* (2006), pp. 206–43. A more comprehensive review is provided in Wiser and Rasmussen, 'National center', pp. 286–92.

[112] It became known as the Arlington Experimental Farm and was operated until 1941 when it was taken over for military use (the Pentagon was built just south of the farm and some of its land became the north parking lot) and the research programme and some other activities in the area, including department greenhouses on the Mall, moved to new facilities in Beltsville (Wiser and Rasmussen, 'National center', pp. 291–7).

[113] Dupree, *Science*, p. 158.

[114] D. P. Carpenter, *The forging of bureaucratic autonomy: reputations, networks, and policy innovation in executive agencies, 1862–1928* (2001), pp. 179, 212.

[115] L. Ferleger and W. Lazolick, 'The managerial revolution and the developmental state: the case of U.S. agriculture', *Business and Economic Hist*. 22 (1993), p. 85; L. Busch and W. B. Lacy, *Science, agriculture, and the politics of research* (1983), p. 12; Olmstead, 'First line', pp. 327, 333, 349.

[116] Carpenter, *Forging*, p. 212. Marcus states that USDA and state experiment station scientists 'dominated life sciences research from 1870 to 1950 when the National Science Foundation and the National Institutes began a "meteoric rise"': A. I. Marcus, 'The wisdom of the body politic: the changing nature of publicly sponsored American agricultural research since the 1830s', *Agricultural Hist*. 62 (1988), p. 4.




FIGURE 6. Artistic depiction of the first, and long the principal, Department of Agriculture Building, designed by Adolph Cluss, and constructed on the Mall in 1867–68.

*Source: Report of the Commissioner of Agriculture for the Year 1866* (1867), frontispiece.

the twentieth century, the United States increasingly became a role model in agricultural research and a source of scientific assistance for other nations.[117]

## VII

The nineteenth century was a formative period for science generally and for the development of improved technologies for agriculture in particular. In the United States, the period between the influence of the founding fathers and the era of Lincoln was one when scientific and technological advances in agriculture were only beginning to find their place. Although there was scattered interest in combining scientific theory and practice in agriculture, particularly among more progressive farmers, virtually their only forms of assistance were agricultural societies and the agricultural press. The need was to increase agricultural knowledge – both scientific and technological – and this required institutions tailored for the task.

[117] See, for example, D. G. Dalrymple: 'Global agricultural research organization', *World food and nutrition study: supporting papers* (Washington, The National Research Council, 5 vols, 1977), V, pp. 91–110; 'Joseph A. Rosen and early Russian studies of American agriculture', *Agricultural Hist.* 38 (1964), pp. 157–60; and 'American technology and Soviet agricultural development, 1924–33', *Agricultural Hist.* 40 (1966), pp. 187–206.

The appropriate role of government and the public sector in this process, however, was far from certain. As Washburn put it: 'The sources of support for basic science and the conditions of its pursuit, which had existed in the eighteenth century, had disappeared by the 1830s'. Or in Danbom's words: 'What the statesmen of the young republic failed to do was to provide systematic support for agricultural science'.[118]

The announcement of the Smithsonian bequest in 1835 for the increase and diffusion of knowledge not only provided the means for the federal government to engage but also stimulated a prolonged debate on what was called for. Adams, initially almost alone, continued to press for the increase of basic knowledge. The majority of the proposals, however, were of a more applied nature. One of the basic questions was clearly the balance to be struck for the Smithsonian bequest and more generally.

Agriculture, by far the leading business of the nation, played a significant but hitherto little-known role in those discussions. In the context of the bequest, the proposal by Fleischmann was too narrowly focused and much too expensive. It ran completely counter to the views of Adams, who also opposed the use of the bequest for educational institutions and who favoured the generation of new scientific knowledge, as did Henry later. Moreover, other groups and Congress had widely different interests.

While the Tappan–Owen proposal came closer to meeting the purposes of the bequest and two of Adams' concerns (that it would have used only interest on the bequest and that it had a scientific orientation, particularly in the designation of 'professors' in half a dozen or more areas), its orientation was clearly towards applied science and technology and some of its other provisions were more of an educational nature. In the end, the nineteenth-century Smithsonian came to reflect more of a mixed pattern with respect to science and education, but with emphasis on a museum function embracing technology.[119]

Had either proposal actually come to fruition, possibly in modified form, subsequent developments in agricultural science and technology might have been facilitated and accelerated. One of the three educational steps of the Fleischmann submission could have provided an early start on the training of agricultural teachers and scientists that were to be needed by new public institutions later in the century. Similarly, the Tappan–Owen proposals for research and outreach could have provided a nationally oriented start in these areas and could have been furthered by the later Douglas–Rush proposals.

The extended debates, however, provided an opportunity to voice the need for improvements in agricultural education, research, and outreach to Congress and a national audience. They served as catalysts at the time and formed the leading edge of a broader movement that subsequently led to the establishment of the United States Department of Agriculture and the Land Grant Colleges. In looking back on this period, Shepardson observed in 1929 that 'The Land Grant Colleges did not spring, like Athene, full-armed from the brain of Zeus: they grew out of experience'.[120]

[118] Washburn, 'Introduction', p. 35; Danbom, 'Agricultural research', p. 108.

[119] Bemis, *Adams*, p. 522, suggests that it 'took the shape rather of a national museum or treasure house for the federal government's scientific curiosities …than of a carefully organized research institution … There still remained a need for advanced research institutions in Washington …'.

[120] Shepardson, *Agricultural education*, p. 23.

Part of this experience was European and initially stemmed from Fleischmann's proposals, reports and articles. Shepardson referred in part to 'A thorough study of European agricultural teaching and research training made by a government agent [and that] had twice been reprinted with the authorization of Congress'.[121] This was almost certainly one of Fleischman's papers. He also gave numerous talks, which 'stimulated interest in state agricultural colleges'.[122]

During that earlier period the Smithson bequest looms as perhaps the most significant individual action. The debates that it initially stimulated were the prelude to a period of significant institutional change in the organization and conduct of science and technology. And with the founding of the Smithsonian Institution, in Pickard's words, 'the first truly comprehensive national scientific agency, the interrelation of science and the national government was firmly established'.[123] But the policy issue that hovered over its creation – the balance to be struck between 'increasing' and 'diffusing' knowledge and between science and technology – continues, both for it and many other public educational and scientific institutions.[124]

These events reflected the interplay of science and the need for appropriate technologies, public wishes and Congressional actions, and local, national and international influences. Agriculture was at or near the centre of these issues and discussions. Hence the debates and issues of the time may both help shed new light on a relatively neglected period in agricultural history and provide historical perspective on some broader and continuing public policy issues in applied science and technology. They may be both postscript and prelude.

[121] Ibid.

[122] Gates, 'Fleischman', p. 16.

[123] M. E. Pickard, 'Government and science in the United States: historical backgrounds, III. The Smithsonian Institution', *J. Hist. of Medicine and Allied Sciences* 1 (1946), p. 481.

[124] See: J. Giles, 'Smithsonian looks beyond ousted boss', *Nature* 446 (2007) p. 594; E. Pennisi, 'Turnover at the top, but problems persist at the Smithsonian', *Science* 316 (2007), pp. 30–1; R. Moe, 'What is the Smithsonian?' *Washington Post* (4 Apr. 2007), p. B7. For other examples, see: D. G. Dalrymple, 'Setting the agenda for science and technology in the public sector: the case of international agricultural research', *Science and Public Policy* 33 (2006), pp. 277–90; and D. Sarewitz, 'Does science policy matter?' *Issues in Science and Technology* 23 (2007), pp. 31–8.

# Between ideology and science: higher agricultural education in Belgium and the development of a Catholic agricultural network, 1850–1914*

*by* Yves Segers and Roeland Hermans

*Abstract*

As in neighbouring countries, a number of initiatives were undertaken in Belgium during the second half of the nineteenth century to establish higher agricultural training. The State Agricultural College in Gembloux was founded in 1860, the Agricultural Institute in Leuven, attached to the Catholic University of Leuven, followed in 1878. This article focuses on the changing profile of the Leuven Agricultural Institute and the specific factors that motivated its initiators. It reveals that Catholic politicians and intellectuals perceived the liberal Gembloux to be a threat to the agricultural sector and the countryside. Through raising awareness of agricultural science, via a new education offensive and a Catholic agricultural network, they not only wanted to modernize the sector, but also hoped to curtail liberal and socialist influence. Professors and graduates from Leuven, who held influential positions at the Ministry of Agriculture and the Belgian Farmers' Union, played a key role in this strategy. Meanwhile the character of the agricultural education offered by Leuven changed profoundly. Initially the focus was on theoretical and encyclopaedic instruction. From the 1890s onwards agriculture-oriented courses were developed, and the first scientific research centres started.

From the 1870s onwards, Western European farmers faced mass imports of cheap agricultural produce from the United States of America and, to a lesser extent, from Canada, Australia and Russia. As a result, farmers' incomes, which at that time were still heavily dependent on arable farming and grain cultivation, came under increasing pressure. Despite widespread protests, the Belgian government and the new Ministry of Agriculture, created in 1884, decided against the complete dismantling of free trade, unlike France and Germany. Instead, the Belgian leaders opted for a limited and selective protection policy. Cheap staple foods, they reasoned, meant peaceful social conditions and no pressure to raise workers' wages in the industrial and service sectors. The import of bread grain was therefore left free of duty. The import of livestock and meat, pasta, fruit, vegetable-, meat- and fish-conserves, butter, milk and margarine was subject

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to limited import duty, as the government wanted to provide the developing Belgian food industry with some protection. At the same time, selective customs duties were used in an attempt to re-orient farming towards more profitable and future-oriented agricultural activities such as cattle breeding, dairying, vegetable cultivation and fruit production.[1]

In this quest for a modern, more profitable type of farming, scientific research and agricultural education had a pre-eminent role to play. A highly effective knowledge network needed to convey the new scientific insights to ordinary farmers and market gardeners, and hence safeguard the sector's economic future. This knowledge offensive was largely steered by the government, but other actors also played a significant role. In Belgium, the official agricultural committees (*Sociétés provinciales d'agriculture* and *Comices agricoles*) and the farmers' organizations via their consultants and numerous commercial enterprises were also highly active in this regard. The emphasis on the importance of knowledge and innovation as an escape route from crisis or agrarian depression was nothing new, nor was it typically Belgian. As early as the start of the nineteenth century, agricultural schools and colleges, research stations and scientific centres were being set up in a number of western European countries. Higher agricultural education was a crucial link in this knowledge network, for within these institutions, research and education were combined. Agricultural theory and practice came together. Tomorrow's elite and tomorrow's farmers were trained there. In the mid-1880s, the government in Belgium could rely on two institutions to steer the modernization process: Gembloux and Leuven.

In this article, we consider the development of higher agricultural education in Belgium as a part of larger developments within western Europe. The first initiatives from the decade of the 1840s are described, but the primary focus is on the development of the *Institut agronomique* in Leuven, which was launched in 1878. A number of questions are posed. Which foreign institutions served as models? What was the relationship between fundamental scientific research and practice in the Institute? Who studied there? Special attention is paid to the factors which prompted the establishment of the Leuven institution. After all, Belgium's educational system in the nineteenth century was completely absorbed with the ideological conflict between liberals and Catholics, which left its mark on politics and society for many decades. The question posed here is whether this also applied to higher agricultural education, and to what extent the foundation of the agricultural college in Leuven was a dimension of this larger conflict.

Hitherto, historians of agriculture and science in Belgium have paid very little attention to the development of agricultural education and agricultural science over the past two centuries. They have mainly considered political, institutional and socio-economic aspects, with a definite preference for the quantitative approach. So, the history of the farmers' organizations, of agricultural policy and of production and output is relatively well known, particularly for the period before the Second World War.[2] At present, however, we know relatively little about the development of agronomy and higher agricultural education in Belgium. Academic

[1] J. Blomme, *The economic development of Belgian agriculture, 1880–1980. A quantitative and qualitative analysis* (1992), pp. 290–2; E. Vanhaute and L. Van Molle, 'Het einde van de overlevingslandbouw, 1750–1880', in Y. Segers and L. Van Molle (eds), *Leven van het land. Boeren in België, 1750–2000* (2004), pp. 50–1.

[2] E. Vanhaute and L. Van Molle, 'Belgian agrarian and rural history, 1800–2000', in E. Thoen and L. Van Molle (eds), *Rural history in the North Sea area. An overview of recent research (middle ages – twentieth century)* (2006), pp. 217–48.

discussions have been confined to a number of fairly small contributions about such subjects as research into and the introduction of artificial fertilizer, and the history of veterinary medicine in Belgium.[3] In the last few years, though, a number of research initiatives looking at the relationship between agriculture, science and education have commenced. A thorough study of the history of the Faculty of Bioscience Engineering at the University of Leuven has recently appeared,[4] and Leen Van Molle has published an overview of agricultural education in Western Europe covering 1800–1940.[5] These initiatives have sought to respond to the growing international interest in the development of knowledge networks in the agricultural sector.[6]

## I

The Belgian government's interest in the development of a 'knowledge network' during the third quarter of the nineteenth century was certainly nothing new. As far back as the late eighteenth century, agricultural schools had been active in a number of countries. But what did they amount to? Outlining the character of early higher agricultural education is no easy task. To begin with, there is the problem of definition. Most historians start their surveys of agricultural education with the early veterinary schools of the eighteenth and early nineteenth centuries: Lyon (1762), Alfort (1765), Copenhagen (1773), Vienna (1777), Dresden (1778), Hanover (1784), Munich (1790), Berlin (1790), London (1792), Utrecht (1821), and so on. By their advocacy of drastic measures, the early veterinary practitioners made a direct contribution to the fight against infectious cattle diseases. They symbolized the 'promise' of science, and by extension of scientific education. Because these schools were the first to devote themselves to (academic) agrarian education in the broad sense of the term, and contributed to its acceptance, it seems justified to characterize them as the forerunners of higher agricultural education as a whole. Yet for a long time, the status of veterinary science was ambiguous: was it a specialization in agricultural science, or a science related to medicine? This debate raged at the end of the eighteenth century in various countries including France, which was a pioneer in the field of veterinary science. Proponents of the second viewpoint pointed out how insights from veterinary science enriched medicine and noted the similarities between the two disciplines. In view of veterinary science's contribution to breeding programmes and hence to agricultural

[3] J. Vanpaemel, 'De bemestingsleer van Liebig en het landbouwonderwijs in België', *Het ingenieursblad*, 12 (1993), pp. 537–53; and H. Mammerickx, *Histoire de médecine vétérinaire belge* (1967). Anniversaries at a number of academic institutions have prompted a number of publications, but in terms of conception and research findings these are sub-standard. See e.g. E. Van Damme, *Jubileumboek 1920–95. Universiteit Gent. Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen* (1995).

[4] B. Woestenborghs, R. Hermans and Y. Segers, *In het spoor van Demeter. Faculteit Bio-ingenieurswetenschappen K.U.Leuven, 1878–2003* (2005).

[5] L. Van Molle, 'Kulturkampf in the countryside. Agricultural education, 1800–1940: a multifaceted offensive', in C. Sarasua, P. Scholliers and L. Van Molle (eds), *Land, shops and kitchens. Technology and the food chain in twentieth-century Europe* (2005), pp. 139–69.

[6] See e.g. the publications of J. Harwood, *Technology's dilemma: agricultural colleges between science and practice in Germany, 1860–1934* (2005); N. Jas, *Au carrefour de la chimie et de l'agriculture. Les sciences agronomiques en France et en Allemagne, 1840–1914* (2001); and J. Pan-Montojo, *Apostolado, profesíon y technologia. Una historia de los ingenieros agrónomos en España. 1855–2000* (2005). Also some contributions in N. Vivier (ed.), *The state, government and rural societies: the choice of the state* (2009).

practice, others regarded it as a research field related to agriculture. The French government adopted this line of reasoning in 1794.[7]

In most European countries, agricultural education was mainly a top–down affair. Knowledge and insights were passed down from father to son, from mother to daughter. Probably, few farmers felt the need for agricultural education in daily practice. It was primarily a bourgeois elite which occupied itself with agricultural questions and sought an appropriate institutional base for their activities. Incidentally, this need for recognition lay at the root of the professionalization of agricultural science, but also ultimately created the need for accessible and popularising agricultural education.[8] Against this background, the educational standard achieved seems a useful criterion. However, this is not very easy to assess, and needs to be situated in a much wider pedagogical, comparative framework. The most obvious gauge is the status granted to the institution by the government, although the Dutch example shows that even this is not a decisive criterion. In addition to the Veterinary School in Utrecht, from 1842 the Netherlands also had a privately run rural economics school (*Landhuishoudkundige school*) in Groningen. Its course lasted three or four years, and was more practical than theoretical in nature. In 1847, the Groningen school sought permission to confer the degree of doctor in rural economics and hence implicitly to secure higher education status. The government ruled that the subject was insufficiently scientific in nature and, moreover, the degree of doctor was the sole preserve of the universities, at which applied scientific practice had yet to acquire a place. In the early 1860s the school again took the initiative in seeking college status, but the attempt failed once more because of the excessively practice-based nature of the education. As a result, a debate began in the Dutch farming press over the merits of theoretical and practical agricultural education. But it was too late for the school in Groningen: in 1871 it closed its doors for financial reasons and a lack of students. With the founding of the State Agricultural School (*Rijkslandbouwschool*) in Wageningen in 1876, the Netherlands finally took the step towards higher (and later university) agricultural education. The government had realized by this time that education provision and its associated research, for instance into the positive aspects of artificial fertilizers, could deliver a substantial contribution to progress in agriculture. Unsurprisingly, considerable attention was paid in Wageningen to practical instruction in the form of excursions and demonstrations on test fields.[9]

The importance attached by the schools in Groningen (despite its failure to gain recognition) and in Wageningen to practical instruction shows that the motives for establishing higher agricultural education in the second half of the nineteenth century were closely tied to the practical relevance of agricultural science. In France, the founders of the first private agricultural colleges – including Roville (1822) and Grignon (1826) – were convinced that a good balance between theory and practice was the best way of helping modernize the agricultural sector. It

[7] B. Bach-Lijour, 'Vétérinaires, enseignement vétérinaire: une nécessité mais une place difficile à trouver, 1761–1804', in M. Boulet (ed.), *Les enjeux de la formation des acteurs de l'agriculture, 1760–1945* (2000), pp. 364–5.

[8] Van Molle, 'Kulturkampf in the countryside', pp. 10–11.

[9] This paragraph is based on N. B. Goudswaard, *Agrarisch onderwijs in Nederland, 1783–1983. Hoe het wor(s)telde en groeide* (1986), pp. 103–5, 136–54; and J. van der Haar, *De geschiedenis van de Landbouwuniversiteit Wageningen (deel 1). Van school naar hogeschool, 1873–1945* (1993).

is no coincidence that a variety of learned (agricultural) societies played a stimulatory role in disseminating the insights that emerged from the experiments and practical research at these institutes. The first initiatives taken by the French government in higher agricultural education, which were far earlier than in the Netherlands and in Belgium, show that other 'interests' could also be involved. The initiators of the law on agricultural education of 1848, for example, hoped that the spread of insights from agricultural science would consolidate the (economic) position of the rural elite and stem the exodus of farm labourers from the countryside.[10] One of the educational institutions which was supposed to contribute to this social stabilization offered higher agricultural education: this was the *Institut national agronomique* in Versailles. Its objectives clearly reveal the elite character of the sponsors and the target public: 'to re-instil a taste for and the habits of the rural occupations in large landowners who have grown too remote from such occupations, yet who are alone capable of restoring vigour and dynamism to agriculture by applying their capital and their intelligence to it'.[11] Thus the Institute was supposed to help preserve the equilibrium between country and town, agriculture and industry. However, it did not have the opportunity to do this, as it too closed in 1852 for financial reasons. It was not until the late 1860s and early 1870s that (higher) agricultural education in France was to receive fresh impetus. A more diverse and specialized group of institutions emerged. As well as institutes of agricultural education, there were others for horticulture, dairy farming and the agricultural industry. The institution with the highest profile outside France was without doubt the new *Institut national agronomique*, which was founded in 1876 with the support of the *Société des agriculteurs de France* among other sponsors. Agricultural education at universities only started in around 1900 in France.[12]

Germany led the way in the integration of agricultural education into universities. The first agricultural academy was opened in 1802 in Celle near Hanover, and was followed by that in Möglin near Berlin (1806). In the first half of the nineteenth century, no fewer than twenty institutions followed, the best known of which was the academy at Hohenheim (1818). At these academies, the sons of landowners and gentleman farmers received both theoretical and practical training. Agricultural institutes attached to the universities followed in the 1860s: Göttingen (1859), Halle (1859), Bonn (1867), Leipzig (1869), and so on. The success of agricultural education in gaining a place in the German academic world so early was primarily due to the scientific 'ambience' of farming in Germany, following the example of the well-known chemist Justus von Liebig. In the early 1860s, Germany had no fewer than twelve research centres, backed up by a national and international network. At the same time, the German government took a great interest in agriculture, on the grounds that success in farming contributed to the welfare of the emerging 'nation'. Finally, there emerged in Germany at a very early stage a

[10] The law provided for the establishment of farming schools at the lowest level, regional schools at secondary level and the *Institut national agronomique* for higher agricultural education. A. Bleton-Ruget, 'La paysannerie en débat: autour du décret de 3 octobre 1848 sur l'enseignement agricole', in M. Boulet (ed.), *Les enjeux de la formation des acteurs de l'agriculture, 1760–1945* (2000), p. 48.

[11] Quoted in Th. Charmasson, A.-M. Lelorrain and Y. Ripa, *L'enseignement agricole et vétérinaire de la Révolution à la Libération* (1992), p. li.

[12] Charmasson, Lelorrain and Ripa, *L'enseignement agricole et vétérinaire*, pp. lxxxi–xc; M. Boulet, 'La formation des acteurs de l'agriculture: l'école des paysans', in Boulet (ed.), *Les enjeux de la formation l'agriculture, 1760–1945* (2000), pp. 23–30.

variety of (local) agricultural societies, which fulfilled an intermediate role between science and practice, and hence stimulated the institutionalization of higher agricultural education.[13]

The situation in England was very different. There were a few research centres there, such as Rothamsted, but they received little financial or other support from the government. This was because the economic situation did not urgently require agriculture to be placed on a more scientific basis. In contrast to other European countries, where the agricultural crisis of the 1880s prompted new agricultural policies, English politicians, preoccupied by colonial and industrial success, were slow to react. Nor was the agricultural sector itself noted for its interest in agricultural science during the second half of the nineteenth century. The small number of agricultural societies compared with the continent is a sufficient illustration of this. Moreover, until the 1890s, the elite English universities were not particularly well-disposed towards applied science, whether agricultural or of any other kind. Naturally, this general lack of interest in agricultural science had an impact on higher agricultural education. There was a chair in rural economy at Oxford from 1796, but students could not read for a degree in agriculture there until the early twentieth century. The Royal Agricultural College at Cirencester was founded in 1845, but student numbers were low at first, and, according to its critics, the instruction provided by the school was too academic and insufficiently practical. Even so, it was graduates from this school who went on to found other institutions in the 1880s. But the real breakthrough only came in the 1890s, by which time the continent was already in the midst of its second agricultural education offensive. It was partly thanks to the Education Committee of the Royal Agricultural Society that higher agricultural education gained a place in the universities in the late nineteenth century. By the turn of the century, most universities had created departments of agriculture. Thus, the development of higher agricultural education was roughly contemporary with and only made possible by the incorporation of agricultural science in academic circles.[14]

## II

Agricultural education in Belgium may be dated from the creation of a department of agriculture at the college in Antoing in 1832.[15] Another boost came – as in neighbouring countries – from the veterinary schools. In Liège, a veterinary school functioned between 1835 and 1839. Of more immediate and direct interest for agricultural education – albeit through just a handful of graduates in agriculture – was the veterinary school in Kuregem, founded in 1831, which was state-controlled from 1836. The school built up a good reputation over the years for its training of veterinarians. This occurred in parallel with the scientific recognition of veterinary science in Belgium. The department of agronomy which the school ran from 1836 to 1850 was less successful. Despite scholarships from the government, the number of agriculture students remained extremely low. The handful of students who successfully completed the course were offered the opportunity by the government to complete their education in Grignon in France

[13] Van Molle, 'Kulturkampf in the countryside', pp. 11–14; Harwood, *Technology's dilemma*; Jas, *Au carrefour*.

[14] P. Brassley, 'Agricultural science and education', in E. J. T. Collins (ed.), *The agrarian history of England and Wales*, VII, *1850–1914* (2 vols, 2000), I, pp. 618–40.

[15] R. Smet and A. Vannecke, *Historiek van het technisch en beroepsonderwijs 1830–1990* (2002), pp. 84–7.

reflecting an appreciation that the Belgian institutions were lagging behind the best institutions abroad. Ultimately, just three students availed themselves of this possibility. Two of them, Phocas Lejeune and Guillaume Fouquet, were to play an important role later in the development of agricultural education: first as director of secondary agricultural schools and later as directors of the college in Gembloux.[16] In 1842, a curriculum in agronomy and forestry was also introduced at the College in Liège. The botanist Charles Morren was engaged as professor. Among other things, Morren conducted research into the causes of the potato blight which caused a serious famine in the Flemish countryside in the 1840s.[17]

Although some of the discoveries made by the new science of agronomy, such as those of Morren, could have been useful in the countryside, interest on the part of the agrarian sector was virtually non-existent. The elite character of the scientific societies and the low educational attainment of the rural population in Belgium explain the lack of contacts and exchanges between the two. Moreover, no information or other networks existed to bring the graduates of agricultural schools into contact with the ordinary farmer and it would take years for the first insights from agricultural science to have a serious impact on daily farming practice. Only the veterinarians, with their vigorous response to infectious cattle diseases, made a contribution to the farming economy. However, at this time, they were only capable of damage limitation (using a range of sanitary measures and the slaughter of infected or suspect animals), and engaged in little preventive work.

The difficult genesis of agricultural education in Belgium was undoubtedly also connected with the limited interest that the government took in the agricultural sector. Although politicians in the young Belgian state did endeavour to create an institutional framework for their agricultural policy, that policy could not really be described as either structured or vigorous. For instance, the High Council for Agriculture (*Conseil supérieure de l'agriculture*), under whose aegis the provincial agricultural committees (*sociétés provincials d'agriculture*) operated, met just twice between its foundation in 1834 and the start of the agricultural crisis in 1845. It operated a supply-side policy: import and export provisions were attuned to the harvest figures, so that the food supply would not be jeopardized.[18]

This lethargy was changed by the agricultural crisis of the 1840s. Failed harvests, continuing population increases, high rents and the parcelling out of the land into extremely small areas suddenly brought Belgian farming up against the limits of its possibilities. The government was aware of the precarious situation into which agriculture had fallen, and stepped in. In addition to a gradual liberalization of trade and the encouragement of wasteland cultivation, Charles Rogier's liberal government (1847–52) also set about modernising agriculture. A belief in progress, and optimism about the possibilities of science and technology as means of dealing with the crisis, were very strong. Rogier's ministry believed that its task was to intervene in

[16] Lejeune was director of the college in Gembloux from 1860 to 1881; Fouquet from 1881 to 1890. M. Mammerickx, 'Les origines de l'enseignement agronomique supérieur en Belgique', *Annales de Gembloux* (1964) pp. 67–8.

[17] C. O'Grada, R. Paping and E. Vanhaute (eds), *When the potato failed: causes and effects of the 'last' European subsistence crisis, 1845–50* (2007).

[18] M. Van Dijk, *De wetenschap van de wetgever. De klassieke politieke economie en het Belgische landbouwbeleid, 1830–84* (2008) and Vanhaute and Van Molle, 'Het einde van de overlevingslandbouw', pp. 31–3.

agriculture to bring about its modernization. Agricultural education seemed the obvious way of doing this. After years of somnolence, the High Council for Agriculture was also wheeled into action. Among other things, the Council used the example of Germany – where a high scientific level was being achieved – to encourage the government in its planned educational offensive.[19]

By 1849, much had been achieved: across the country, no fewer than ten secondary agricultural schools and two horticultural schools had opened their doors. The state subsidized the education they dispensed, but continued to work with existing agricultural and horticultural companies, not just in order to keep costs down, but also to offer students a practice-based training. The idea was that the contrast with the situation in real life, where one learnt through experience, should not be too great. But despite this approach, student numbers remained very low. Only around 30 students, most from prosperous backgrounds, obtained a diploma in the space of ten years. It was therefore not surprising that all the agricultural schools were financially unviable and quickly closed in the course of the 1850s. The two horticultural schools fared somewhat better. Although the student population remained low there too, they attained a higher standard and were able to survive.[20]

Thus the first initiatives in the field of agricultural education could hardly be called a success. But this did not seem to temper the enthusiasm for placing agriculture on a more scientific footing. The Prime Minister, Charles Rogier, again took the lead and submitted a new proposal to parliament in 1860. He argued that the veterinary school at Kuregem and the two horticultural schools had proven their worth and should be retained as state schools. Rogier re-opened a debate which had been current at the time of the first agricultural education offensive in the 1840s. Should a country like Belgium, with a sizeable agrarian sector, not train its own agronomists at an agricultural college? When this idea had previously been canvassed, it had met with stiff resistance. Not least, it had been the expected cost that had led to the plans for Belgium's own agricultural college being shelved.

Rogier realized that higher agricultural education in other countries could be a model for Belgium. Together with Lambert Bellefroid, the director-general of the Agricultural Department at the Ministry of Internal Affairs, he went on a fact-finding mission to the schools at Grignon in France and at Hohenheim in Germany, two institutes with a good European reputation.[21] The old monastic buildings in Gembloux seemed the ideal location for a Belgian college: not too far from Brussels, with a good rail connection and the possibility of gaining the use of extra land for cultivation, for, as well as scientific knowledge, the students were also to have the opportunity to acquire practical experience.[22] However, the intention was not that ordinary farmers' sons would receive instruction here. Rogier had in mind 'higher education for the sons of landowners and large-scale farmers, so that they may then disseminate in the countryside the treasures of science that they have acquired at the higher institute'.[23] He undoubtedly had something of a paternalistic

[19] Vanhaute and Van Molle, 'Het einde van de overlevingslandbouw', pp. 38–41; Smet and Vannecke, *Historiek van het technisch en beroepsonderwijs*, p. 85.

[20] E. Niesten and Y. Segers, *Smaken van het land. Groenten en fruit, vroeger en nu* (2007), pp. 56–9; Smet and Vannecke, *Historiek van het technisch en beroepsonderwijs*, pp. 85–7.

[21] *L'Institut agricole de l'Etat à Gembloux, 1860–1910* (1910), p. 8.

[22] *La faculté des sciences agronomiques de l'état à Gembloux: 1860–1985* (1985), p. 7.

[23] C. Rogier, *Annales parlementaires*, 26 June 1860, p. 1644.

outlook: the agrarian population needed to be led and instructed by an 'enlightened' elite. His intention to limit education to the sons of gentleman farmers and landowners was also informed by the fact that under the levy-based suffrage system, their fathers formed part of the electorate. And in any case, at that time, 'ordinary' farmers did not study.

The Catholic members of parliament were immediately opposed to the government's proposal. They publicly called into question the need for higher agricultural education. They argued that agriculture had progressed in previous years, despite the lack of education. Moreover, the commendable agricultural situation in England showed that the absence of public provision for agricultural education need not be a hindrance to agrarian development. In any case, it was questionable whether, in the countries where higher agricultural education existed, its graduates were true 'apostles of agricultural progress' as Rogier liked to claim. According to the Catholic parliamentarian Jean De Naeyer, himself the son of a wealthy farmer, the artificial learning environment in the schools bore no relation to everyday reality in the countryside, and the schools were therefore pointless.[24] The most significant argument that the Catholics raised against the idea, however, was one of a moral nature. The Catholics in Belgium regarded the countryside as a beacon of values and norms, where traditions still had their place. The farmer was also the defender of state and church, and because he was responsible for food production, he upheld the social balance between town and country.[25] The formation of a state agricultural college threatened the countryside as a refuge from 'modern dangers'. A good farmer – in both the technical and the moral sense – became one not through training at school, but through practice on the farm. Fathers imparted the necessary farming knowledge to their sons, and 'the necessary moral qualities to succeed' were also handed down from generation to generation. De Naeyer feared for the future of agriculture if instruction was now to take place in 'an artificial setting', an environment which could only form 'a deracinated class'.[26] This was the origin of the notion that Gembloux was a liberal stronghold, and hence anti-agrarian (and so anti-Catholic).

Despite the Catholic objections, a majority of members of parliament voted in favour of Rogier's proposal. The Institute opened its doors on 7 January 1861. The teaching staff consisted of five professors and was largely composed of old retainers from the secondary schools that had been closed down. Lejeune was appointed director. Student numbers remained rather low in the early years (see Figure 1). During the academic year 1863–4 Gembloux had 31 students; in 1870–1 this number had doubled to 61 students. Slightly over half of those who enrolled during the first decade were foreigners. A clear majority of the students answered to the profile that Rogier had proposed, and were sons of the managers or owners of large farms. They were the only ones who could afford the high fees.[27] Although their numbers remained very low, its graduates set about modernising the farming sector. Together with lecturers

[24] J. De Naeyer, *Annales parlementaires*, 27 June 1860, p. 1655.

[25] In a later period these ideas developed into a true Catholic ideology of agriculture. See here L. Van Molle, *Katholieken en landbouw. Landbouwpolitiek in België, 1884–1914* (1989), pp. 47–80.

[26] J. De Naeyer, *Annales parlementaires*, 27 June 1860, pp. 1656–7. Despite protests from several Catholic politicians, the law was approved by a substantial majority: 54 in favour, 7 against and 3 abstentions in the House of Representatives. In the Senate, 29 voted in favour, 9 voted against and 2 abstained.

[27] *L'Institut agricole de l'Etat à Gembloux*, pp. 19–23.

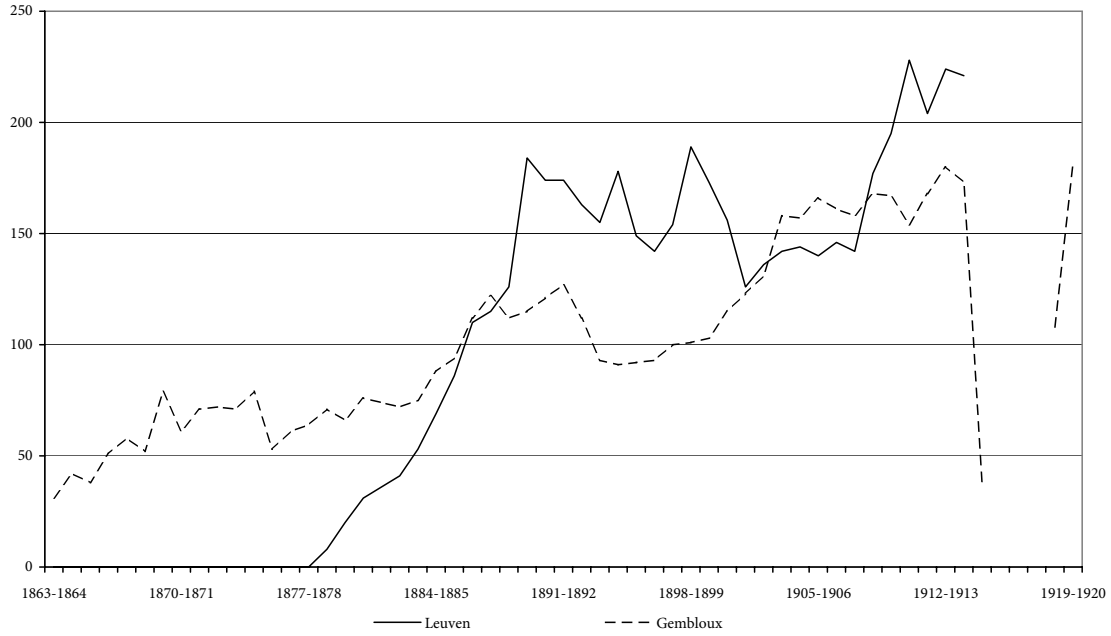



FIGURE 1. Total number of students enrolled in each of the agricultural colleges of Leuven and Gembloux, 1863–1920

*Source*: B. Woestenborghs, R. Hermans and Y. Segers, *In het spoor van Demeter. Faculteit Bio-ingenieurswetenschappen K.U.Leuven, 1878–2003* (2005), p. 201.

from the horticultural schools, veterinarians, members of agricultural committees, they gave lectures to uneducated farmers. This was in accordance with the law of 1860, which did not just make provision for higher agricultural education: the organization of 'public lectures' was also subsidized by the government. In 1867 alone, officials counted no fewer than 879 lectures, with a combined audience of around 20,000.[28] In view of the rather small-scale, practice-based character of these lectures, the Catholics were initially well-disposed towards this initiative. Because of their extensive representation in the various branches of the agricultural network, they often gave the lectures themselves.

However, the State Agricultural College in Gembloux remained a thorn in the flesh of the Catholics. In reaction, a handful of Catholic leaders started canvassing for support for their own Catholic agricultural college. The first forum was the *Société Centrale d'Agriculture de Belgique*, established in 1853. This learned society, which brought together virtually all parties with an interest in farming, acquired a predominantly Catholic profile from 1860.[29] Its direct impact was rather slight, but it did function as a common point of reference in the long journey towards Catholic higher agricultural education. Moreover, the *Société* was behind the formation in 1871 of the *Association pour la fondation des stations agricole en Belgique*, whose purpose

[28] Vanhaute and Van Molle, 'Het einde van de overlevingslandbouw', pp. 42–3. Figures in: Smet and Vannecke, *Historiek van het technisch en beroepsonderwijs*, p. 89.

[29] Van Molle, *Katholieken en landbouw*, pp. 93–4.

was to encourage practice-oriented agricultural research. The first agricultural station opened in December of that same year. Although it was based at Gembloux, through its members the *Association* formed part of the broad Catholic organizational network which gradually took shape in the 1870s. It is no coincidence that Catholics formed the national government between 1870 and 1878.[30] Examining the governing bodies of the *Société* and the *Association*, one repeatedly comes across the same people. Four men are particularly worthy of note. The central figure was without any doubt Léon 't Serstevens. As a member of parliament and major landowner, he was definitely one of the most influential figures in the whole network. Alphonse Proost was more of an intellectual. He had studied in Brussels and at the Sorbonne and had been taught in Paris by the agronomist Georges Ville, among others. Alphonse Demarbaix had also opted to complete his education abroad after studying veterinary science in Kuregem, and therefore travelled to Utrecht. Both these men were thus well acquainted with agricultural education abroad. Jules Cartuyvels, as well as being the manager of a farm, was the brother of Charles Cartuyvels, who was vice-rector of the Catholic University of Leuven from 1872.

At the start of the academic year 1873–4, the rector of the Catholic University of Leuven, Alexandre Namêche, had called for Catholic higher agricultural education.[31] Namêche saw the exodus from the countryside as a threat to the rural social model. For many young people, burgeoning urban industry offered an attractive escape route from the agrarian sector, but Namêche argued that the cities were 'hotbeds for pernicious theories and social unrest'. The training of the sons of landowners and large-scale farmers, who could then in turn serve as an 'enlightened' vanguard, could turn the tide. The broad education that they would receive must enable them, as representatives of the local community, the area, the district, the province or even the nation, to defend the interests of agriculture with the ultimate aim of 'maintaining the religious and conservative influence in our countryside'.[32]

Namêche alone was not influential enough. Moreover, the decision about a new course lay with the bishops as the instituting power of the university, and not with the rector. It was a new society, the *Société Scientifique de Bruxelles*, that was responsible for convincing the bishops of the need for higher agricultural education in Leuven.[33] A number of members of the *Société Centrale d'Agriculture de Belgique* established this society in 1875 with the aim of striking a balance between the new scientific insights and Catholic doctrine, which was challenged by these insights. Precisely because of the close links between the two societies, higher agricultural education became a priority for the new *Société* in its early years. Thus at the general meeting of October 1876, 't Serstevens discussed the situation of the agricultural

[30] Van Dijck, *De wetenschap*, p. 247.

[31] In the late 1870s his Ghent colleague Filibert Soupart also called for higher agricultural education at his university. He sought advice abroad and was impressed by the German model in which an agricultural institute was attached to a university. By contrast with Gembloux, he wanted to provide more theoretical scientific education. The journal of the *Société Centrale d'Agriculture de Belgique* took up his initiative and supported it. However, because of the high financial cost, the Belgian government did not take up the proposal. Van Damme, *Jubileumboek, 1920–95*, pp. 14–15.

[32] 'Discours prononcé à la salle des Promotions de l'Université catholique de Louvain, le 8 octobre, jour de l'ouverture des cours académiques, après la messe du St.-Esprit, par Mgr. A. J. Namêche, recteur magnifique de l'Université', in *Annuaire de l'Université Catholique de Louvain* (1874), pp. 319–23.

[33] E. Leplae, 'La Société Scientifique de Bruxelles et la fondation de l'Institut Agronomique de l'Université de Louvain', *Revue des questions scientifiques* (1938), pp. 80–3.

sector. Like the rector at Leuven, he talked of the danger from the depopulation and secularization of the countryside, but at the same time he referred to the possibilities for making agriculture more scientific. The dissemination of the insights from agronomy, which was still in its infancy, could ensure farmers a higher income and return, and this would dissuade them from taking up factory work. This was a matter of such importance that it could not just be left to the State Agricultural College in Gembloux, argued 't Serstevens. Referring to the principle of freedom of education enshrined in the constitution, he called for a free initiative, for 'In a country such as ours, the exercise of an important liberty is no optional matter: liberty turns against those who are incapable of availing themselves of it'.[34] In this way he referred to the possible negative consequences for the position of the Catholic element in society if it did not mount a defence against the extension of the liberal sphere of influence to the countryside. The *Société* took this task upon itself.

In mid-July 1877, a special committee submitted a substantive and financial plan to the bishops for a college in Leuven. A comparison between the budget of Gembloux and the expected annual budget of Leuven was intended to convince the bishops of the relatively modest additional cost of a separate school. For ideas about the curriculum, the committee had sent Alphonse Proost to the new *Institut agronomique* in Paris. The bishops were initially somewhat suspicious. Alarmed at the youthful enthusiasm and progressiveness of the *Société*, they feared the erosion of their powers as administrators of the university.[35] Once this point had been cleared up for their benefit, on 21 January 1878 they sent a joint circular letter in which they granted their support for the foundation of Catholic higher agricultural education in Leuven. The liberals' electoral triumph on 11 June 1878 prompted the Catholics to speed up the preparatory activities. They feared that the uniformly liberal Frère-Orban cabinet would put a spanner in the works.

## III

Between the granting of the bishops' approval in January and the first lectures at the *Ecole supérieure d'agriculture* in October 1878, there were a crucial eight months in which to arrange the college's finances, its organizational structure and the content of its course. Fund-raising among affluent Catholics, who were needed to give the school the necessary financial helping hand, was no easy matter. This was something that would give cause for regret later on. It seemed simpler to put together a curriculum: there were interesting models abroad. Once again, Proost, this time accompanied by Jules Cartuyvels, who was appointed by the bishops as the college's only professor, visited the *Institut agronomique* in Paris. The attractiveness and reputation of the Institute in Paris was considerable during this period. However, Paris was not the only point of reference for the college's founders: the agricultural institutes in Germany also served as exemplars. In view of the limited funding, everyone accepted that a separate

[34] 'Discussion sur la situation de l'agriculture', *Annales de la Société Scientifique de Bruxelles* (1878), pp. 172–83.

[35] Handwritten comment (4 Nov. 1877) on letter from Ferdinand Lefèbvre, professor at the Faculty of Science, to Archbishop Victor Dechamps, 31 Oct. 1877. Aartsbisschoppelijk Archief Mechelen, *Fonds Universiteit Leuven*, box 1878–1909.

school, as at Paris, was not practicable. A college attached to the university, as at Halle and Leipzig, seemed to be the solution. This approach offered sufficient guarantees of academic credibility and reduced costs. The Faculty of Science seemed the ideal point by which the college could be attached to the university: after all, agronomy was merely a particular form of the sciences studied in the Faculty, so many of the topics could be taught by professors from the Faculty. Unlike the major model, Paris, the course would last three rather than two years. This made it possible to work on the moral and religious training of the students as well as on their scientific education. The decision by the college's founders to confer the title *ingénieur agricole* on their graduates, as had been done at Gembloux since 1868, illustrated their academic ambitions. By choosing this title, the colleges sought to enhance the social status of the education they provided: the tasks of 'agricultural engineers' were no less important to society than those of civil engineers.[36]

The school's first brochure summed up its ambitious aims:

> The goal of this institution is to provide education that is commensurate with the needs of those who are destined not to cultivate the soil in person …, but … to direct and oversee such cultivation; who are called on above all to maintain the religious and conservative influence in our countryside; to assume … high moral authority; to become … the mainstays of true principles in the moral order and the promoters of whatever progress is genuine and of use in the material order.[37]

Expectations were high, and everything possible was done to acquaint the first students with agricultural science. The college was unable to meet expectations fully. As elsewhere in the university, the students received a fairly theoretical and encyclopaedic training. Experimental and fundamental research had not yet acquired an undisputed place in the curriculum. The majority of the university's directors were not particularly sympathetic towards intellectual adventures.[38] Moreover, as agriculture students were mainly taught by professors from the Faculty of Science, they were lumbered with a considerable amount of background knowledge which was not relevant to agriculture. The low standard of agricultural science attained in the early years revealed the real motive for the foundation of the Leuven college: the bishops had been swayed not by scientific ambitions, but by fear of the deleterious influence of the 'liberal' Gembloux over the agricultural sector and the countryside.

Suspicion of practice-oriented instruction and experimental research was also present within the college itself, although a degree of opportunism also undoubtedly played a role.[39]

[36] The term was first used in 1852 at the *Institut national agronomique* in Versailles. Previously, the title of *ingénieur* had only been used for senior civil servants. By appropriating the title, the founders of higher agricultural education hoped to give their graduates social and professional status. Unlike 'engineer', the French *ingénieur* thus refers to higher education rather than technical vocational education. Marie Benedict-Trocmé, 'Le titre d'ingénieur agronome', in M. Boulot (ed.), *Les enjeux de la formation, 1760–1945*, pp. 367–8.

[37] *Ecole supérieure d'Agriculture. Programme de l'école* (1879), p. 3.

[38] E. Lamberts, 'De Leuvense universiteit op een belangrijk keerpunt tijdens het rektoraat van A. J. Namêche en C. Pieraerts (1872–87)', in *L'église et l'état à l'époque contemporaine: mélanges dédiés à la mémoire de Mgr. Alois Simon* (1975), pp. 344–56.

[39] The discussions on this matter can be found in the minutes of the professors' committee. UCL, *Archives historiques de la Faculté d'Agronomie*.

The professors of the Faculty of Science, headed by Joris Helleputte, mainly wanted to offer a scientific synthesis of the available knowledge. As a prominent advocate of ultramontanism in Belgium, Helleputte probably primarily identified with the social motives of the college, and was less concerned with its scientific endeavours.[40] For him, agriculture was first and foremost one of the pillars of his corporatist social model.[41] For their part, Professors Cartuyvels, Demarbaix and Proost called for more agriculture- and practice-oriented education. Proost had always been a proponent of the reconciliation of science with Catholic orthodoxy – something for which he was not always thanked. In 1879, however, there were no objections to his appointment as professor.[42] This was possible because relations with the university itself had also begun to shift. Ultramontanists and liberal Catholics joined forces in the common struggle against liberalism. Meanwhile, in both the Faculties of Medicine and Science, fundamental and experimental research were gradually gaining more of a foothold.[43] Agricultural science began to find its place in the university after some time too, although with something of a time lag. The explanation for this is twofold. Firstly, agricultural science was still in its infancy in Belgium (particularly in comparison with Germany), but above all, financial and organizational problems posed a threat to the Leuven college's continued existence in the early 1880s. As a result, the priorities lay elsewhere for a while.

In October 1883, the new rector, Constant Pieraerts, announced that the college would close the following academic year if no financial guarantees were offered.[44] Helleputte wanted to avoid this at all costs, as it would provide the liberal adversaries with 'the fearful weapons of ridicule and mockery'.[45] In saying this, he once again made it clear what lay behind the establishment of the college: the ideological conflict with the liberals. Yet, since its establishment, the college had also discovered a new, more urgent and acute reason for existing: the deteriorating situation in the agricultural sector. With their labour-intensive arable farming, the small Belgian farms, especially those in Flanders, were unable to compete with the cheap grain coming from the United States. Only a reorientation from arable farming to cattle breeding and horticulture seemed to offer the prospect of prosperity in the long term. The idea was not entirely new, but now seemed to be more important: agricultural education needed to propagate the new insights of agricultural science as a weapon in the struggle against the severe agricultural crisis.[46]

[40] Ultramontanism is a doctrine within Catholicism which propounds the Pope's absolute authority in matters of faith and discipline. Political ultramontanism denounced state education, leading among other things to the 'scholastic war' of 1878–84 against secular policy, which it 'won'.

[41] On Helleputte's importance for agriculture see J. De Maeyer and L. Van Molle, *Joris Helleputte. Architect en politicus, 1852–1925. Deel 1: biografie* (1998), pp. 114–15.

[42] According to a number of ultramontanists, his writings on Darwinism and materialism made him an enemy of the Catholic faith. J. Vander Vaeren, *Alphonse Proost (1847–1931)* (1931), p. 6.

[43] This change of attitude was associated with the arrival of the new rector, Constant Pieraerts, in 1881. Lamberts, 'De Leuvense universiteit', pp. 363–4.

[44] A rough version of the rector's letter to the professors can be found at K.U.Leuven, *Archief rector Ladeuze*, X/1.

[45] A comment made by Helleputte during the meeting of the professors' committee. Minutes, 23 October 1882. Université Catholique de Louvain, *Archives historiques de la Faculté d'Agronomie*.

[46] Pieraerts, the rector of Leuven, mentioned this reason for the college's existence in a letter to the archbishop, 27 February 1883. Aartsbisschoppelijk Archief Mechelen, *Fonds Onderwijsdocumenten negentiende eeuw*, III, 44.




FIGURE 2. 'Char de l'agriculture, rappelant la fondation de l'Institut agronomique' [agricultural float, evoking the foundation of the Agricultural Institute in Leuven], part of the parade organized in 1884 to commemorate the re-establishment 50 years earlier of the University of Leuven.

*Photo:* University Library, Leuven.

For the members of the *Société Scientifique de Bruxelles* who were behind the college, this was enough to prompt them into action again.[47] Professors Proost, Demarbaix and Cartuyvels, together with various others formed a committee, with 't Serstevens as chairman, whose goal was to secure the college's future. Financially, the situation remained difficult, but they did manage to obtain greater independence from the Faculty of Science. Eventually, this emancipation made it possible to engage in more agriculture-oriented education and research. In reality, the college was effectively refounded at this time and given a new name. Following the example of Paris, the name *Institut agronomique* was chosen. And so the Institute was able to play its part in the half-centenary celebrations of the university in 1884 with a float reflecting all that was best in Belgian agriculture at the time (Figure 2).

[47] This has been described in detail in: R. Antoine and G. Hennebert, 'La Faculté des Sciences Agronomiques de l'Université Catholique de Louvain', *Louvain. Revue trimestrielle des amis de l'Université de Louvain* (1985), pp. 11–20.

## IV

The Institute may have had a difficult start, but the number of enrolments developed positively, from around 20 in 1879 to nearly 70 five years later. From the second half of the 1880s onwards, Leuven had more students than Gembloux. In the 1890s, the numbers even exceeded 150. After dipping around the turn of the century, student numbers rose to around 220 on the eve of the First World War, an increase partly caused by the establishment of an optional year and a two-year bachelor's degree (Figure 1). The crisis of the early 1880s also enabled the Institute to refine its profile scientifically. A new generation of professors at the end of the nineteenth century gave practice-oriented research proper shape. Among other things, they set up experimental stations on the farm of a nearby girls' secondary school, and the Institute's first autonomous research centre opened in 1908. The young professor Leopold Frateur had conceived the idea of establishing a research centre for zootechnics at Leuven during fact-finding missions to Halle and Berlin. In his explanation to the rector, Frateur referred explicitly to these foreign examples and to the increasing importance of cattle breeding in Belgium. During the early years, he mainly carried out applied research into feed recipes and disease-control measures. Real scientific renown came to Frateur through his experimental research into animal hereditary applying the theories of Mendel.[48] With the opening of the Seed Research Station in 1913, the Leuven-based institute went further down the road of applied research.

The gradual widening of the research focus, the raising of the scientific standards and above all, its more applied character made the Leuven Agricultural Institute an important research centre in the late nineteenth and early twentieth centuries. It was up to the professors to put these accomplishments to good use in the education they dispensed. Because the Institute had been able to establish a more autonomous relationship with the Faculty of Science since 1882, it was possible to place more of an emphasis on agriculture-oriented knowledge. Here, the professors sought to strike a balance between theory and practice. The latter component gained in importance when, from 1886 onwards, the students were assigned the task of writing a final dissertation and undergoing an internship at a farm. By the mid-1890s, the professors realized that it was no longer possible to teach the expanding discipline of agricultural science in three years. Starting with the academic year 1895–6 they therefore made provision for a fourth, optional year, which from 1903 presented four possible specializations: agronomy, agrarian chemistry, water and forest management or colonial agricultural science. With the last of these courses, Leuven was following an international trend. In 1902, the *Ecole nationale supérieure d'agriculture coloniale* had opened in France, and Wageningen also offered a colonial course from 1904 onwards.[49]

The education which was provided increasingly came to reflect the research at the Institute: more agriculture-oriented, more experimental in character and of a high quality. The rising standards meant that almost no sons of farmers embarked on a course of studies there. Although the education which was offered and the associated research were oriented to agriculture, they had very little to do with day-to-day practice on the farm. Because of this, in 1908 the Institute

[48] A. Gobin, *Professor J.-Leopold Frateur en de omwenteling in de veeuitbating* (1999), pp. 29–45.

[49] Goudswaard, *Agrarisch onderwijs in Nederland*, p. 150.

started a separate, two-year bachelor's degree course in which agricultural practice was covered more extensively.[50] Philibert Biourge, professor of microbiology at the Institute, said of the introduction of the bachelor's degree: 'We will have done something of use to our homeland, to our religion and to the Catholic party'.[51] Biourge's statement was made against the background of fierce rivalry between Leuven and Gembloux which had characterized higher agricultural education since the 1880s. However, this new initiative did not mean that the student population took on a less elitist character. Studying at either the Institute or at the University of Leuven was far from cheap. The annual registration fee was around 300 Belgian Francs. In addition, examination fees were due to the professors, and the use of the laboratories, museum and library was not free either. In around 1900, a year of study in Leuven, including the purchase of study materials and rent for a room, cost between 1,500 and 2,000 Belgian Francs. This was equivalent to the annual wage of a well-paid manual worker.[52]

The introduction of the bachelor's degree, plus the introduction of the optional fourth year and the pronounced focus on colonial agriculture fitted in with the Institute's strategy of projecting itself as forward-looking compared with Gembloux. The rivalry between the two institutions had existed since the Leuven college's foundation, but intensified from 1884. In that year, after six years of liberal government, the Catholics gained a majority in parliament. The long period (from 1884 to 1914) in which the Catholics had a parliamentary majority and the conceptual unity in the numerous initiatives that they took on agriculture means that this period we reasonably talk of a Catholic agricultural policy, with the establishment of a separate Ministry of Agriculture as the symbolic starting-point.[53] By contrast with the liberal government, which had not been particularly industrious on the agrarian front, the Catholic ministers and members of parliament developed an active rural policy in which education had a prominent place. The pronounced concern with the countryside and agrarian interests was definitely inspired partly by the success of the socialist movement, especially after the introduction of the plural universal suffrage in 1893.

The special role assigned by Catholics to farmers as defenders of the social consensus, with the countryside being defined as a beacon of Christian traditions, explains the importance they attached to agricultural education. In addition to the transfer of knowledge about farming, they had the moral training of the rural population in mind. This was why over the next few decades the Catholic governments did not just subsidize education for the sons of the farmers, but for their daughters too. And precisely because they did not view agriculture purely as an economic sector in difficulties, but as a link in a broader social project, the Catholic agricultural

[50] Edmond Leplae, professor at the Agricultural Institute, to rector Adolphe Hebbelynck, 29 Sept. 1908. In this 13-page report, he set out a proposed curriculum for the new option. K.U.Leuven, Universiteitsarchief, *Archief rector Ladeuze*, X/2.

[51] Philibert Biourge to rector Adolphe Hebbelynck, 5 Oct. 1908. K.U.Leuven, Universiteitsarchief, *Archief rector Ladeuze*, X/2.

[52] E. Lamberts and J. Roegiers, *De universiteit te Leuven, 1425–1985* (1986); K.U.Leuven, Universiteitsarchief, *Archief rector Ladeuze*, X/1.

[53] In fact this was the eclectic Ministry of Agriculture, Industry and Public Works. Before 1884, agriculture had been an area of competency of the Ministry of Interior Affairs. The conflict between clerics and liberals over education in the previous decade had led the liberal government to set up a Ministry of Public Education in 1878. In 1884 the Catholics went into the elections with the promise that they would abolish this ministry and set up a Ministry of Agriculture. L. Van Molle, '100 jaar Ministerie van Landbouw', *Agricontact* 154 (1984), special issue.

reformers did not focus exclusively on higher agricultural education. In addition to the existing state schools, they developed a whole network of subsidized Catholic primary and secondary agricultural and horticultural schools which, like the Leuven Agricultural Institute, had the goal of safeguarding the economic, social, political and religious status quo.[54]

Thus, from the late 1880s, the Agricultural Institute in Leuven, which for a long time had been one of the few Catholic institutions, became just one part of a much broader Catholic agricultural network. Strange though it may sound, the college at Gembloux also started to become part of this network, as the brand-new Ministry of Agriculture gradually increased its influence over the college and so sought to neutralize its liberal atmosphere. In 1871 the Catholic government had already tried to counter the liberal dominance of the school's supervisory committee by appointing 't Serstevens to it. However, liberal appointments in subsequent years restored the balance in favour of the free-thinkers. When the Catholics gained the opportunity in 1884, they again pursued an active appointments policy. Against the wishes of the liberal politicians and the students, they appointed a director who was not an agronomist and added a number of Catholic figures to the supervisory committee.[55] Yet this extension of the Catholic sphere of influence to Gembloux did not mean that the Catholic politicians gave preferential treatment to this institution: the state schools were not permitted to constitute a threat to the Catholics' own educational institutions. It was with considerable hesitation and little conviction that the politicians modified the legislative framework of the college at Gembloux. For example, an optional fourth year only came to Gembloux two years after Leuven. By 1914 Gembloux had more research centres than Leuven: a *Station laitière* (1900), a *Station de Zoologie appliquée* (1909), a *Station de Génie rural* (1912) and a *Station d'amélioration des plantes* (1913). Yet both the Catholic majority in government and the liberal opposition realized that Gembloux was lagging behind Leuven academically.[56] The government's atttitude did not contribute to the reputation of Gembloux as an educational institution, either. By contrast with Leuven with its leaning towards fundamental scientific education, Gembloux gave its students a more vocational training, orientated towards agricultural practice. Although student numbers continued to grow, the college did not have the same reputation in its own country as Leuven, and the influx of students mainly consisted of foreigners. Only towards the end of the nineteenth century did a number of young professors, including a few graduates from Leuven, raise academic and educational standards at Gembloux.

However, the employment destinations of graduates remained an indicator of the differing educational standards of the two institutions. Particularly striking was the dominance of Leuven graduates in state employment.[57] The more academic education at Leuven meant that its graduates were better prepared for the state exams, but they also had an edge when it came to public appointments. The most striking example of this was the recruitment of public agronomists by the ministry from 1885. As part of the government's overall education and enlightenment offensive,

[54] Y. Segers, L. Van Molle and G. Vanpaemel, 'In de greep van de vooruitgang, 1880–1950' in Y. Segers and L. Van Molle (eds), *Leven van het land*, pp. 88–90.

[55] Van Molle, *Katholieken en landbouw*, pp. 96–7, 118–19. *L'Institut agricole de l'état à Gembloux*, pp. 29–33.

[56] Van Molle, *Katholieken en landbouw*, p. 279.

[57] For Leuven, Leplae, 'La Société Scientifique de Bruxelles', p. 89. For Gembloux, H. R. Julien, *L'enseignement supérieur agricole. Ingénieur d'agriculture coloniale, Ingénieur agronome, Docteur en sciences agronomiques* (1900), p. 7; *L'Institut agricole de l'état à Gembloux*, p. 23.

they were given the task of informing farmers about the discoveries made by agricultural science in a comprehensible, accessible manner.[58] Of the 27 public agronomists appointed between 1885 and 1894, twelve held diplomas from Leuven, while just eight had diplomas from Gembloux. On the eve of the First World War, the Catholic predominance was even clearer: of the 30 public agronomists, just three had obtained their diploma from Gembloux; at least 17 had graduated from the Leuven Agricultural Institute.[59] But not all its graduates entered public service. Around 20 per cent entered industry (agribusiness and other branches), and 10 per cent made careers in education. Others found jobs at various governmental departments and farmers' organizations and in wide variety of economic sectors and organizations.[60]

The close links between the Ministry of Agriculture and the Agricultural Institute were not confined to graduates. From the time the ministry was established, a number of professors from the institute were also active in Brussels. For instance, Proost and Cartuyvels – two figures who, whether coincidentally or not, had been involved in the establishment of the college at Leuven – were among those who took their careers further at the ministry, as Director-General and Inspector-General respectively. At the ministry, Proost became one of the most enthusiastic advocates of agricultural education and a great many achievements in this field are attributable to his convictions.[61] For his part, Joris Helleputte switched over to active politics, and from 1907 helped shape policy as minister.[62]

It was not just through the Ministry of Agriculture with its public agronomists that the Leuven Agricultural Institute became involved in the broader Catholic agricultural network. By 1914, many of the institute's graduates were also working for the Belgian Farmers' Union, the largest and most influential farmers' organization in the country.[63] Joris Helleputte, his brother-in-law Franz Schollaert, and the priest Jacob-Ferdinand Mellaerts founded this organization in Leuven in 1890. It was completely based on foreign models and saw itself as the champion of the agricultural sector, one of the essential building blocks of Christian corporative society. From the beginning, graduates and professors from the Institute were involved in the Farmers' Union. The graduates were primarily involved in the everyday activities of the organization, which became even more distinctive in the early twentieth century with *Raiffeisenkassen* banks, joint purchasing of cattle feeds and fertilizers, business insurance, cooperative dairies, and so on. The Farmers' Union also turned out to be a promoter of agricultural science: after all, educating farmers helped make the sector more competitive. This was a task for the professors of the Institute in Leuven. In 1891, no fewer than three professors were on the editorial committee of *De Boer*, the journal for members of the Farmers' Union which, apart from information about

[58] Similar initiatives arose elsewhere in Europe. In the Netherlands, for example, the government took the lead in 1890. Most of the Dutch 'agricultural consultants' were educated in Wageningen. As in Belgium, they played an intermediate role between agricultural science and farming practice. Goudswaard, *Agrarisch onderwijs in Nederland*, pp. 147–50.

[59] Figures in: Van Molle, *Katholieken en landbouw*, pp. 119 and 279.

[60] Woestenborghs, Hermans and Segers, *In het spoor van Demeter*, p. 70.

[61] Vander Vaeren, *Alphonse Proost*, pp. 10–16.

[62] Helleputte became Minister of Agriculture for the first time in May 1907. In the years thereafter he went on to hold various ministerial offices, including Agriculture. He mainly continued the policies of his predecessors. De Maeyer and Van Molle, *Joris Helleputte*, pp. 183–4.

[63] For the history of the Farmers' Union see L. Van Molle, *Chacun pour tous. Le Boerenbond belge, 1890–1990* (1990). The book focuses mainly on the period before 1945. See also De Maeyer and Van Molle, *Joris Helleputte*, pp. 111–21.

the organization, also featured popularising articles about agricultural science and technology. From 1904, Professor Frateur from the Institute for Domestic Animal Science was also a permanent staff member of *De Boer*. In his contributions, he focused on cattle farming, an area of growing importance after the agrarian crisis. He also gave frequent lectures to members of the Farmers' Union, which in 1906 launched its own Cattle Farmers' Associations.[64] The Institute and the Farmers' Union thus found common purposes in areas which concerned ordinary farmers, such as the composition of highly accessible publications for them.

## V

During the nineteenth century, Western European governments developed higher agricultural education with a variety of motives in mind. In some countries, it represented a new phase in the institutionalization of agricultural science. In others, it was an expression of confidence in the contribution science could make to farming practice and to the economic modernization of the agricultural sector. In others again, education was regarded as an important means of social stabilization. All these motivations can be identified in Belgium. However, the situation there differed because of one crucial factor: the conflict between liberals and Catholics which was also to provide a stimulus (possibly the most important stimulus) for the development of higher agricultural education. In reaction to the expansion of liberal power, and appealing to the many liberties enshrined in the Belgian constitution, from the 1870s onwards Catholics sought to defend or expand their influence in every area of society. They regarded agriculture, and by extension agricultural education, as strongholds to be defended against the liberal threat. And thus it was that higher agricultural education in Belgium, more than in neighbouring countries, became an ideological battleground.

Catholic politicians and intellectuals perceived industrialization, urbanization and the new (liberal) agricultural college in Gembloux as threats to the Catholic faith and to their influence in the countryside. Moreover, the profound crisis which hit the agricultural sector from the 1880s onwards could not be met with small-scale palliatives as in previous decades. A more integrated approach was required. The response to these challenges can be described as a true Catholic agricultural offensive, initiated by various areas of society with the government's support, and resulting in the Catholic politicization of the countryside. Scientists, politicians and philanthropists came together in a common social project. The Leuven college, associated with the local Catholic University and designed according to Parisian and German models, had a key role in this agricultural network and associated knowledge offensive as the sole Catholic institution for higher agricultural education. Thus it was striking that numerous graduates from Leuven were able to develop careers in agricultural administration and maintained close relations with the (Catholic) Belgian Farmers' Union.

The principles underpinning the agricultural education provided at Leuven underwent enormous changes between the college's foundation and the First World War. Initially, theoretical and encyclopaedic instruction were uppermost at the *Ecole supérieure d'agriculture*. Given the college's attachment to the Faculty of Science, it was not surprising that real agricultural topics

[64] Gobin, *Professor J.-Leopold Frateur*, pp. 29–45.

only made a limited appearance in the curriculum. Little attention was paid to research or vocational training. It was only at the end of the nineteenth century, thanks in part to the arrival of a new generation of young professors, that a better balance was found between more general science topics and agriculture-oriented courses. The interchange between theory and practice also proceeded more harmoniously. Both were developed in Leuven, and a closer relationship with the agricultural sector developed. Thus students had to attend a compulsory internship on a farm and compose a dissertation, which in practice was usually an incisive analysis of a farming concern. But despite this evolution towards a more practice-oriented approach, most effort was put into the development of fundamental scientific research on several agricultural topics. The establishment of a station for zootechnics and a station for seed improvement before the First World War illustrates this trend, as does the introduction of a fourth year with several different specialist options. As was also occurring at other European institutions, there was an 'academic drift' at Leuven: the importance of science in the curriculum expanded.[65] One of the factors in this development was the rivalry with Gembloux and the quest for a distinctive identity. For a long time, the emphasis at Gembloux was primarily directed towards agricultural practice rather than academic or fundamental scientific research. Moreover, many of its students came from abroad. In this sense, up to the First World War, Leuven and Gembloux seem to have developed largely in a complementary fashion in terms of both the education they provided and their scientific profile.

[65] But at the same time the close relationship with the Boerenbond remained. It would be very interesting to analyse in depth the development of the Leuven curriculum, following the criteria Harwood discerns (laboratories, model farms, experimental fields, teaching programs, research orientation, types of publications etc.). We will develop this in a separate paper. J. Harwood, 'Engineering education between science and practice: rethinking the historiography', *Hist. and Technology* (2006), pp. 53–79.

# The state and the farm worker: the evolution of the minimum wage in agriculture in England and Wales, 1909–24

*by* Alun Howkins and Nicola Verdon

*Abstract*

Whilst the legislative history of British agricultural policy in the early twentieth century has received considerable attention from historians, the evolution of the minimum wage in agriculture and the formation of the Agricultural Wages Board has been largely ignored. This article aims to rectify this neglect. It argues that there were three distinct phases of development, which, whilst overlapping to a certain extent, were ultimately shaped by different political, social and economic imperatives. It will show that the first phase, 1909–14, was overshadowed by the rhetoric of the newly formed trades boards and was ultimately unsuccessful. The second phase, 1917–20, was dominated by wartime concerns over food and labour supply and resulted in legislation in 1917 and 1920. The final phase, from 1921 to 1924, shifted the focus to the desirability of a living wage in agriculture, which was finally enshrined in the Agricultural Wages Act of 1924.

A good deal has been written about the complex legislative history of British agricultural policy in the first quarter of the twentieth century. Much of this has centred on the meaning and impact of state control and decontrol of agriculture between the Corn Production Act of 1917 and the repeal of the Agriculture Act in 1921. The 1917 act introduced, amongst other things, guaranteed prices for wheat and oats and a minimum wage in agriculture directed by a central Wages Board. The latter has been described by Peter Dewey as an 'innovation for which there was no precedent' and 'a revolutionary development for agriculture'.[1] In contrast, the 1921 repeal has been consistently delineated as a government 'betrayal', although the identity of the main victim of this action has changed over the years. To Edith Whetham it was the farming community who suffered. Andrew Cooper questioned this, arguing that farmers welcomed repeal with 'a sigh of relief' and, if anything, it was the ideal of agrarian reform that was betrayed. Most recently Edmund Penning-Rowsell has suggested that farmers were actually instrumental in fashioning the settlement of 1921, and '[i]f anyone was betrayed it was the farm workers', who received nothing in compensation for the abolition of the Wages Board.[2] We wish

[1] P. E. Dewey, *British agriculture in the First World War* (1989), p. 94.

[2] E. H. Whetham, 'The Agriculture Act, 1920 and its repeal – the "Great Betrayal"', *AgHR* 22 (1974), pp. 36–49; A. F. Cooper, 'Another look at the "Great Betrayal": agrarian reformers and agricultural policy in Britain', *Agricultural Hist*. 60 (1986), pp. 81–104 (quotation from p. 81); Edmund C. Penning-Rowsell, 'Who "Betrayed"

to add to this body of literature by turning attention specifically to the important question of the evolution of the minimum wage in agriculture and the formation of the Wages Board, a subject which has hitherto received only scant attention in the historiography.

In 1909 the Liberal government passed the Trades Board Act after which wage regulation was introduced into a range of industries, and much has been written about the impact of the wages boards on wages and conditions.[3] However, our concern here is not with the effects of the boards but rather with the way in which their principles came to be applied to an area well outside their original purview: the wages and conditions of agricultural workers. We want to suggest that there were three distinct phases in which the notion of a minimum wage in agriculture was discussed (and in two cases implemented) and that these were the result of different political, social and economic imperatives. In the first phase, 1909–14, debate was dominated by the rhetoric of the 1909 trades board legislation and influenced by a liberal and ameliorative agenda. The first section of the article will focus on this period, providing an overview of pre-First World War developments and campaigns, which were ultimately unsuccessful. From 1917 to 1920 the arguments were framed by a different agenda, dominated by wartime concerns over food production and labour supply. The second section will analyse the debates during the implementation of the Corn Production Act of 1917 and its successor, the Agriculture Act of 1920. The third and final phase of the campaign, from 1921 to 1924, shifted the focus of debate to the desirability of a living wage under a more social democratic programme. The third section of the article will briefly examine the repeal of the Agriculture Act in 1921 before we move on in the fourth part to analyse the dominant arguments in the approach to the passing of the Agricultural Wages (Regulation) Act of 1924.

## I

In 1909, as a result of many years campaigning, the Liberal government of Asquith passed the Trades Board Act. This was based 'on the general principle … of establishing wages boards which should fix minimum time and piece rates for home workers, and that it should be an offence to pay or offer lower rates'.[4] The original act referred to only four trades: ready-made and wholesale tailoring, paper box making, machine-made lace and net finishing, and chain making. In 1913 five new trades were added: sugar confectionary and food preserving, shirt making, hollow ware and tin box making.[5] A provisional order for a board in sections of the laundry trade was rejected by parliamentary committee. All the wages boards shared a roughly common structure

Note 2 *continued*
Whom? Power and politics in the 1920/21 agricultural crisis', *AgHR* 45 (1997), pp. 176–194 (p. 193).

[3] The still classic accounts are two studies by Dorothy Sells carried out in the inter-war period: *The British trade boards system* (1923) and *British wages boards: a study in industrial democracy* (1939). For more recent material, but which is still reliant on Sells for the administrative history of the act, see T. J. Hatton, 'Trade boards and minimum wages, 1909–1939, *Economic Affairs*, June 1997, pp. 22–28 and Robin Gowers and Timothy J.Hatton, 'The origins and early impact of the minimum wage in agriculture', *ECHR* 50 (1997), pp. 82–103.

[4] British Parliamentary Papers (hereafter BPP), 1922 (Cmd 1645), *Report of the committee appointed to enquire into the working and effects of the Trades Board Act* (hereafter Cave report), p. 6.

[5] A board for cotton and linen embroidery was restricted to Ireland.

consisting of representatives of the employers, workers and additional 'appointed members'. Members could either be elected or appointed by the Board of Trade. The nine trades brought under the act before the First World War were covered by thirteen trades boards – eight for Great Britain and five for Ireland. They covered, in all, about half a million workers.[6]

The establishment of the boards in the pre-First World War period was a response to both elite and popular demands for control of what were called the 'sweated trades'.[7] These were overwhelmingly urban, although it should be noted that shirt making, especially in Ireland, and chain making were largely rural. These trades were seen within the context of a more general perception of a crisis of the cities, particularly London, heighted by a range of social surveys which suggested a high degree of poverty and social deprivation, and which was linked by contemporaries to notions of physical and racial degeneration. The 'sweated trades' were dominated by 'home-work', the system whereby part-finished goods were brought to the 'home' of the workers who then worked on them in or near their domestic space. The vast majority of workers in these trades were women. Although not made explicit in the acts, it is clear that there was a notion that women (and children) were unable to defend themselves via trade organization. In the words of the Cave Report of 1922, these were 'the poorer and more helpless class of workers'. This is also clear from the fact that originally it was suggested that the 'problem' could be dealt with by an extension of the Factory Acts, many of which were designed to regulate the employment of women and children.[8] Importantly, although the 1909 act was specifically restricted to a number of trades, the Board of Trade was permitted to apply its provisions 'to any other trades' where:

> the rate of wages prevailing in any branch of the trade is exceptionally low, as compared with that in other employments, and that the other circumstances of the trade are such as they render the application of this Act to the trade expedient.[9]

Discussion inside and outside parliament drew the attention of the newly formed farm workers union to the whole question of trades boards.[10] In January 1909, before the Trades Board Act became law, the Executive of the Eastern Counties Agricultural Labourers and Small Holders Union agreed to send a motion to the annual Council of the union calling for the setting up of an arbitration panel, where 'the employers and the labourers be equally represented with an outside "Chairman" and they shall have power to consider all questions in this area of wages and conditions of work'.[11] The employers refused and in 1910 George Edwards, secretary of the union, proposed a motion at the Trades Union Congress (TUC) meeting in Ipswich 'that it be an instruction to the Parliamentary Committee to take steps at once to have the agricultural

[6] BPP, 1922, Cave report, pp. 5–7.

[7] A recent overview of the history of sweated trades is provided in Shelia Blackburn, *A fair day's wage for a fair day's work: sweated labour and the origins of minimum wage legislation in Britain* (2007).

[8] BPP, 1922, Cave report, pp. 5–6.

[9] BPP,1909, (Cmd 118) *Bill to provide for the establishment of trade boards for certain trades*, p. 1.

[10] The 'new' union had been formed in 1906 in Norfolk as the Eastern Counties Farm Labourers and Small Holders Union. In 1909 it membership was small and restricted mainly to Norfolk. In 1912 it became the National Agricultural Labourers and Rural Workers Union.

[11] Museum of English Rural life, Reading (hereafter MERL), SR NUAW/BI –1, Eastern Counties Agricultural Labourers and Small Holders Union, EC Minutes, 16 Jan. 1909, minute 23.

labourers included in the sweated trades act of 1909.'[12] The motion was carried, and remained TUC policy until 1914. It was also adopted by the Labour Party in 1912.

By 1914 the demand for a wages board for agriculture had found wider support. The publication of the 'rural' volume of the Liberal Land Enquiry in 1913 concluded that 'in order to secure to the labourer a sufficient wage, it is necessary to provide for the fixing of a legal minimum wage, by means of some form of wage tribunal' and this became one of the central planks of the subsequent Land Campaign.[13] However, this was not simply a matter of political belief. Ian Packer argues that the Liberal Party, and Lloyd George in particular, not only saw the land as the last bastion of aristocratic privilege, but also as a convenient diversion from potentially 'unpopular policies' like Home Rule and National Insurance.[14] It could be argued that trades boards occupied a similar place in the broader Liberal strategy, acting to diffuse industrial conflicts, particularly after the bitter strikes of 1910–12.[15] As Chris Wrigley concludes of these years, 'both legislation and industrial intervention were aimed at national efficiency and social harmony'.[16] The outcomes of the Land Campaign may suggest this view is correct. Despite Lloyd George's public commitment, little was actually achieved, especially in regard to a wages board. F. E. Green, looking back from the end of the Great War, described Lloyd George as 'Harlequin in the great land campaign pantomime which was frequently put on for one night only when the populace became restive, and taken off again immediately the plaudits of the crowd rose to fever height'.[17] Against this, Packer argues this stalling of progress was largely due to lack of parliamentary time.[18] Whilst this may be partly the case, there were clearly other issues at work. Firstly it seems likely that many within the Liberal Party were unwilling to uncouple the issue of the wages board from the issue of land reform, which was seen as the ultimate solution to inequality in rural areas. This was certainly the position held by two Norfolk MPs, Sir Richard Winfrey and E. G. Hemmerde, both of whom saw themselves as 'friends' of the labourer, and relied on his vote.[19] Secondly, as Packer's study shows, there were sections within the Liberal Party who were worried about alienating the farming interest.[20] Finally, there were those within the party who remained 'hard-line' free traders, and believed that any intervention in the labour market was both undesirable and impossible.

Others thought differently though. The failure of the King's speech at the opening of the 1913 session of parliament to make any mention of a national minimum wage, and the defeat of a Labour amendment calling for an immediate national minimum wage of 30*s*., led to disenchantment among sections of Liberal support. In agriculture, as the trade union movement grew increasingly sceptical of the short-term merits of land reform, the desirability of a national minimum became clearer. It is not therefore surprising that G. H. Roberts,

[12] *Trades Union Congress Report*, 1910, p. 10.

[13] *The land. The report of the Land Enquiry Committee*, I, *Rural* (1913) p. 67.

[14] I. Packer, *Lloyd George, Liberalism and the land: the land issue and party politics in England, 1906–1914* (2001), p. 115.

[15] A. Howkins, 'Edwardian Liberalism and industrial unrest: a class view of the decline of Liberalism', *Hist. Workshop J.* 4 (1977), pp. 143–62. See also P. Readman, *Land and nation in England: patriotism, national identity and the politics of land, 1880–1914* (2008).

[16] C. Wrigley, *David Lloyd George and the British Labour Movement* (1976), p. 59.

[17] F. E. Green, *A history of the English agricultural labourer, 1870–1920* (1920) pp. 191–2.

[18] Packer, *Lloyd George*, p. 122.

[19] Howkins, 'Edwardian Liberalism', pp. 146–7.

[20] Packer, *Lloyd George*, pp. 128–32.

Labour member for Norwich, brought forward a bill in May 1913 to 'provide for the establishment of a minimum wage and the regularization of the hours of labour of agricultural labourers'.[21] Roberts's bill was placed specifically within the framework of the 1909 Trades Board Act. It provided for the creation of county wages boards at the local level, a minimum wage, and maximum hours, all to be observed and ratified by the Board of Agriculture and to be legally enforceable. The bill was discussed only briefly. The most damning attack came from the Conservative Sir Frederick Banbury who, anticipating future attacks on wage legislation, maintained that the objectives of the bill were 'bad' since 'the law of nature cannot be overridden or turned aside by any Act of Parliament' and that the market would always determine wages and hours.[22] The bill did not get a second reading in 1913, nor when it was moved again by Arthur Henderson in February 1914.

Two other bills promoting minimum wage legislation emerged in these years from a more surprising quarter, the Conservative Unionist Social Reform Committee. The first, the Agricultural Employment Board Bill, was presented in May 1913 (just two weeks before Roberts' bill) by J. W. Hills.[23] According to Green, it was a 'poor bill', applying only to a group of 'low wage counties' and lacking any element of central compulsion.[24] Asquith refused the bill government time, and Conservative support dissipated. It was re-presented in April 1914 by Leslie Scott, again supported by the USRC, but lost at the first reading in the House of Commons.[25] Whilst Lloyd George had welcomed the initial bill in May 1913, arguing that if this issue was dealt with broadly, 'without any party appeals, whichever party eventually has to deal with it, it will make an enormous difference in the course and destiny of the country', what is striking about these pre-war efforts to introduce legislation is the general lack of enthusiasm on the part of the Liberal Government.[26]

All attempts at pre-war legislation were framed within the 1909 Trades Board Act. Although the act could in theory be applied to 'any trade', in practice, as we have seen, it was mostly directed at home work, especially the sort in which large numbers of women and young people were employed. Even by 1922, when the acts had been widely extended and covered some 3 million workers, 70 per cent of them were women.[27] These were workers who, it was reasoned, by the nature of their trades, the isolated nature of their work, and perhaps above all their gender, were unable to, or incapable of, organizing themselves into trade unions and take part in the mechanisms of free collective bargaining.[28] The other major impetus for creating a board was that workers in the sweated trades were much lower-paid than those in other industries. This argument was picked up and frequently made by the farm workers and their representatives. For example, at the 1910 TUC, George Edwards argued that farm workers earned exactly the same wages as the women chain makers of Cradley Heath who had appeared earlier on the same day to successfully plead their case. Roberts, who seconded the motion on that occasion, made similar points.[29] However implicit in these debates was also the idea that the farm workers

[21] BPP 1913 (Cmd 182) *Agricultural Labourers (Wages and Hours) Bill*.

[22] *Hansard*, 27 May 1913, col 42.

[23] See Cooper, 'Another look at the "Great Betrayal"', pp. 85–6 for further discussion of this bill.

[24] BPP (Cmd 173), *Agricultural Employment Boards Bill*; Green, *Agricultural Labourer*, p. 200.

[25] *Hansard*, 5 June 1913, col 1035.

[26] *Hansard*, 8 May 1913, col 2285.

[27] BPP, 1922, Cave report, p. 10.

[28] Sells, *British wages boards*, p. 20.

[29] *TUC Report*, 1910, p. 126.

were, like women in the sweated trades, in a vulnerable position. At the 1910 TUC, Edwards argued that opposition to trades unions in agriculture spread right across the rural elites, not just the employers, and the labourer could find 'all the forces of law against them'. Towards the end of his speech Edwards stressed 'the need for bringing this suffering class under the protection of the Sweated Trades Act'.[30] Further, Edwards, like Joseph Arch, the national leader of the farm workers in the years after 1870, believed the 'old' unions had collapsed because the labourers were unable to organize. His bitterness expressed itself not only at the time, but also in his autobiography, written nearly 25 years later, where he quoted an 1896 article of his verbatim: 'I have as strong a faith as ever in the justness of your cause and the justness of your claims to live by labour, but I have lost all faith that you will ever manifest manliness and independence enough to claim your right'.[31]

This portrayal of the agricultural workers' situation was reinforced by Roberts in the 1913 Commons debate. Although he saw trade union organization as the most desirable mechanism for securing 'a reasonable living', he referred to the farm labourer as 'pathetic' and argued that parliamentary intervention was 'the right thing', which would enable 'depressed groups of workers … by fixing minimum conditions, ultimately to help themselves to a higher standard of existence'.[32] In this view, the farm worker, like women and children, was incapable of organising himself because of a mixture of factors, social and environmental but also 'mental'. He was, probably innately, backward and servile. For this reason he was a constant threat to the organized worker of the towns – available as cheap labour or as a strike breaker. If the labourer could not organize himself, and if the TUC had insufficient funds to support the labourers union, a wages board provided the ideal answer.[33] The views articulated by the organized labour movement were analogous. To many of the TUC, the country worker was 'backward' and incapable of realising his own interest. The Independent Labour Party, although successful in some country towns, had little success in the villages. The reason, according to the organizer for Southampton, writing in 1909, was that socialist speakers were 'too advanced' in their political arguments for the labourers to follow.[34] The following year a letter to the socialist paper the *Labour Leader* argued that the leaflets and pamphlets used by the ILP were unsuitable for farm workers and what was needed were 'graded leaflets … containing no hard words … as simple as a child's primer'.[35] In 1913 the same publication described agricultural labourers as 'the most backward class of workers.'[36] As we will see later, such views persisted well beyond the First World War and continued to form an influential, if lessening, component of the campaign for wage legislation in agriculture.

[30] *Ibid*.

[31] G. Edwards, *From crow scaring to Westminster* (1922), pp. 92–3.

[32] *Hansard*, 27 May, 1913, col 41.

[33] See George Edwards's speech at the TUC in 1912. *TUC Report*, 1912, pp. 164–5.

[34] *Labour Leader*, 9 July 1909.

[35] *Ibid*, 4 Mar. 1910.

[36] *Ibid*, 29 May 1913.

## II

Pre-war attempts to introduce wage regulation and a minimum wage in agriculture were ultimately unsuccessful. When the issue resurfaced during the war, it was shaped by rather different concerns and arguments. Following the outbreak of war, the government reached agreement with organized labour in key sectors of industry to suspend industrial action and accept compulsory wage arbitration under the so-called Treasury Agreement, later underpinned by the 1915 Munitions of War Act. In return, the TUC entered politics as a major force as the voice of labour. Increased state intervention in industry, wages, prices, and even rent regulation, fundamentally altered the way in which industrial relations functioned.[37]

Although the general direction of agricultural policy until 1916 had been 'business as usual', there had in fact been a number of government controls introduced, especially in food supply.[38] The formation of the first coalition in 1915 gave signs of change. Lord Selbourne became President of the Board of Agriculture and, as a result of continued threats to imports of wheat, set up a Parliamentary Committee under Lord Milner. The Milner Committee reported in July and October 1915. Its central findings were that home food production, especially wheat, should be increased using a deficiency payment system, and that local committees should be established to 'give farmers a clear lead as to the crops which are considered desirable'.[39] However, there was no provision for a wages board or a national minimum wage, despite some support on the committee. Wages, it was argued, had been rising before the war and would continue to rise as production increased and demand for labour followed. Moreover, there was a feeling that any 'compulsion' in relation to wages would mean that farmers would not respond to guaranteed prices.[40] The findings of the Milner Committee were discussed in Cabinet but not acted on as they 'found little favour' and it was thought they would 'probably not be mooted again'.[41] This was because the U-boat threat to imports was seen to have decreased, there were excellent harvests in Canada and Australia, and the god of the market would solve all.[42] By 1917 however, the situation had clearly changed. First, there was a growing belief in government, and importantly in the country as a whole, that the U-boat menace was now much more serious. Second, the harvests of 1916 were uniformly poor and prices of imports began to rise. Third, there was a belief among some sections of both government and the agricultural community, that land was not being exploited as productively as possible.[43] These factors were sometimes as much matters of conjecture as hard fact, but they played a key part in influencing the opinion of both the public at large and, above all, Lloyd George himself, who had ousted Asquith as head of the coalition in December 1916.[44]

[37] H. A. Clegg *et al*, *A history of British trade unions since 1889* (3 vols, 1964–94), II, chs 4 and 5.

[38] For what follows, see Dewey, *British agriculture*, part 1; L. M. Barnett, *British food policy in the First World War* (1985).

[39] BPP, 1914–16 (Cmd 8048), *Interim report of the Departmental Committee … to consider the Production of Food*, p. 4.

[40] *Ibid*, p. 6.

[41] Cabinet minutes quoted in E. H. Whetham, *The agrarian history of England and Wales*, VIII, *1914–39* (1978), p. 77.

[42] David Lloyd George, *War memoirs* (2 vols, 1938 edn), I, p. 757.

[43] Whetham, *Agrarian history*, pp. 82–5; Lloyd George, *War memoirs*, I, p. 757.

[44] Lloyd George, *War memoirs*, I, pp. 759–60.

Lloyd George's appointment as Prime Minister 'marked the watershed of wartime agricultural production'.[45] In his first speech as Prime Minister in December 1916, he argued that food production and consumption were central to victory, following a war cabinet special session convened the previous week 'to consider the Food question and the organization of production'.[46] At that meeting was R. E. Prothero, the new President of the Board of Agriculture. Prothero had been a member of the Milner Committee and later made it clear in his autobiography that he had fully supported its conclusions.[47] At the war cabinet meeting it was decided that the principle of a minimum price should operate from the harvest of 1917. Later in the same month it was agreed to use the Defence of the Realm Act to enforce cultivation on unused land and to create local committees under existing legislation.[48] Again, there was no discussion of wages or a wages board since the labour market, stimulated by increased production, was still seen to be able to regulate itself. However, on 14 February 1917, a delegation from the Parliamentary Committee of the TUC, including Robert Walker from the farm labourers' union, approached Prothero with a motion from the 1916 TUC demanding that the government address the issues of low wages and poor housing in agriculture.[49] It is difficult to ascertain what influence this delegation had, but in a memo most likely prepared for the War Cabinet meeting of 15 February, Prothero argued '[a] system of guaranteed prices lasting over a series of years seems to be the only possible means that would restore confidence to the farmer', adding that this guarantee 'should be accompanied by legislation securing a standard wage'.[50] This was very different from the position he, as a signatory of the Milner Report, had adopted a year earlier.

At the War Cabinet held on 17 February, Lloyd George again brought in representatives and experts from inside and outside parliament to continue the discussion on agriculture, but this time with reference to a minimum wage. Although farmers and landlords were represented, workers were not. The conclusions were ominous for labour. Although support for guaranteed prices was widespread, the most that was offered to the labourer was a minimum wage, not a wages board.[51] The discussion was continued on 21 February, when it was decided 'that the immediate establishment of a system of wages boards would distract the farmer from the main object of increasing the produce of the land' and therefore such a scheme 'should be postponed until after the war'.[52] It was this position that Lloyd George outlined in the Commons on 23 February. In what he described as 'a far reaching scheme of state assistance', agriculture was to be encouraged and protected. Minimum prices were to be guaranteed for wheat and oats, rents were to be fixed for the duration of the war, and powers were given to enforce cultivation. For the labourer there was to be national minimum wage of 25*s*. a week. He went on, 'after the war wages boards can be set up, and the farmer will of course make use of them'.[53] Initial reaction in the Commons, and to an extent the press, was positive. However the farm labourers' union,

[45] Dewey, *British agriculture*, p. 91.

[46] Lloyd George, *War memoirs*, I, p. 761.

[47] Lord Ernle, *Whippingham to Westminster: the reminiscences of Lord Ernle* (1938), p. 279.

[48] Dewey, *British agriculture*, p. 92.

[49] Green, *Agricultural labourer*, p. 251.

[50] The National Archives (TNA), CAB 23/3, Memo to Lord Milner.

[51] TNA, CAB 23/1, Minutes of the War Cabinet, 17 Feb. 1917.

[52] TNA, CAB 23/1, Minutes of the War Cabinet, 21 Feb. 1917.

[53] *Hansard*, 23 Feb. 1917, col 1602.

now the National Agricultural Labourer's Union (NALU), was less enthusiastic. The union's executive committee noted Lloyd George's speech at a special meeting on 2 March. It recognized the suggested minimum wage as 'a step in the right direction' but still 'unsatisfactory and will be unacceptable unless accompanied by wages boards'. It was also agreed to send a delegation to the government as soon as possible.[54]

For the union and its supporters, the difference between a minimum wage set by an Act of Parliament and a wages board was vital. Firstly the minimum set was already far lower than some counties were getting, especially in the north of England. Second, the union argued that wages would tend towards the minimum if one was established. Thirdly, and most importantly, the minimum set by the act was final and could only be altered by another act. Against this, wages boards acting at county level or national level could constantly modify the minimum by bargaining. Finally, it was also important to the union that boards could look at hours and conditions of work, as well as differential rates of pay.

In the campaign which followed, the union was able to proceed from a much stronger position than it had been in the pre-war period. Although we have no accurate figures, membership was clearly growing nationally, and there had continued to be strikes in agriculture throughout the war.[55] Moreover, the Workers Union had also begun organising in some counties with a degree of success. Most importantly, labour shortages were working in the union's favour, even if they were not pushing up wages as fast as some in parliament thought. As Walter Smith, the NALU president, told a special conference in Norfolk in February 1917, 'never before had the agricultural labourer … got such a hold or control on their economic position as they had at the present moment'.[56]

The War Cabinet discussed the wages board and the minimum wage next on 3 April, during the final drafting of the bill. It was stressed that this bill 'as drafted' was conceived as a 'temporary measure', with many points 'purposely left vague'. Prothero was asked to consider, alongside Parliamentary draughtsmen, 'the advisability of providing in the Bill for the setting up, after the war, of wage boards by reference to the Trade Boards Act, 1909'.[57] But two days later, when a draft bill was brought before the War Cabinet, the time frame had shifted, with the Board of Agriculture instructed to establish a wages board 'as soon as may be and after consultation with the Minister of Labour'.[58] It is not clear precisely when this decision to proceed without delay was taken. The Lloyd George papers at the Parliamentary Archives shed no light on the issue.[59] Cooper suggests that the acceleration of the policy may have been prompted by debate on post-war reconstruction and in particular the Whitley report recommendation of statutory wage regulation in poorly organized industries.[60] However it may simply have been

[54] MERL, SR NUAW/BI – 4, National Agricultural and Rural Workers Union, EC minutes, 2 Mar. 1917.

[55] See Alun Howkins, *Poor labouring men. Rural radicalism in Norfolk 1872–1923* (1985), ch 6. Union membership rose from 3000 in 1911 to 7100 in 1916 and 103,500 in 1921.

[56] *Eastern Weekly Press* (Norwich), 10 Feb. 1917.

[57] TNA, CAB, 23/2, Minutes of the War Cabinet, 3 Mar. 1917.

[58] TNA, CAB, 24/8 Corn Production Bill, p. 3.

[59] Nearly all extant correspondence from this time is between Lloyd George and Addison, the Minister of Munitions, and does not appertain to the Agricultural Bill. See Parliamentary Archives, LG/F/1/3/10–16. Our thanks to Andrew King for his assistance with this material.

[60] Cooper, 'Another look at the "Great Betrayal"', p. 93 (fn 34).

pragmatic, with the dating in the original draft left deliberately ambiguous, thereby allowing the government room for manoeuvre.

Prothero brought the bill before the House of Commons for its second reading on 24 April. He began by insisting that this was 'a national measure; it is not proposed in the agricultural interests; it is proposed in the interests of every citizen of the United Kingdom'.[61] He, like Lloyd George, insisted that there was a food crisis looming in the near future and it could only be met by increasing home production of cereals. To that end prices would be guaranteed for six years from the passing of the act. This was, in his words, a 'bargain between the nation and the farmers'.[62] When he moved on to the minimum wage, like Lloyd George in February 1917, but much more explicitly, he uncoupled the relationship between the minimum wage and guaranteed prices. He argued that agreement for the absolute necessity of raising agricultural wages 'for the national welfare' was unanimous but there had previously been division on the 'remedy' for low wages.[63] These centred on those who wanted a wage board and those who did not. He confessed:

> that for my part I heartily dislike the application of wages boards, which have been tried in the small industries and mainly industries in which women take part, to a complicated and varied industry like agriculture. I dislike it. I dislike the principle, and I see practical difficulties in its application. I have put this forward so often that I know those arguments better than I do the arguments in favour. But I have honestly come to the conclusion that there is no other way in which to affect the object. Regarding it as I do as a matter of absolute national importance that wages should be raised, I adopt the method which seems to me the only one which will achieve that object.[64]

Having outlined the nature of the wages board, its relationship to the county wages committees and the timescale involved, Prothero returned to the need for the boards in the case of agricultural workers. Here he revisited the arguments of the pre-war period, claiming that although wages had risen during the war, this could only be short term since labourers were 'wholly unorganized', 'scattered about and almost isolated' and therefore needed 'some local authority which can step in and deal with these men'.[65] He conceded that there would be difficulties in setting up the boards in wartime but concluded 'I think if they are constituted now in what we suppose to be a lull of party feeling that they may be framed on the right lines and upon lines that will make them useful to the country'.[66]

Although Prothero sought to uncouple the minimum wage and the guaranteed price, others, especially among the farmers, saw them as tied together. In early July 1917 Lord Selborne, speaking to the National Farmers' Union (NFU), firmly linked price guarantees and a minimum wage together as the basis for a permanent post-war policy for agriculture.[67] When the bill was discussed in the House of Lords, Lord Hindlip made an explicit connection between guaranteed prices and the minimum wage: 'if they were going to compel the farmer to cultivate his land

[61] Hansard, 24 Apr. 1917, col 2251.
[62] *Ibid*, col 2257.
[63] *Ibid*, col 2261.
[64] *Ibid*, col 2261.
[65] *Ibid*, col 2261–2.
[66] *Ibid*, col 2263.
[67] *The Times*, 11 July 1917, p. 8.

up to a certain standard of perfection and also pay a minimum wage', he argued, 'they must continue the guaranteed price, and the guaranteed price must be sufficiently high for the farmer to make a profit'.[68] No government Minister moved to deny this link. At best there appears to have been confusion as to the relationship between the guaranteed price and the minimum wage, an uncertainty which again suited the government as it allowed both views to exist side by side.

The Corn Production Act passed into law on 21 August 1917. It was formed of four parts, relating to prices, wages, tenant rights and government control of cropping and land use. The first two parts, which guaranteed prices for wheat and oats until 1922, and fixed a minimum rate for labourers, enforceable by a system of inspection and fines, are relevant here. The act also established a central Agricultural Wages Board for England and Wales, complemented by district wages committees in every county, with powers to enforce local minimum wages and hours, piece rates and overtime rates. It took several months for the county wages boards to be created, and in the meantime the minimum of 25*s*. a week for male workers was enforced. Thereafter the minimum rate was to be decided by the wages board on the basis, as Sir Daniel Hall, Permanent Secretary to the Board of Agriculture and Fisheries, put it in 1919, of 'a certain minima necessary for the security of the worker' and 'the minimum living wage below which a working-man should not be compelled to sell his labour'.[69]

In 1920 the main provisions of the Corn Production Act were extended permanently under the Agriculture Act. A four-year notice clause of termination was included. Although there were lengthy deliberations over the bill in both Houses of Parliament, the issue of wages and the wages board did not command much attention in 1920. Where the minimum wage was discussed, it was firmly linked to the guaranteed price. J. A. Seddon maintained 'It is an irrefutable fact that one hangs upon the other', a claim reinforced by Sir Arthur Boscawen, the Minister of Agriculture, who argued, 'If you interfere with farming to the extent of having an Agricultural Wages Board it follows of necessity, to my mind, that you must give guaranteed prices to farmers'.[70] The act itself stated that should the act 'cease by order of Council' *all* the provisions of the act of 1917 shall 'cease to be in force'.[71] This clear linking of the board to the guaranteed price proved to be vital later. In the meantime, whatever the arguments, the results of state intervention for the agricultural labourer were clear: by the middle of 1920 the wages of an ordinary male worker, which in January 1917 had stood at 23*s*. 6*d*., had risen to 46*s*. a week.[72]

The Corn Production Act and its immediate successor, the Agriculture Act, had many common elements with the pre-war discussions of wage regulation. The notion of the necessity of a board to determine wages for a group of low-paid and poorly organized workers clearly comes from the 1909 legislation. However the assumed relationship, albeit an ambiguous one, between agricultural prices and wages was unique, and a result of the specific circumstances of the emergence of the act in 1917. The main purpose of the 1917 and 1920 acts was to increase the production of cereals and, to many observers, the award of a minimum wage for workers

[68] *Hansard*, House of Lords, 9 Aug. 1917, col 304.

[69] BPP, 1919, (Cmd 345) *Interim report of Royal Commission on Agriculture*, p. 3.

[70] *Hansard*, 9 June 1920, cols 443 and 552.

[71] BPP, 1920, (Cmd 242) *Bill to Amend the Corn production Act of 1917*, p. 1.

[72] Alan Armstrong, *Farmworkers: a social and economic history 1770–1980* (1988), p. 167.

was simply a *quid pro quo*, or even an afterthought. To others, especially those in the union, the minimum wage was their right and had no link with agricultural prices. In this view the accident of its birth was neither here nor there; the claim to a minimum wage derived from the specific situation of the workers. By the end of our second period of minimum wage legislation in agriculture this claim was also being linked to the notion of a living wage. This was a departure from other pre-war boards and was to become central to debate during the third phase of the campaign in the period after 1921.

## III

In June 1921 the government repealed Part I of the Agriculture Act of 1920, abolishing the guaranteed prices for wheat and oats despite the four-year notice clause, disbanding the Agricultural Wages Board and effectively ending state control of agriculture. Boscawen, the Minister of Agriculture, told the Commons that the government was compelled to implement this course of action by 'absolute necessity, by the financial situation', with several factors since the passing of the 1920 act, including drastically falling prices and the expensive costs of running the machinery of the boards, forcing the government's hand. He went on 'it is quite clear … that the agricultural policy as laid down in the Corn Production Act and the Agriculture Act cannot stand. We are bound, therefore, as a national necessity, to change the policy'.[73] Repeal was not carried without opposition though. Once again the link between guaranteed prices and the minimum wage proved divisive. During discussions in the Standing Committee, the NALU president and Labour MP Walter Smith, moved an amendment to retain the clause which dealt with the wages board and the establishment of a minimum wage. The union argued that many were 'taking refuge' behind the idea that if the guaranteed prices were abolished, then the wages board had to be too. As the union's voice *The Land Worker* put it in July 1921, 'will they say what is to prevent a special clause being put in the proposed bill to set up a permanent board for the industry?'[74] Boscowen however firmly coupled prices and wages together. He refuted the argument that the wages board stood apart from general agricultural policy and declared that because the guarantee of prices was to be abandoned 'it follows clearly from that that the wages board shall disappear at the same time'.[75] He reminded the House that when the Corn Production Act was extended in 1920 a clause was added 'to the effect that, if the guaranteed prices were to be terminated by Order in Council, the wages board and the whole of Part I should be terminated at the same time'.[76] The wages board system was depicted as being too rigid and coercive, imposing inflexible hours, and being reliant on prosecutions. It was therefore not the best institution to deal with the changing conditions of agriculture and was 'quite unsuitable' to the industry of farming.[77] Labour members vociferously defended the wages board system, pointing out the policy had been previously carefully planned and considered before implementation in 1917, and, as Smith put it, was 'the only means of protection the agricultural labourer had in regard to wages'.[78] For those like Roberts and Edwards, who had

[73] Hansard, 4 July 1921, col 64.
[74] *The Land Worker*, July 1921, p. 9.
[75] *Hansard*, 4 July 1921, col 71.
[76] *Ibid*, col 72.
[77] *Ibid*, col 73–4.
[78] *Ibid*, col 84.

been at the forefront of campaigns for statutory regulation of agricultural wages for many years, the repeal represented 'a most reactionary step' and 'the basest betrayal any government ever committed on any class'.[79]

How far the actions of the government in 1921 constituted a 'great betrayal' of the farmers is now contested. Where Whetham once saw the farmers as being 'bribed into acquiescence', Penning-Rowsell has argued more recently that, in the short term at least, the NFU was not only in favour of repeal but actively worked secretly with the government to secure favourable terms for the farmer.[80] The NALU in contrast, was not only kept out of the discussions prior to abolition, but the news was sprung on them in early June 1921, only days before the proposed appeal was announced.[81] To the union the government's action was 'discreditable', 'panic-stricken' and 'the grossest piece of folly imaginable'.[82] The union refuted all claims put forward by Boscowen. With regard to the costs of running the wages board, it argued that the £88,000 spent between March 1920 and March 1921 represented 'a sum which is absurdly small in comparison with the great advances which the existence of the board secured for the workers'.[83] More importantly the suggestion that the wages board legislation was simply part of the policy of giving guarantees to farmers was firmly rejected. Citing Prothero's 1917 speech quoted previously, Robert Walker, General Secretary of the union, argued that

> It is totally untrue to assert that from the beginning the wages board for the workers and the guarantee to the farmers were meant to go hand in hand … [there is] no connection established between wages boards and corn prices. It was only when the Agricultural Bill was being discussed that the Government accepted an amendment which had the effect of joining the fates of the board and the guarantees together.[84]

So whilst Boscawen saw the 1920 clause as cementing a historic relationship between guarantees and the wages board, which in many ways justified their simultaneous abolition, Walker saw no such thing. To the union, the point of the wages board had been to improve agricultural wages and to act as a safeguard for the health and well-being of the agricultural worker. Walker stated in 1922 that '[i]t was because agriculture was regarded as a sweated industry, and because the money being paid to many of the workers was an outrage, that Ministers, MPs, men of all parties and schools of thought, united in agreeing to the principle of a minimum wage' in 1917.[85] Without it therefore, agriculture was in danger of drifting back to dire pre-war conditions. As the history of the next three years was to show, there was some foundation in these fears.

## IV

Under the 1921 legislation the wages boards were replaced by voluntary county conciliation committees. Representatives from employer and worker sat on the committees, which were meant to reach agreements on wages and hours and transmit these to the Ministry of Agriculture

[79] *Ibid*, cols 127–8 and 142.

[80] Whetham, 'The Agriculture Act 1920 and its repeal', p. 47; Penning-Rowsell, 'Who "betrayed" whom?', p. 188.

[81] Penning-Rowsell, 'Who "betrayed" whom?', p. 190.

[82] *The Land Worker*, Sept. 1921, p. 13.; *The Land Worker*, Feb. 1923, p. 13.

[83] MERL, SR NUAW, DII/4, Press cuttings, 1919–24.

[84] MERL, SR NUAW, DII/2, Press cuttings, 1919–24.

[85] MERL, SR NUAW, DII/I, Press cuttings, 1919–23.

for ratification. Boscowen had recommended these 'as far better instruments to protect the labourer at the present time than the wages boards' and thought the conciliation committees would promote 'peace on the farm'.[86] *The Times* was optimistic, reporting in December 1921 that the committees 'had met with a measure of success that fully justifies their appointment and the confidence expressed concerning the principle of collective negotiation'.[87] The NFU also thought they had 'on the whole acted well'.[88] The union however launched a concerted campaign between 1921 and 1924 against the conciliation committees, seeking to restore the wages board system, and aligning itself closely to the parliamentary Labour Party in order to achieve this. The union's argument in this third phase of minimum wage implementation in agriculture concentrated explicitly on the rights of the agricultural worker to a living wage and fair conditions of employment. As Walker put it in *Labour News* in January 1922, 'Our concern is with the *workers* in agriculture; and no question of profits, costs, or production can stand in the way of the demand we make *for a living wage for all upon the land*'.[89]

For the union and their supporters, the conciliation committees were a disaster, allowing farmers to pay what amounted to 'starvation' wages. After the repeal in 1921 farmers cut wages drastically. By December 1921 the average weekly wage for an ordinary labourer had dropped to 37*s*.; by the end of 1922 it stood at just 28*s*.[90] Moreover, by the end of 1923, only a sixth of the 62 designated districts actually had an agreement in place.[91] The interim report of the Tribunal of Agriculture, which was established to investigate the condition of English agriculture as compared to other European nations, reported in 1923 that:

> The conditions required to justify state regulation of wages in this country, as laid down by the Trade Boards Acts, are the absence of effective organization and the prevalence of low wages. Agriculture fulfils both these conditions.

The report did not recommend a Central Wages Board, but the establishment of six District Wages Boards to cover England and Wales, each having executive powers in their own region, and that these boards should be given powers only to enact minimum wages and grant permits of exemption.[92]

It was against the background of this report, continuing industrial unrest, and the demands of the NALU, that Britain's first (minority) Labour government was elected at the end of 1923. Fulfilling an election pledge, the Minister of Agriculture, Noel Buxton, introduced the Agricultural Wages Bill in April 1924. The reasoning was clear. Buxton argued at the second reading of the bill in June that agricultural wages were 'a blot' on the 'social state' of the country, and the conditions of 'dire poverty' in the countryside had to be removed.[93] The bill provided for the establishment of an Agricultural Wages Committee for each county and a central Agricultural Wages Board for England and Wales. Initially the bill reflected a system which had

[86] *The Times*, 26 July 1921, p. 14; *The Times*, 8 Aug. 1921, p. 10.

[87] *The Times*, 17 Dec. 1921, p. 5.

[88] MERL, SR NUAW, D II/I, Press cuttings, 1919–23.

[89] *Ibid*.

[90] HMSO, *Report of proceedings under the Agricultural Wages (Regulation) Act, 1924, for the year ending 30 Sept., 1925* (1926), pp. 27–8.

[91] Armstrong, *Farmworkers*, p. 180.

[92] BPP 1923 (Cmd 1842) *Agricultural Tribunal of Investigation: Interim report (Investigation Tribunal)*, pp. 9–10.

[93] *Hansard*, 2 June 1924, col 911.

gained much support within the Ministry of Agriculture, giving the power of fixing wages to the county committee, but allowing the Central Board to confirm or cancel the award and refer it back.[94] This, in the union's view, allowed the serious negotiation to be done at national level by the 'best, most skilled, negotiators' and would moderate the power of farmers at the local level who had successfully dominated the conciliation committees.[95] Against this, the NFU, who, as Penning-Rowsell shows, had developed into highly skilled lobbyists by the early 1920s, argued that any return of the Boards would impose such a burden on agriculture as to diminish output and employment.[96] The main sticking point in parliament was over the power of the Central Board, which was seen by many Conservative and Liberals, as well as the NFU, as autocratic and unsympathetic to local conditions. These views are encapsulated in Conservative MP Sir Henry Cauntley's speech during the second reading of the bill in the Commons. Looking back at the experience of the first wages board he explained:

> We had a perfect avalanche of Orders … All that clogged the industry, and we had this experience, which burnt deeply into the hearts and minds of the men engaged in the industry, that almost all these Orders were issued by the Central Board in London, who had no knowledge of local affairs and who rode rough-shod over any suggestions made the by local boards, and, when these Orders came to be put into operation, they were found to be not suitable.[97]

At the Committee stage the Liberal members voted with the Conservatives, forcing the government to compromise. Under the Agricultural Wages (Regulation) Act, which received royal assent in August 1924, the Central Board was given only an advisory role, with the real power lying in the hands of the local committees.

The union believed that the bill was 'mutilated' and 'spoiled' by the actions of the opposition. It saw a Central Board as essential to co-ordinate the work of the district committees. Indeed Walter Smith, who as Labour MP was involved in the passage of the bill, had urged the Commons to 'hesitate before you place full power in the local committees' because:

> There is then no freedom of action for the labourer. He is not in a position to express his mind as he ought to be able to do to get a proper decision. He has not been able to gain experience in conciliation and arbitration. He has not got a trained mind. He is not equipped for the fine arguments that are necessary in order to bring about decisions in this matter. I would suggest to the House that if they want to pass a bill to give to the agricultural worker some machinery to deal with his wages to hesitate before they destroy the principle of some central control.[98]

But the weakest part of the legislation for the union was that a minimum wage below which no committee could go was not specified. After much debate, the union had called for a figure of 30*s*. to be enacted. Walker stated in May 1924:

[94] Gail L. Savage, 'Friend to the worker: social policy at the Ministry of Agriculture between the wars', *Albion* 19 (1987), pp. 193–208 (p. 197).

[95] MERL, SR NUAW/BI–7, Biennial conference, 1924, speech by Walter Smith.

[96] Penning-Rowsell, 'Who "betrayed" whom?', p. 188.

[97] *Hansard*, 2 June 1924, col 924–5.

[98] *Hansard*, 2 June 1924, col 1025.

> The men's union are asking for a minimum wage which shall, as the bill states, have regard to what will enable a man to maintain himself and his family with a reasonable standard of comfort. This means that such a figure would be established, not in relation to farming prices, but in relation to social standards. It would in effect be an anti-sweating wage.[99]

In the end, the union was confronted with a *fait accompli*, which they well recognized. At the Executive Committee meeting of 13 July 1924 they passed the motion: 'This E.C. under the present circumstances are of the opinion it would be fatal for us to drop the bill altogether at present.' However they were clear as to the reasons why they had been placed in that position and added to the resolution:

> … that the bill as now amended is extremely unsatisfactory and [this committee] re-iterates the demand for a wages board as it was, and further, this executive strongly condemns the action of the Liberal and Conservative members who have thus destroyed the reasonable hopes of the agricultural worker.[100]

Although they were not satisfied, the union was 'ready to applaud the work of the government in getting what they have got' and saw this as a definite 'advance' on which to build.[101] The lack of a national minimum wage and the powerlessness of the Central Board continued to be a problem for the union throughout the inter-war period.

The district committees were constituted in October 1924 and charged with three main duties: the fixing of minimum rates of wages for all workers in agriculture, including the fixing of an overtime rate; defining employment which was to be treated as an overtime employment; and defining the benefits or advantages which might be reckoned as part-payment of minimum rates of wages in lieu of payment in cash. The union's vision of a family wage for married men was sanctioned by the 1924 act, which requested that committees fix minimum rates at such a level to 'enable a man in an ordinary case to maintain himself and his family in accordance with such standard of comfort as may be reasonable in relation to the nature of his occupation'.[102] This is not the place to discuss the success or otherwise of the act in any great detail. Briefly while male agricultural wages remained substantially lower than industrial wages throughout the inter-war period, Robin Gowers and Timothy Hatton have estimated 'that the impact of regulation was to raise the wage for agricultural labourers by about 15 per cent in the late 1920s and by more than 20 per cent in the 1930s'.[103] However, because the 1924 act endorsed the notion of a family wage, the District Committees, and the union tended to ignore the plight of women workers in agriculture. Although they remained a crucial component of the workforce in some regions of England and Wales, women continued to endure poor wages and conditions.[104]

The third phase of wage regulation in agriculture, represented by the passing of the 1924 act, was marked by continuities from the earlier phases. The language of the sweated trade was

[99] MERL, SR NUAW SR, DII–3, Press cuttings, 1919–24.

[100] MERL, SR NUAW/BI–7, Executive committee minutes, 1924.

[101] *The Land Worker*, Aug. 1924, p. 9.

[102] BPP, 1924 (Cmd 222), *Agricultural Wages Bill*, p. 3.

[103] Gowers and Hatton, 'Minimum wage in agriculture', p. 100.

[104] On the position of women workers in agriculture in the inter-war period as a whole see N. Verdon, 'Agricultural labour and the contested nature of women's work in inter-war England and Wales', *Historical J.*, 52 (2009), pp. 109–30.

still resonant. Perhaps surprisingly the notion of the farmworker as unable to organize in his (or indeed her) own interest also remained in the discussions. For many older trade unionists like Edwards, the farmworker was still a 'helpless class' of worker for whom the wages board had been the one protection.[105] As Clare Griffiths's excellent study of the Labour Party and the countryside in the inter-war period shows, these attitudes continued to play a central part in socialist thinking across the whole period.[106] However there were also quite different elements at work in the early 1920s. Crucially the whole notion of the trades board had been changed. While a number of industries were still covered by traditional boards under the 1909 act, a much larger number had been brought into other various kinds of organizations, such as the so-called 'Whitley' councils. Although these were voluntary, they were strongly encouraged and structured by the Ministry of Labour. By 1922 there were 68 trade-based Whitley councils, the vast majority of which included 'the regular consideration of wages, hours and working conditions'.[107] Equally important, by the early 1920s, a number of the best-organized trades had national negotiations and agreements. The most obvious of these were the railwaymen and the miners.

These latter examples particularly appealed to the farmworker. It is very clear from the union paper *The Land Worker* and other sources that, following repeal in 1921, the union saw that the matter lay in its own hands and it was up to the workers themselves to grasp the moment.[108] W. H. Hardwick, speaking at the 1921 TUC, saw that there 'was a spirit of revolt in the countryside at the present time which has never been equally, in my opinion, in the history of this country'.[109] Walker believed there was 'an awakening amongst the workers' by 1923.[110] He argued:

> It is now up to the agricultural workers, recognising his present deplorable conditions, to make *his voice heard and his presence felt*, so that even the present Government will be compelled to bow to the inevitable.[111]

Added to this, by the 1920s, the farmworker saw himself as part of the wider labour movement:

> It has often been stated that the Labour Party, being a townspeople's party has no message for the agricultural worker, … Yet, in the first five months of the first Labour government it showed its sympathy with the workers of the countryside by bringing in and passing the second reading of the Agricultural Wages Bill which … will re-establish the wages committee and the wages board.[112]

Even if, as Nick Mansfield has suggested, local consciousness and deference militated against these kinds of views in areas like the Marches, even the most conservative of farm workers was unlikely to reject the boards. In the Marches, Mansfield notes that the arrival of the wages boards in 1917 was greeted, as in most counties, by the 'astronomic growth' in union membership.[113]

[105] *TUC Report*, 1921, p. 289.

[106] C. V. J. Griffiths, *Labour and the countryside: the politics of rural Britain, 1918–1939* (2007).

[107] BPP, 1922, Cave report, pp. 52–3.

[108] It is also interesting to note that the union paper changed its name from *The Labourer* to *The Land Worker* in 1920 in recognition of this new self-image.

[109] *TUC Report*, 1921, p. 289.

[110] *The Land Worker*, Jan. 1923, p. 1.

[111] *Ibid*, Feb. 1923, p. 9.

[112] MERL, SR NUAW, BVI–3, Biennial conference minutes, June 1924.

[113] N. Mansfield, 'Farmworkers, local identity and conservatism, 1914–1930' in P. Brassley, J. Burchardt and L. Thompson, *The English countryside between the wars. Regeneration or decline* (2006), p. 179.

Further, in his longer study of Shropshire, he argues that the reintroduction of the boards in 1924 halted the decline both in wages and in union membership.[114] The only real exception, and one which remains substantially under-researched, could be in northern England. Here the persistence of hiring by the year or by the six-month term meant that farm workers had considerable bargaining power at the hiring fair which, coupled with regionally high wages, meant that the necessity for unionization had frequently been questioned.[115] This was also the case in the Scottish border region, an area which shared many common characteristics with the north of England. Here, as Richard Anthony has shown, the Scottish Farm Servants Union, dominated by the formidable figure of Joe Duncan, argued that the boards were unnecessary since 'trade union methods' were a better way of raising wages than relying on the state. The SFSU even welcomed the repeal of the Agriculture Act in 1921. Nevertheless by the early 1930s, as wages spiralled downwards, even Duncan changed his mind.[116]

As a result of the changed environment of the early 1920s, the minimum wage arguments which were deployed by the union in 1924 were based not on weakness or an appeal to a government of their 'betters', but were based on the notion of a minimum wage as a right which belonged not to one class of workers but to all workers. This was distinctly different from the appeal of 1909, as it did not seek special 'sweated' status; and different from that associated with the period 1917–20, as it was not linked to the profitability of agriculture. Moreover, although the union had some fundamental reservations about the 1924 legislation, it was an argument that was ultimately successful.

## V

The agreement reached in 1924 lasted until 1948, when another and more secure Labour government gave the union what it wanted – a national wages board with the power to set a national minimum wage for all farm workers.[117] That legislation was part of a wider reforming programme of the 1945 government. The earlier legislation though had no such coherence; rather it was the product, as we have shown, of a variety of forces and different political ideologies and commitments. The arguments around the 1909 trades board legislation were the product of the last great phase of Liberal reforms stretching back, perhaps, to the factory legislation of the 1840s. In contrast, those around the Agricultural Wages Act of 1924 represent the shift to the demands of social democracy for a living family wage for all. The arguments of 1917 (and the subsequent 1920 act) had something of both, but were tempered by the demands of war. We have argued that rather than being a continuous 'history' of debate between the 1900s and 1920s, there were three different phases in which the notion of a minimum wage in agriculture was discussed, and in two cases implemented, and that these emerged due to divergent political, social and economic imperatives across the period.

[114] N. Mansfield, *English farmworkers and local patriotism, 1900–1930* (2001), p. 163.

[115] This was true in the 1870s and seems to have persisted until at least the 1930s. See S. Caunce, *Amongst farm horses: the horselads of East Yorkshire* (1991), p. 216.

[116] R. Anthony, *Herds and hind: farm labour in lowland Scotland, 1900–1939* (1997), pp. 129–43.

[117] BPP 1946–7 (Cmd 3) *Bill to transfer functions of the agricultural wages committees to the Agricultural Wages Board and the Scottish Agricultural Wages Board*, p. 1.

# Book Reviews

## Britain and Ireland

CHRIS BRIGGS, *Credit and village society in fourteenth-century England* (Oxford University Press, 2009). xiv + 254 pp., 10 figs, 23 tabs, 2 maps. £45.

This, the first detailed study of rural credit in fourteenth-century England, is an important book. Through an investigation of inter-peasant pleas of debt in manorial courts Chris Briggs makes an invaluable contribution to our understanding of medieval rural, as opposed to mercantile, credit. Briggs, an established authority on the subject, presents a cohesive analysis based on the evidence drawn from seven detailed case studies which are located firmly within the wider context of our understanding of European and early modern credit. Throughout the book he is at pains to give careful consideration to the limitations of the investigation and its evidence.

Briggs presents a data-rich study in which he argues in support of the 'new view' of credit with its stress on the ubiquity and sophistication of rural credit mechanisms and their positive effect on traditional economies, although he does not discuss the role of rural credit in the economy generally. This forms part of the bottom-up perspective of the Middle Ages in which peasants are depicted as proactive and innovative in meeting the economic challenges they faced. Briggs argues against the pessimistic view, often associated with the work of M. M. Postan, of the impoverishing and exploitative nature of medieval rural credit. He finds many similarities in his evidence with the conclusions drawn by recent European scholars and argues against the view of credit as a marker of poverty and crisis.

The book is constructed around a series of questions about rural credit: who was involved as creditors and debtors; how and why did the debts come about; the changing availability of credit; the times and conditions of the transactions; the role of credit within social relationships. These are placed within broader concerns about the consequences of debt and credit for rural society, especially the creation and perpetration of social inequalities. The evidence is drawn from six village case studies located in Cambridgeshire and that of Great Horwood in Buckinghamshire. Briggs argues that together they are representative of 'Midland' characteristics of landholding and tenurial arrangements. He has developed an innovative and effective methodological approach to the thousands of debt plaints found in the manor court rolls and constructs many hundred personal biographies of the peasant participants. Throughout the book Briggs draws out nuanced local and chronological distinctions within the data which are presented in a wealth of graphs and tables.

The efficiency of the institutional context of the manor and its court for these transactions forms a central plank to Briggs' arguments. He argues that medieval rural credit grew out of the highly personalized nature of local society, the continuity of long established social relationships and the manorial system of personal sureties or pledges which were employed to protect the lender against default. The manor court provided the debt recovery machinery and was used to enforce the claim and, if necessary, to seize the debtor's goods. He argues that the court provided an effective method of enforcing repayment, justice was rapid and the duration of the loans was short. Credit relations were essentially oral, as opposed to written. Contracts such as these fell within the jurisdiction of the manorial court which was very different to the notary system in Europe.

This book outlines for us many detailed features of rural credit. The most common form of credit was the giving or receiving of a commodity (sale) or the performance of a task or service for another person on the basis that payment would be made later. Loans of money did not form a prominent feature of the evidence, in contrast to the situation in Europe. Nevertheless, a debt was normally claimed in the litigation as a sum of money. Briggs discovered that rural creditors and debtors were usually male heads of households who held land, but sometimes servants were observed in pursuit of arrears of wages. Credit-debt relationships were horizontal, individuals could be both creditors and debtors, and entwined with virtually everyone else in their community, although the landless were noticeably absent from the data. Briggs was unable to identify any individuals living purely from lending. From a study of the landholdings of the litigants he argues that it was

the possession of land and the ability to sub-let it which made individual borrowers credit worthy.

Another important contribution of this study is the examination of the supply of credit during periods of dearth, crisis mortality and variations in the money supply both before and after the Black Death. Briggs argues that the fast and efficient debt recovery mechanisms provided by the manor court encouraged lending when conditions were otherwise unpropitious and bestowed advantages on credit markets in the English countryside that were not shared with other regions of rural Europe. Despite local differences he is able to conclude that English rural credit was a success and, apart from the exceptional years of the Great Famine, differed from mercantile credit in its ability to withstand these adverse conditions.

MARGARET YATES
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P. L. LARSON, *Conflict and compromise in the late medieval countryside. Lords and peasants in Durham, 1349–1400* (Routledge, 2006). xx + 293 pp., 11 figs, 3 tabs. £65.

The historian of the medieval peasantry is spoilt by the availability of excellent sources from the later thirteenth century onwards in manorial court records, which, though not without their problems, allow unparalleled insights into the daily lives of peasants in their communities. To study such communities in the aftermath of the first arrival of the Black Death is an interesting and potentially illuminating prospect, allowing the exploration of issues such as the nature of the changes in feudal relationships between lords and peasants, the crisis of feudalism and the notion of the feudal reaction, and inter-peasant relationships after demographic collapse.

Larson's study, based on the rich manorial records of Durham, allows us some fascinating insights into the changes the Black Death brought to the peasant communities of the estates of the Bishops and the Prior and Convent of Durham in a comparative context.

The book is in two parts. Part one contains a useful and engaging discussion of the historiography of the peasantry and lord-peasant relationships, while also providing the essential context and background of the workings of the estate structure of Durham and the role of various greater and lesser estate officials.

Part two of the book covers the period after the first arrival of the Black Death in Durham, tracing the fortunes of the manorial communities living on the estates through the resulting socio-economic upheaval. What follows is a lively and insightful study of the peasantry and their lords living and struggling through the trauma of the Black Death and the subsequent social and economic adjustments the stricken communities and their lords had to make.

Larson paints an image of communities and seigniorial power in crisis, with increasing numbers of vacant holdings and acres of untilled land, and tenants reluctant to pick up empty holdings. In this context Larson's discussion dovetails into the wider debate of the nature of the feudal reaction and the question of the crisis of feudalism. Some of the arguments raised here have been touched on previously by Richard Britnell, particularly in *Past and Present* 128 (1990): the idea of an immediate and aggressive feudal reaction, which split the peasantry asunder. Larson's comparative approach indicates that there were some differences between seigniorial policy and peasant reaction on the different estates. An interesting aspect of the study is the conclusion that communal cohesion was a crucial factor in the peasantry's ability to resist and unite against seigniorial demands.

The seigniorial policies of the Priory of Durham, it is argued, helped to divide the village community, especially between the wealthier and poorer members of the peasantry. Thus, on the main estates of the Priory, Larson observed a marked increase in violence between tenants, which was not so much in evidence in the villages of the bishopric. This development was however not solely due to inequalities between the peasants, but rather stemmed from weaker communal cohesion, evidenced by the inability of the peasantry to unite, an abundance of cases of petty disputes between neighbours, and the need for seigniorial officials to intervene actively in the regulation of village agricultural affairs.

In the later fourteenth century Larson also notes a corresponding increase in the number of cases of violence between tenants recorded in the court rolls. There are some very interesting titbits of information, including which kind of insults were considered to be particularly offensive to villagers and resulted in accusations of defamation, such as 'neif' or 'bitch of a neif' (p. 187) – or indeed how games of football could spark off violence (p. 190).

Larson rightly calls for a greater appreciation of local differences in our understanding of the changes in lord-peasant and inter-peasant relationships across the fourteenth century. In comparing the communities under the respective jurisdictions of the Bishopric and the Priory, Larson concludes that while conflict was in evidence in all of these, a stronger communal spirit seemed to prevail in the Bishopric than in the Priory's estate, where the upheaval witnessed in the latter half of the fourteenth century created a community characterized by stronger individualism.

A potential weakness of the book is that the detailed study of the communities only commences with the

arrival of the Black Death, as a substantial pre-plague comparison of the communities would have been of great interest. At times it would have been helpful to have some more precise information at hand, such as figures for changing seigniorial incomes across the century or more data on the types of offences committed against lordship or against other tenants. However, this does not distract from the fact that this is a very satisfying book, which not only makes an important contribution to our understanding of peasant communities and the effects of the Black Death, but which will appeal to undergraduate students and experts alike.

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ANNE ROWE, *Medieval parks of Hertfordshire* (Hertfordshire Publications for University of Hertfordshire Press, 2008). xiv + 255 pp., 55 figs. £18.99; HUGH PRINCE, *Parks in Hertfordshire since 1500* (Hertfordshire Publications for University of Hertfordshire Press, 2009). xiii + 334 pp., 51 figs, 12 tabs. £18.99.

'The most parky county of all' according to Oliver Rackham in *The history of the countryside*, Hertfordshire is the focus of two important new park histories published by the University of Hertfordshire Press. Originally conceived as a single volume, the weight of research demanded two separate books that explore, respectively, the parks of the middle Ages (Anne Rowe) and those of the period 1500–1970 (Hugh Prince). Together, the volumes make Hertfordshire one of the most intensively studied counties in terms of its parks, and they present a multifaceted view of the subject. Parks were more complex and multilayered entities than is sometimes presented, characterized by an array of sometimes competing and contradictory functions: live larders; status symbols; venues for entertainment and elite discourse; and aesthetically pleasing backdrops for country residences.

There were about 70 medieval parks in the county. These were ever-changing entities whose extent and internal form varied depending on ownership, landscape context and the period of their creation. The introductory survey in Anne Rowe's volume investigates not only everyday park functions (notably there are only two records of recreational hunting in the county's medieval parks, both in 1362) but explores their wider contexts in several ways – their place in society, in the economy and, especially, the environment, which reveals some intriguing patterns of regional variation within the shire. The economic viability of parks is assessed critically, and the spatial relationships between elite residences and parks (becoming increasingly intimate through time) untangled. A valuable gazetteer of medieval parks, arranged by parish, takes up more than three-quarters of the volume. Well presented and usable, it incorporates impeccable surveys of documentary and cartographical evidence for each park alongside observations from fieldwork. Accompanying maps for each individual park, based on the Ordnance Survey First Edition with judicious use of colour, show the extent of each unit. Immediately striking is the complexity of internal park landscaping, with patchwork-type arrangements of woods, launds (or open areas) and common paddocks, invariably punctuated by features such as ponds, lodges and warrens. The large-scale format is attractive and the gazetteer is a model of its type.

Hugh Prince's complementary volume charts the complex changes in fashion that underlay emparkment in the post-medieval and modern periods and examines the role of the park in the projection and negotiation of power. Chronologically based, the volume is particularly strong on the economic role of the park in estate management. The story of the Hertfordshire park after 1500 is a rollercoaster: from dramatic changes in the Tudor period as new parks accompanied sweeping changes in land ownership and partnered a fresh generation of gentry houses, through to a somewhat downbeat assessment of the landscape heritage of parks in the modern era, given the destruction of many and the degradation of others as tourist attractions and golf courses. The seventeenth century is shown to have witnessed widespread park destruction (and defacement in the Civil War), while the golden age of eighteenth-century emparkment saw the key figures of Lancelot Brown, Nathaniel Richmond, Richard Woods and Humphry Repton make their distinctive mark on the Hertfordshire landscape.

It would be invidious to pick out one volume as superior to the other for they are complementary and both shed new light on the subject, showing the fruits of detailed fresh research and highlighting the potential for future work elsewhere.

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DAVID JOHNSON, *Ingleborough: landscape and history* (Carnegie Publishing, 2008). xxi + 265 pp., 59 figs, 56 illus, 4 maps. £14.95.

As both a Scot and an environmental historian I was pleased to be offered this book for review. We Scots have historically recognized the economic potential of valuable real estate in northern England and the inhabitants of the Ribble Valley were invited on a number of occasions to contribute to the medieval Scottish Exchequer. Although the author of this book describes such invitations as

'ravages from the north', they should instead be viewed as a compliment upon the relative strength of the local medieval economy.

Economics aside, this book must have been a difficult undertaking. The author has attempted to discuss the physical, cultural, and historic landscapes of Ingleborough from the Pre-Cambrian Era to the present day in just ten chapters. At the outset, the author states that this book was not aimed at an academic audience but was instead written to enthuse a 'broad church' of readers. This is no easy task so it is to the credit of the author that he has largely succeeded in his aims: the book progresses logically from geology to landform processes, and from Mesolithic archaeology through to modern land use. At all times the arguments are underpinned by syntheses of recent research. Each step on these journeys is clearly explained and good use is made of photographs to illustrate particular points.

There are further aids for the reader. Coming from North Britain, where we have a mix of Pictish, Gaelic, Norse, Anglo-Saxon, Scots, and English historical place-names, it was a relief to find an extensive glossary of place-names at the rear of this book. Here, Ingleborough place-names are alphabetically listed, their etymology explained, and they are attributed to a particular language or languages. This is followed by a further reading section so anybody interested in a particular topic can follow up their interest in more detail.

Given the author's training as a geographer it is understandable that fully one third of the book (four chapters) has been devoted to the geology and landscape of Ingleborough, yet the prose is always interesting and never dulls. Indeed, I wish other books of this ilk could explain geology and landform processes as clearly as this author has done. These first four chapters are then followed by a further two chapters devoted to the archaeology of North and South Ingleborough. These contain both thematic and site-specific studies that serve to illustrate the varied history of the hill and environs, as well as highlighting the pitfalls of labelling a particular rectangular site-type as 'Norse'.

This section is followed by a discussion of monastic properties and influences in the Ribble Valley and it is at this point that a noticeable weakness in the book becomes apparent: throughout this part of the text there is almost no discussion of medieval secular lordship in the area. This rather odd omission continues in the post-1541 landscape sections where there is actually much more information about the tenants of Ingleborough than the upper echelon of landowners. It would have been nice to see how monastic and secular lordship co-operated and argued about exploiting the landscape across time.

The next chapter, 'Routes through the Landscape', is well put together and informative but it is again rather spoilt by jumping straight from tenth-century road systems into the early modern period with its drove roads, turnpikes, and coach roads. Nothing is said about the medieval road systems in the area and how they related to earlier route ways.

The next two chapters cover the development of the Ingleborough landscape with sections on stinting rights, enclosure, turbary rights, and quarrying (among other topics). These discussions contain much useful information and here again the author seems to be more comfortable in using early modern and later historical material. Occasionally, the thread is interrupted by local stories and legends. Though not strictly 'historical', these tales enhance the storyline and add a touch of 'local colour'.

The final chapter covers modern land use around Ingleborough and it is in this section that the author really emphasizes just how much the local landscape has changed in the relatively recent past. Here, there are some thoughtful reflections upon the future of this landscape – not all of them positive. Among this is a horribly familiar discussion of shooting estates and the future of Red Grouse populations.

This is not a perfect text: some faults have been noted and it might also have been useful if the author had included a discussion of palaeoenvironmental data, assuming that such data is available for Ingleborough. Nevertheless, this book also has much to commend it and it has certainly encouraged this reviewer to visit the Ribble Valley.

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MARK BOWDEN, GRAHAM BROWN and NICKY SMITH, *An archaeology of town commons in England: 'a very fair field indeed'* (English Heritage, 2009). ix + 101 pp., 73 figs. £17.99.

I first became interested in the subject of urban common lands more than a decade ago, when I assumed, naively, that somewhere there was to be found 'the' book on the subject. This, I imagined, would probably be a large quarto volume, with a guilt-embossed spine, published some time in the third quarter of the nineteenth century. To my considerable disappointment, though, I found that apart from Maitland's majestic 1897 account of Cambridge's common fields in his *Township and borough*, this was one area where our Victorian ancestors had let us down. They were much more concerned with the defence of Hampstead Heath and Epping Forest than the history of the Strays of York or Port Meadow in Oxford. There was no 'big book' on urban commons; nor, sadly,

was this deficiency remedied in the three volumes of the *Cambridge urban history* published in 2000, which mentioned the topic only in passing.

Now, though, in many respects the gap has been filled. This volume is the result of a three-year research project by English Heritage, into the history, archaeology, topography and modern development of urban commons in more than 300 towns, large and small. Although this is not a dense monograph, the work's great strength is its inter-disciplinary methodology and its chronological range. Where a historical account would be constrained by written sources to the last 500 or 700 years, the archaeological surveys employed here allow the study to range over more than 2000 years, from the surviving prehistoric earthworks on Newcastle's Town Moor, to the damage caused by Buffalo Bill's Wild West Show on Worcester's Pitchcroft in 1903, or from early medieval enclosures on Westwood Common in Beverley, to the archaeological remains of the Greenham Common Peace Camp of the 1980s.

The study looks at a range of themes, which reflect the complex, multifaceted nature of the town common. There are eight chapters. The first deals with the pre-history of these lands, before they were managed and farmed in common. The second and third deal with the economic functions of commons, in both arable and pastoral agriculture, and as sources of stone, clay, gravel, metal, lime, coal, grazing, turf, game, flowers, and water, and sites for industrial activity, or such mundane activities as getting the washing dry. Chapter Five considers an important, and perhaps less obvious, use of urban green spaces in the last 500 years – military training and defence, from early Tudor archery practice to military airfields, tank testing grounds, anti-aircraft gun emplacements and nuclear bomber bases in the twentieth century. The next two chapters reflect upon the social, recreational and political uses of urban commons, as sites of fairs, 'polite' urban parades, agricultural shows, sports, religious revivals and Chartist demonstrations. The final chapter looks at the present and future of these lands, particularly their value, and their fragility as ecological and archaeological preserves. There is also an extensive gazetteer of towns thought to have once possessed common lands, and a detailed and helpful bibliography.

The work reveals urban commons as a palimpsest, where all these different layers of activity have been inscribed on top of one another. This is revealed most strikingly in Figure 2.7, of Lincoln's South Common, which appears, to the untrained historian's eye, as an incomprehensible jumble of Roman Road, medieval field boundaries, and twentieth-century trenches and tank traps. The thematic range of this work also indicates the importance of viewing urban commons (and, perhaps, their rural counterparts, too) as spaces in which a variety of activities could be undertaken sequentially and as neither wholly 'rural' nor exclusively 'urban' in function. This is an important recognition, comparable with the recent historical interest in field sports as a rural land-use. It also offers the prospect of agrarian and urban histories that begin to talk to each other and also to illustrate the relationship between these two research foci.

Inevitably, this broad-ranging 100-page study leaves the agricultural historian wanting to know more, whether about the mysterious origins of many town commons, stocking rates and management regimes, processes of improvement, extraction of wood, lime, clay and game, and the chronology of their decline as functional agrarian resources. However, these are the stuff of local studies rather than general surveys, and are often very difficult to undertake using urban records that tell us less than manorial sources about entitlements, customs, stints and trespasses. In this respect, then, while there is probably more to say about the agrarian history of urban commons than is presented here, any such study would be a drier and less well-balanced affair than the current study.

This book is a well-produced, and modestly-priced, addition to the shelves of those interested either in urban or in rural history (and the ecumenical who dabble in both), from the early medieval to the late twentieth centuries. Ironically, in fact, the book is likely to be used rather like the lands it surveys, with practitioners of agrarian, economic, military, social, cultural and political history all jostling together to extract their rightful share of its resources, mine nuggets of information from its reserves and advance their competing, often incompatible interests!

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DANIEL C. BEAVER, *Hunting and the politics of violence before the English Civil War* (Cambridge University Press, 2008). xii + 174 pp., 4 maps. £48.

It is quite hard to know what to make of this book because it is uncertain about its aims. At one level it is a contribution to the perennial discussion of the origins of the English Civil War. At another it is about forests as 'special places'. It is also about masculine honor [sic] in the early seventeenth century seen through hunting and acts of violence in forests; and it is about defence of custom by the communities within the forests, which leads Beaver into questions of popular politics. The first chapter is about the hunt as a male pursuit: then we have detailed discussions of four locations in southern England all of which were convulsed by disputes over

forests in the generation before the Civil War. The introduction takes the book in one direction: the first chapter in another. So there is no lack of ambition here, but this is not a satisfactory book. The four studies are closely wrought and yet it may be asked whether they actually convey the meaning that Beaver attaches to them. He has drunk deeply at the fount of anthropology and I am not always convinced that his explanation of events is necessarily the most obvious. Not everyone will be persuaded by his discovery of the 'sacrificial aspect' of the hunt. He persistently reads honour as a leading motive in gentry behaviour when more base questions of possession sometimes seem to be at the forefront of the cases he discusses.

This may be seen in the first of the four studies, 'Honor, property and the symbolism of the hunt in Stowe, 1590–1642', an account of the conflict between the Temples (of whom we have heard) and the Dayrells (of whom we have not). For Beaver, '… the imbroglio of the Temples and Dayrells evokes the violent competition for honor at the heart of orderliness and power in the seventeenth century' (p. 52). Beaver wants to read the dispute as a competition for honour when it is really about possession. What happened was that Sir Peter Temple, having decided to enlarge Stowe Park, and having had an offer to exchange land for Dayrell's declined, simply went ahead and enclosed Abel Dayrell's land in his park. The Dayrells were left with no option but to try and prove their rights at law whilst maintaining their possession by violence. The dispute then became confused with counterclaims over Temple's depopulation of Stowe and Dayrell's overgrazing. As Beaver acknowledges, Temple humiliated the Dayrells and it is hard to see that he was anything but in the wrong. Overall though, Beaver seems to lean to Temple's side. At one moment he comments that 'Contests over the power to keep or recover economically marginal slivers of land reveal the extent to which honor represented an end in itself in the political economy of gentility …' (p. 38) but in a petition of 1642 the extent of the land in question is given as 40 acres, hardly a sliver. It is a considerable weakness of the essay that Beaver does not view the Dayrells' hunting in terms of its exact location. It seems entirely plausible to think that they were not hunting in the park, but on their own land within the park. Without this spatial dimension, my sense is that Beaver cannot fully understand what is happening.

The second of the four essays, on Waltham Forest, 1608–42, is also rather an odd piece. Here the body of the essay concerns a dispute between Edward Denny, lord of the manor of Nazeing, and his copyholders over the use of a substantial (600-acre) wood pasture within the manor which fell within the bounds of Waltham Forest. Beaver's account is given up-side-down. His interest is caught by a riot in 1622 after Denny had ordered the common to be driven: a rescue of some of the animals caught by this drift took place, led by a number of village women. Denny's officer was mildly beaten and died later in the year, and this gave Denny his opportunity to bring a Star Chamber suit against the women. What is admitted only some pages later is that Denny had sought to make an enclosure of the wood, but when the copyholders refused to be a party to his plans, he threatened either to open up the wood to the deer of the Forest or turn it into a warren. The drift and the Star Chamber suit was all part of a process of intimidation of the villagers, and the drift was a clear affront to village and manorial authority. The dispute is, it seems to me, only peripherally about the deer or the forest: it is, as the copyholders understood, about them standing in the way of Denny's enclosure project.

The account of Windsor Forest, 1603–42 is, like the others, rich in detail, but it is not always clear what Beaver thinks he is proving. Certainly there is much of interest on the way, on organized poaching for the meat trade, the crackdown on turf cutting in Winksfield and Wargrave in the early 1620s and the implementation of revived Forest Law after 1632. The crown's officers assumed they had rights in the 1630s which were historically unverified: in 1640 the Earl of Holland went so far as to challenge the customary rights of common in Windsor Great Park. The final study is an account of events on Corse Lawn Chase in the 1630s which led to the mass slaughter of deer in the chase in October 1642. Lionel Cranfield, Earl of Middlesex acquired the land in 1629 and tried repeatedly to establish discipline in the chase, excluding both hunters and poachers and thoroughly alienating the neighbourhood. But again, by concentrating so exclusively on the deer, Beaver cannot fully understand the dynamics of the politics surrounding the chase: Middlesex, it seems, was evidently oppressing the tenants of Forthampton at the same time. While Beaver tries to connect the slaughter of October 1642 to the 'blood month' of November (do we, as rural historians, believe in such a thing?), the evidence seems to suggest something quite different. The deer were slaughtered and left to rot. There seems to be no suggestion that they were taken for food. To carry them away would have been to diminish the force of the rejection implicit in the massacre.

This suggests a further blindness in the book. Beaver is interested in hunting as a manifestation of gentry honour and gentry ethos. Hence he is very interesting on gentry purlieu hunters in Essex and elsewhere. What he does not consider is just how hated the deer were by those who had to cope with them on a day-to-day

basis eating their crops but who might be prosecuted for driving them off their land. Deer may well have been the objects of aristocratic desire, if not perhaps a ritual sacrifice: but for many others they were merely particularly large vermin. There is some interesting data on the number of deer found dead within Windsor Forest, some of whom had certainly died from gunshot wounds, and the appearance is that there was a great deal of illicit destruction of the animals. (This is less clear-cut than Beaver acknowledges. He attributes the unusually large numbers of deer dead in 1624 to the commoners' actions in defence of their common rights, but the deer may simply have starved in this unusually severe year.) Hence we can suggest that the king's deer had three enemies who are not sufficiently distinguished in the book; those gentlemen who subscribed to the aristocratic ethos and who, rightly or wrongly, claimed a right to hunt; those who poached the deer for profit; and those who regarded the animals as a nuisance and were desperate to be rid of them.

What is also fascinating is the extent to which the crown attempted to create new powers (under the guise of a revived Forest Law) in the 1630s, how these powers were implemented locally in and around Windsor without any regard for the established relations of commoners to Forest, and how bullying landowners (Temple or Middlesex) took their cue from this to make their own claims over the deer. The revival of forest law was a sufficient grievance for parliament to legislate on it in 1641, but it is plain that this did not satisfy, and in the breakdown of law and order in the following months, a great many people had their revenge on the deer in ways which showed their rejection of aristocratic assumptions. Some (not all) were maintaining one set of property rights over another and taking back what they regarded as theirs, including rights of common, but moreover, they were claiming an exclusive right to their land without the intrusion of someone else's deer into their corn. Whatever else, deer did not roam over the post-Restoration countryside and those who wanted something to chase had to look to the fox.

Beaver's book has its moments and will be ransacked for its detail. But its purpose is far from clear, and its judgements sometimes quirky. It is neither the book on aristocratic hunting nor the study of the royal forests in the 1630s that we need. As a study of the royal forests, Beaver never acknowledges the scale of disafforestation in the 1620s and 1630s: whilst the crown was extending its authority in some locations, it was pulling in its horns in others. Odd to say, the outcome of both policies – popular violence – was probably much the same.

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ELIZABETH PARKINSON, *The establishment of the Hearth Tax, 1662–66* (List and Index Society, Special Series, 43, 2008). x + 186 pp., 3 figs, 4 maps, 24 illus. £33.

For a source that consists normally of two columns, one of names, the other of numbers of hearths, the Hearth Tax continues to throw up a surprising range of problems. As with all taxes, perhaps the most complex of these is not the object of the tax itself, but rather the *processes* by which this levy was administered. As Elizabeth Parkinson shows in her excellent new study of the early years of the Hearth Tax, for historians wishing properly to understand the form and scope of this apparently simple impost, the devil really is in the detail.

Although the Hearth Tax endured through various administrative regimes from 1662 to 1689, this volume covers the years when it was collected by the Exchequer, through parochial and county officials. Thereafter, apart from the period between 1669 and 1674, the tax was 'farmed' to private City collectors, who paid the government an agreed sum, and reimbursed themselves through gathering the revenues directly. Periods of Exchequer and county administration have left records, while, on the whole, periods of private collection have not.

Elizabeth Parkinson's study covers all aspects of these first years, including the legislative history of the tax, the three collection regimes instituted in the 1660s, followed by three chapters that explore the implications of these regimes for under-payment and arrears, the question of exemption and the problems of non-payment. As with Arkell's study in the 1992 volume *Surveying the people*, this analysis is buttressed by an appendix which illustrates the various categories of document generated by these collection regimes, plus further appendices examining the internal consistency of some sample listings.

The study charts the legislative genesis of the Hearth Tax, setting it effectively in the context of the Crown's financial problems after 1660. It explains the emergence of this 'poll tax' on fireplaces, and details very carefully how questions about categories of exemption arose rapidly, and how the initial problems with collection in London in 1662 led to refinements in the assessment process. In many respects, Chapter Three of this study may become the most quoted because it explains more clearly than in any preceding account how the 'direct' collection phase of the tax was actually three distinct regimes, each with their own difficulties. In the first year of the tax, assessment and collection methods placed a heavy responsibility on amateur parochial officials possessed of variable standards of literacy. In

1663, this system of local government was modified, so that the Constable was to be assisted by two 'substantial inhabitants', and to report assessment and collection to the High Constable. Finally, in 1664, the Exchequer appointed its own Receivers, who were to choose their own sub-collectors to manage the process of assessment and collection at the parish level. Gradually, control over the tax was taken out of the hands of normal system of parochial and county administration, and handed to appointed collectors.

Dr Parkinson shows that this shift amplified many of the resentments against the tax, which thwarted each collection regime. She demonstrates that across the whole country, between Michaelmas 1662 and Lady Day 1664, an average of 77 per cent of the anticipated yield was collected. Eight counties managed a 96 per cent return, while the complexities of London house holdings limited it to 56 per cent. These variations were accompanied by delays in collecting arrears, so that in Hampshire, for example, the Lady Day 1664 payments were not received until seven months later in October. In Gloucester, the first payment in the same assessment was received in March 1666! These delays meant that in many counties the final accounts for each assessment were not resolved for many years. In Shropshire, the 1664–5 accounts were only finally signed off on 4 July 1683! This may have been in line with the normal capabilities of the early modern state, but it implies a degree of bloody-mindedness as well.

Part of the problem was the criteria for exemption, which had always been multiple, and to some degree inconsistent. This left scope for different parishes, assessors and justices to interpret the rules in a variety of ways. Dr Parkinson also suggests that there was a widespread recognition that the first assessment in 1662 had been too strict, and needed to be modified in practice. It was easier to collect from those who definitely could afford to pay, than it was to waste too much time chasing those who definitely could not. This analysis shows in considerable detail how the interpretation of exemption criteria varied county-by-county, often deviating from the statute norms, and even hundred-by-hundred within particular counties. The other issue was a wider reluctance among taxpayers to pay a direct tax that was imposed in perpetuity and (increasingly) collected by individuals originating outside, and unaccountable to, the localities in which they operated. This resentment was generally expressed in foot-dragging and evasion, rather than large-scale disturbances, although there were riots in the depressed weaving districts of Gloucestershire in the winter of 1665–6.

These issues are explained clearly and fully in this impressive volume. It is truly a national study, drawing examples from all over the country, and tabulating results that encompass most of the counties of England and Wales. It represents a formidable amount of work on the E 179 class in the National Archives, and it deserves to be accompanied, in due course, by a comparable volume on the years 1669–74. There is only one frustration – that a volume produced by the List and Index society should lack an *index* of its own! However that is a minor quibble. Instead it is far better to conclude by saying that this book is sufficiently important that anyone who wishes to use the Hearth Tax in any kind of historical study *must* read it before proceeding further.

H. R. FRENCH
*University of Exeter*

DONNA LANDRY, *Noble brutes. How eastern horses transformed English culture* (The John Hopkins University Press, 2009). 240 pp., 12 figs. £27.

A rum sort of world, that of the bloodstock breeder. Some years ago I listened to a group of Thoroughbred owners discussing bloodlines, and as the port circulated for the second time I made so bold as to raise the issue of meiosis and gene segregation. My interjection was greeted with a stony silence until one particularly choleric old gentleman snorted that while it was all very well to talk about meiosis in respect of *mice* (he emphasized the world contemptuously), horses were different! And it was ever thus. Noble beast or noble brute; the horse has long been perceived as being somehow superior to other creatures and therefore deserving of special treatment. If ignorance of and indifference to the basic facts of biology may pervade some sectors of today's bloodstock world, students of the history of the Thoroughbred horse have to wade through a miasma of lies, half truths and terminological confusion. It is a tale of mercantilist thuggery, thieving, appropriation, imperialist bullying, danger, huge expense, and excitement. But however controversial the precise genetic origins of the Thoroughbred, the creation of the breed itself was a very British affair, leaving in its wake a powerful and profound influence not only on art and connoisseurship, but upon the way in which the British, or more particularly the English, saw themselves.

*Noble brutes*, which is at once scholarly, original and provocative, reviews in some detail the changes in English riding styles and training methods as the manege gave way to the growing popularity of racing and hunting from the mid-seventeenth century onwards. As time went by, training methods came increasingly to emphasize the notion of partnership rather than forced submission which Professor Landry sees as a

metaphor for the governance of the post-Restoration state. Moreover, as racing and hunting demanded free forward movement and all that that implied for the riding seat, saddle and bridle, another powerful metaphor was forged. Freed from the shackles of *manège* riding with its 'foreign' show and trickery, the Englishman sped across country, controlling his mount with the lightest of hand. Consonant with contemporary developments in landscape gardening which emphasized the natural against the formal, free forward movement of horse and man stood for the liberty of the English gentleman and even, perhaps, for the flexibility of the constitution. The paintings of John Wootton, Sawtrey Gilpin and the great international masterpieces of Stubbs, not only celebrate the great horses of the day, but carry about them powerful political messages.

To achieve the necessary combination of speed, elegance and strength required for hard riding across country, the English needed horses of rather better stamp than the somewhat lumpen seventeenth-century native animals. Since the time of the Crusaders they had admired the desert Arab horse, which had originated in the Central Asian steppe and had been developed in various shapes and forms in the sprawling reaches of the decaying Ottoman Empire. These fast, thrifty and biddable animals had long been important elements in gift exchange, but between 1650 and 1750, numerous stallions were purchased or purloined by English merchants engaged in the Levant trade and shipped to the British Isles and the stables of aristocratic horse breeders. A dodgy and dangerous business, often carried out under the threat of arrest by the Ottoman authorities, the accumulation of oriental stallions allowed for the eventual creation of the Thoroughbred. Precisely *how* this was achieved is a matter of some controversy and is discussed in detail by Professor Landry, but the fact remains that the English Thoroughbred, that ultimate symbol of authority and power, was forged essentially from alien elements. What was to become an imperial icon and a symbol of British splendour arose from a blending of the blood of a bunch of naturalized foreigners! The lordly representatives of a fledgling empire had appropriated animals from an ancient and decaying Oriental empire to create their own icon and, incidentally, to found an entirely new and original school of landscape and animal painting.

The saga of the creation of the English Thoroughbred is underpinned by a single glorious irony. For all the talk of the 'purity' of the desert Arab horses in the seventeenth and eighteenth centuries and of the sacrosanct nature of bloodlines today, the Darley Arabian was probably one of the few genuine desert horses to have found his way to these shores, and even his ancestry was known only to a few Bedouins sipping tea in their tents. The fact was that the many stallions shipped from the various ports in Ottoman territory were just as likely to have been bred from Turkic steppe bloodlines in Anatolia as from the deserts of Syria and elsewhere. No one really knew the true origin of many, if not most, of the early stallions in what was to become the General Stud Book. Molecular biology might eventually settle the issue, but, for the present, the origin, or even the breed, of the root mares in the Stud Book is shrouded in obscurity. It could even be argued (perish the thought!) that English Thoroughbred horses, rather like the English themselves, are a mongrel race with the good fortune to have been nourished on the wholesome fare of this happy isle!

Donna Landry has produced a brilliant book. It is beautifully written, mercifully free of all but the slightest whiff of cultural theory, and includes a valuable critical essay on source material. She can occasionally be accused of stretching a metaphor too far, and I get slightly worried when she celebrates the 'rationality' of horses. I spend part of each day in the company of horses – Thoroughbreds to boot – and I am less than impressed by their rationality or, for that matter by '… a confidence in their own superiority, founded on myths of blood'. But none of this matters. Professor Landry has given us a fine contribution to equine, imperial and cultural history.

R. J. MOORE-COLYER
*Aberystwyth*

ROBIN STANES, ANDREW JEWELL and RICHARD BASS, *The husbandry of Devon and Cornwall* (Stanes, 2008). xi + 165 pp., 24 figs, 6 tabs. £8.50 incl. p&p from Deep End, Deepdene Park, Exeter, EX2 4PH.

In this handy little volume Robin Stanes draws together a lifetime's work on the husbandry of the south-west, with particular reference to Devon. Apart from two short pieces by Andrew Jewell on south-western ploughs, and Richard Bass on Devon's unique hedge banks, the book consists of six chapters by Stanes written between 1946 and 2008. Five of these have been published before, but they are mostly in sources which are not well known, or are not readily accessible. Stanes has unusual qualifications as an agricultural historian. With a degree in agriculture from Oxford, and a few years experience working on farms, he bought a 67-acre farm near Slapton in south Devon in 1952 and farmed it for 15 years before taking up school teaching and historical research. His experience as a 'hands-on' working farmer thus gives him a rare insight into writings on agricultural history.

The earliest chapter in the book is an edited version

of the 'A Georgical account of Devon and Cornwall' written by Samuel Colepresse in 1667 and published in the *Transactions of the Devonshire Association* in 1964. In it Colepresse attempts to answer some questions about farming in Devon circulated by the Royal Society. Colepresse was a clergyman who may have farmed his glebe near Plymouth and he seems fairly knowledgeable about the ley farming system in Devon, but it is disappointing that none of the questions he was asked concerned livestock or dairying, which were probably the mainstays of south-western farming.

The next chapter is 'Devon agriculture in the mid-eighteenth century: the evidence of the Milles enquiries', first published in *Exeter Papers in Economic History* in 1969. Although a relatively short chapter, the analysis is based on a great deal of work, for the Rev. Jeremiah Milles, who was Precentor, then Dean of Exeter from 1764 to 1782, proposed to write a history of Devon and sent a vast questionnaire, including questions about farming, to the clergy of 450 parishes, of whom 257 (57 per cent) replied between 1747 and 1756. This produced some interesting maps, about such issues as the use of lime (widespread in all areas of Devon except Dartmoor) the production of cider and the colour of cattle as well as much else. The replies about cattle colour were most surprising – they were almost universally black. This indicates that the famous brown and red breeds had hardly developed before about 1760.

In 'Landlord and tenant husbandry covenants in eighteenth-century Devon', published in *Exeter Papers in Economic History* in 1981, Stanes shows that contrary to Habakkuk's belief, covenants were increasingly introduced to ensure that farmers kept good rotations and manured their land properly. This was based on a sample of some 340 leases.

In *Uffculme. A peculiar parish: a Devon town from Tudor times* (1997) Stanes had a unique opportunity to look at Devon probate inventories, for being a 'Peculiar' Uffculme's inventories survived the 1940s air-raid that destroyed the rest of Devon's inventories. The 179 surviving farming inventories show a pattern of small farms very similar to those in Cornwall.

The book ends with two pieces based on Oliver Cromwell's famous remark of 1658 'I have been in all the counties of England and Devonshire husbandry is the best', in which Stanes shows why he thinks this was so. It is good to have this compilation of Stanes' long career as an agricultural historian in one book, and at the reasonable price of £8.50 it should appeal to those with an interest in farming history in general as well as of the south-west in particular.

MICHAEL HAVINDEN
*University of Reading*

GEOFFREY BALL, *Land, agriculture and industry in north-west Essex. Spotlights on a land remembered* (Saffron Walden Historical Society, 2009). 85 pp., 41 illus. £7.50. Available from the Hon. Editor, Mrs. Jacqueline Cooper, 24 Pelham Road, Clavering, Saffron Walden, Essex, CB11 4PQ.

It is ironic that, although Essex has featured so heavily in a wide swathe of economic and social research, its agrarian history remains overshadowed by that of Suffolk and Norfolk. This has been partly a matter of sources (fewer great monastic or landed gentry estate records), and partly because other themes (such as the cloth industry and the growth of London) have overshadowed agricultural subjects. As a consequence this book is a welcome addition to the stock of knowledge on the county's agrarian economy and society over the last 400 years. More particularly, though, it is of special interest because it deals with a significant, but often overlooked portion of the county, the north-west. This area, extending from the Cambridgeshire-Hertfordshire border, through its hub, Saffron Walden, and encompassing the three small Hundreds of Clavering, Freshwell and Uttlesford, represented a small corner of the 'Midland' open-field sheep-corn, chalk-belt husbandry in a county renowned since Tusser for its clay-bound farming in 'severalty'.

Geoffrey Ball's essays provide a concise, but incisive and detailed illustration of this agrarian region. They are strengthened considerably by the author's own experience of the farming economy of the region in the late twentieth century, and his ability to understand and explain historical farming and rural industrial techniques from a practical viewpoint. This means that the overall impact of the work is greater than the sum of its parts. The parts themselves consist of seven short essays, linked more by their common concern with various aspects of the area's rural life than by any overt thematic unity.

The first four essays cover aspects of farming in the area, beginning with a brief overview of open-field cultivation around Saffron Walden, and followed up by three very interesting farm histories, of the Home Farm at Audley End, Horham Farm at Thaxted, and Mitchells Farm in Little Walden. These three studies provide interesting contrasts. The voluminous home farm records provide a very detailed picture of production for the 'big house' in the mid-nineteenth century. The study of Horham Farm concentrates on the inventory of the goods of its owner, Mary Buttle, particularly the evidence of continuing large-scale cheese production by this single female proprietor. The history of Mitchells Farm is more ambitious, giving a series of snapshots of its cultivation over four centuries, with particular emphasis on acreages, rents, and buildings after 1750.

The subsequent chapters are also useful in locating this farming activity within the wider agrarian economy. North-west Essex was well known, from the eighteenth to the mid-twentieth centuries, for the production of malt for the London market, an industry that has subsequently disappeared, its buildings subsumed into housing developments. The chapters on the malt trade and its effects (notably the plan to build a canal linking Saffron Walden to the Great Ouse, and ultimately to the Wash) provide an insight into one half of the sheep-corn equation. The final, longer chapter on the area's woollen industry supplies information on the other half, particularly the Norfolk sheep and the carding and combing of their wool that predominated in the area.

This is a restricted study of a particular region. However, its insights are very valuable, and they demonstrate the author's painstaking research, his eye for detail, his ability to set these facets in both a wider economic and social context, and his understanding of the practicalities of these processes. As such, it should certainly find its way onto the shelves of those interested in the agrarian history of Essex, and of those interested more broadly in the histories of East Anglia and lowland farming in the last five hundred years.

H. R. FRENCH
*University of Exeter*

WILLIAM D. RUBINSTEIN, *Who were the rich? A biographical directory of British wealth-holders. Volume One, 1809–1839* (The Social Affairs Unit, 2009). vi + 516 pp., 3 tabs. £20.

Professor Rubinstein is the doyen of academic researchers in the much neglected area of British wealth, a subject normally abandoned to the print media. Even in that area he has been seriously influential, partnering Dr Philip Beresford at the *Sunday Times* to give Dr Beresford's extraordinarily popular annual Rich List deep roots in British history. In this work Professor Rubinstein commences the creation of an essential academic resource for those who wish to discover more about what manner of people created modern Britain in the early nineteenth century. The criterion he uses is a sum of £100,000 left between 1809, when data about wealth at death first appeared in usable form, and 1914. He uses data he has gathered from PROB 8, the National Archive collection of probate calendars at Kew. These mostly consist of the probate records from the Prerogative Court at Canterbury, the Prerogative Court at York and the probate records from the Episcopal Court of Chester, and of Richmond and those of Scotland dating from 1825. Professor Rubinstein points out that until 1858 the probating of estates in England and Wales was wholly a monopoly of the Church of England. In all, the 818 records in this book make fascinating reading. The base-line of £100,000, the modern equivalent of which would be £8 million, gives an idea of the people catalogued there. A typical entry is that for the Hon. Henry Cavendish, a famous scientist who never married and died in 1810 leaving £900,000 (£72m). Cavendish, like many of the wealthier testators recorded here, was high aristocracy. His grandfather was the Duke of Devonshire and his mother was the daughter of the first Duke of Kent. More typical of the group as a whole is Sir Francis Baring, a banker from Exeter who died, also in 1810, leaving £250,000 (£20m) probated, but a further £426,000 (£33m) in other forms. Despite these biographical details, it is quite astonishing just how many people then worth the equivalent of £8 million or more, particularly in London, where much mercantile and retail wealth was concentrated, are completely unknown to us today. There is much work here for future historians, and for those interested in how the wealth of the Empire returned to the UK. Many of the wills, such as that of Charles Snell Chauncey, who died in 1809, have led Professor Rubinstein to 'trade with the West Indies and estates in Grenada and St Vincent' which in turn leads to slavery, which is never mentioned even though not abolished until 1833. In an amusing note on the difficulties he encountered in trying to read the clerks copies of wills, known as 'copywills' Professor Rubinstein writes that 'The first time I tried to read one [a copywill], at Somerset House, where they were kept at the time, I assumed at first glance that they were in Arabic and were the wills of British Levant merchants'. There are many forward references to the Return of Owners of Land, and to Bateman's 1883 summary of that great work, which are used to indicate where the wealth left in the early 1800s may have gone, and to try and make up for lack of other references in any other place to the life of the deceased.

The book is mainly for scholars and academics, but should be of special interest to all economic historians and social historians and to people interested in genealogy and social history.

KEVIN CAHILL
*Exeter*

DAVID NEAVE and SUSAN NEAVE, *A history of the County of York: East Riding* VIII, *East Buckrose: Sledmere and the northern Wolds* (The Victoria History of the Counties of England, Boydell Press, 2008). xvi + 284 pp., 94 figs, 30 tabs. £95.

The latest addition to the long running VCH *East Riding* covers nine parishes in the northern Wolds, a remote and rural corner of the county today characterized by large arable fields, straight enclosure roads and broad

sweeping vistas. This is the first of the East Riding 'red books' to benefit from the recently revised VCH format and the inclusion of an introductory essay. Organized chronologically, the introductory chapter opens with a detailed overview of the archaeology of the region which makes good use of the published literature, a recent aerial photographic survey and the findings from the long-term excavations at nearby West Heslerton and Wharram Percy. Less is said about settlement and agriculture in the medieval and early modern periods, although the authors briefly touch upon wider debates about the date of the region's planned villages and the impact of William I's 'Harrying of the North'.

Yet, as elsewhere in the volume, David and Susan Neave's great strength lies in their research and analysis of the later period. The eighteenth and nineteenth centuries were a key period of change in East Buckrose, when the open fields were enclosed, sheep-walks and rabbit warrens converted to arable, new isolated farmsteads constructed and village houses, schools and churches rebuilt. By far the most important figures in these changes were the Sykes family of Sledmere, prodigious improvers who, according to an inscription in the village, transformed 'a bleak and barren tract of country [into] one of the most productive and best cultivated districts in the County of York'. The introductory section on the Sykes family is one of the most readable and engaging in the book, and an excellent outcome of the VCH's decision to talk about people as well as places.

The rest of the book is made up of the parish entries. Here the basic structure of the earlier volumes is retained, but additional sub-titles make individual chapters easier to navigate – surely a plus for those less familiar with the VCH way of doing things. There are also useful new sections on local politics and religious history, the latter offering a far less cursory discussion of non-conformity than was present in the older volumes, as well as longer entries on settlement layout, which – like the introductory essay – help to place the villages in a longer historical perspective. Perhaps most importantly, each of the parish entries includes a new section on its buildings covering the parish church, village houses, non-conformist chapels, and distinctive 'Sykes' farmhouses, farm buildings and schools. Each of these sections is well illustrated with plans and elevations from the archives, and modern and Victorian photographs, many of them taken by the Sledmere schoolmaster Henry Thelwell (1844–1923).

Overall, this is an important addition to the existing corpus of work on the historic East Riding. The 50-page introductory essay is a valuable attempt to offer a more interpretative perspective on the information presented in the individual chapters, although there is necessarily some repetition of material between the parish entries and the introduction, which is at times a little 'fact-heavy'. This notwithstanding, the new-style VCH *East Riding* will surely prove itself useful not only to academics, but also to the legion of local, family and community historians in the county.

BRIONY A. K. MCDONAGH
*University of Sussex*

HENRY BUCKTON, *The lost villages. In search of Britain's vanished communities* (I. B. Tauris, 2008). vii + 246pp., 77 illus. £20.

Readers of this book will look in vain for references to the long-lost settlements identified and described some fifty years ago by Maurice Beresford and others since it deals only with those communities which met their end during the twentieth century. The author, who claims his production to be 'an exercise in social history', offers a series of pen portraits of deserted villages from St Kilda to North Wales, from Lancashire to Cornwall, from Pembrokeshire to Dorset and from Montgomeryshire to Devon. People are driven from their homes by geological accident, industrial decline due to exhaustion of mineral reserves, flooding for reservoirs, demand for land in the interests of national defence and, in the case of several remote Scottish communities, what seems to have been sheer exhaustion.

Skipping along like a fly over summer water, Buckton leads us from places like Clicket in Exmoor, (whose name, he chastely reminds us, 'refers to the copulation of foxes') through Imber in Wiltshire, requisitioned by the military in 1943, via the Tryweryn valley in Montgomeryshire, (stolen from the people to provide water for Liverpool in the 1950s), to the tiny island of Mingulay in the Outer Hebrides which was finally abandoned in 1912, eighteen years before the grimly austere folk of St. Kilda turned their backs on their bleak and treeless homes. In telling the tale of each community, Buckton relies substantially on oral reminiscence and residually on websites and a few 'popular' local books and pamphlets. He manages, for example, to relate the rather tragic tale of Tyneham on the Isle of Purbeck without a single reference to Patrick Wright's celebrated *The village that died for England*. This apart, there is nothing inherently wrong with Buckton's approach, although to call it 'social history' is a step too far. While recording the recollections of residents of these places may be a valuable exercise in itself, 'social history' demands some sort of analysis, some attempt to get to the bottom of what is really meant by the 'close bonds', village 'spirit' and 'sense of community' and kindred phrases which crop up throughout the text. Why, when faced with the loss of their homes, did some communities meekly accept their lot while others

showed some spine and raged against the dying of the light? If life in Marwellham in the Tamar valley was 'more about survival than enjoyment', folk were probably only too glad to leave when the minerals ran out in the early twentieth century; likewise the wretched miners at Dylife in the wastes of upland Montgomeryshire, most of whom 'died tragically young' from the effects of lead poisoning. Elsewhere in Wales, nationalist sentiment strengthened the backbone of the people to contest the seizure of land for military purposes by insensitive and unsympathetic authorities, and to react with no little violence against the flooding of the Tryweryn valley. The profound depth of feeling over this issue gave added stimulus to the nationalist movement of the fifties whose efforts were partially instrumental in moulding today's Wales.

Somehow, though, the English seemed to have shrugged their shoulders and accepted their fate, in much the same way as they unquestionably swallow the alarming lunacy regularly spewed out from Brussels today. Moorswater in Cornwall, Buckton tells us, has been wrecked by the dual cancers of industrial parks and motor cars. Why has this been allowed to happen in the name of 'progress'? Why do we stand back and allow our towns to be homogenized and surrounded with warehouses in primary colours stuffed with goods which none of us really *need*? Surely the time has come for the English people to stop this madness and concurrently to call a halt to the squandering of our land, the one *real* resource available to us.

If Henry Buckton's book causes readers to reflect upon these issues, he can probably be forgiven his liberties with Welsh orthography while the proofreaders of I. B. Tauris can be excused the seemingly slapdash approach to their craft that is exemplified in the production of this book.

R. J. MOORE-COLYER
*Aberwystwyth*

S. ANTROBUS, '*We wouldn't have missed it for the world*'. *The Women's Land Army in Bedfordshire, 1939–1950* (Book Castle Publishing, 2008). xv + 304 pp., 130 illus, 1 map. £16.99.

Using both words and images the author explores the development of the Women's Land Army in Bedfordshire in the Second World War. The text is based on personal memoirs collected through interviews and is illustrated with over 160 photographs. Antrobus's detailed account constitutes an informative insight into the topic which, until relatively recently, has received scant attention by historians. Drawing on a wide variety of primary sources and recent interviews by the author, this book provides an interesting and pertinent illustration of the wartime activities of the Bedfordshire WLA.

It explores in detail the way in which the state-directed food production campaign was undertaken at local level by the Bedfordshire War Agricultural Executive Committee and how it impinged upon the WLA. Individual chapters are devoted to issues such as recruitment and training, the variety of accommodation available for the girls, as well as parades and other major events. It should be commended for the concerted attempt it makes to differentiate between the experiences of the members of the WLA who lived on private farms and those who resided in hostels. The text also contains a diverse array of the recollections of individual girls during this period. The extensive collection of photographs provides a vivid insight into everyday life on the farm in addition to the many portrait photographs of the individual girls.

Although the book deals with the Bedfordshire WLA, it cannot strictly be regarded as a conventional academic book with a sharply focused central, all-embracing story to tell or view to argue. Instead, as the text constitutes an extensive collection of diverse memoirs, its merits should not be judged primarily, or even exclusively, by those ascribed to the more conventional historical study.

This detailed encyclopaedic account of the role of the Bedfordshire WLA constitutes an invaluable resource for local historians. It provides a comprehensive list of all the recorded members of the WLA, as well as résumés of the many detailed interviews the author undertook with members of this crucially important organization. The strengths of the book are provided by the meticulous way in which the author has tracked down details of the membership. A comprehensive alphabetical list of nearly 3500 maiden names will provide an invaluable source for family historians investigating land girls who worked in Bedfordshire between 1939 and 1950. In addition the author very astutely provides a website to enable revisions to be inserted. The time line in the book is also particularly useful in clarifying the chronological changes which took place during this period.

There are a number of relatively minor points of criticism; in particular, it would have merited contextualization of the work of the WLA in Bedfordshire compared with other regions. As Bedfordshire was a county distinguished by its market gardening activities as opposed to simply agriculture, these differences would have merited more detailed consideration. There is also a tendency to accept at face value contemporary accounts of the wartime achievements of the food production campaign which have, until recently, dominated our understanding. Incorporating, or at least acknowledging, the revisionist critiques which have recently emerged would have enhanced the level of analysis. In a similar way the overall contribution of

the WLA to the wartime transformation of Bedfordshire farming deserves more detailed evaluation. Nevertheless these weaknesses do not fundamentally undermine the value and relevance of this book.

This account will have considerable appeal not only to former land girls and their families in the locality, but also to a much wider audience.

JOHN MARTIN
*De Montfort University*

GILL CLARKE, *The Women's Land Army: a portrait* (Sansom & Company, 2008), 216 pp. £24.95.

The Women's Land Army has often been depicted as the 'Cinderella' service of the Second World War. As a volunteer civilian force, it was not recognized as a service organization and excluded from service gratuity schemes, medals and demobilization benefits. This marginalization was belatedly amended by the government in 2008 when DEFRA bestowed commemorative badges on the surviving members of the WLA in recognition of their contribution to the war effort. Gill Clarke argues in the introduction to her book that this neglect has also been perpetuated in academic circles. Her premise is that although the work of the WLA represented a 'vital contribution to keeping the nation fed' in both wars, 'the history and role of the organisation has been largely overlooked' (p. 8).

This book, like the exhibition it is based upon (held at St Barbe Museum and Art Gallery in Lymington, Hampshire in 2008), sets out to rectify this neglect by providing an insight into the history of the WLA and the artists and illustrators who portrayed them. It is divided into three main parts. The first part traces the emergence of the various organisations and societies that promoted women's work on the land in the First World War, leading to the formation of the WLA in 1917, which, at its height in September 1918 had placed 16,000 Land Girls in agricultural work. The second part tracks the reformation of the WLA in the summer of 1939 and, interweaving the life stories of the various women who served, provides an overview of the key duties and challenges they encountered. The final part provides biographical portraits of the leading artists and illustrators who have left behind a rich and varied representational account of the WLA including Evelyn Dunbar, Laura Knight and Randolph Schwabe.

As would be expected, this is a beautifully illustrated book packed with colour and black-and-white reproductions of a wide range of paintings, drawings, recruitment posters, cartoons and photographs. Some of these are well known but many have rarely seen the light of day since the end of the war. They provide a fascinating insight into the various ways the WLA was recorded and represented in both wars, from the sanitized and glamorized vision of agricultural labour promoted in government posters to the heroic and stoic women workers depicted in Schwabe's First World War paintings. They make this a delightful addition to any bookshelf. However I do have reservations. The book is aimed at a wide audience including students and researchers of art, social and cultural history and biographical studies, but such a broad brush approach may leave some readers unfulfilled as it provides neither an in-depth historical analysis of the work performed by the WLA, nor a critical assessment of the life histories of ex-Land Girls, and not even a thorough critique of the artistic representations presented. It terms of work on the land, Clarke argues that it is vital to recognize the diversity of experiences and prejudices faced by members of the WLA but glosses over many of these. Initial intolerance and rural conservatism was 'largely overcome relatively early on' in the Second World War. Work on the land was often arduous, isolated and monotonous but it was tackled with 'gusto' and was central to 'winning the Battle of the Fields'. This narrative of courage and endeavour largely confirms that produced in other popular histories of the WLA.

This book raises some interesting questions about the representation and meaning attached to the WLA. It provides a thorough account of the evolution of the service in both world wars, of its personnel, recruitment processes and training procedures. This, along with the visual images reproduced in the text, provides a useful and appealing introduction for a wide audience. However, the WLA still awaits a national academic study to stand alongside those already produced for women in the armed forces and munitions industry, which have so successfully utilized innovative methodologies to analyse the controversies wartime women workers provoked over class, gender, sexuality, and regional and national identity.

NICOLA VERDON
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C. JAMES and J. A. FITZGERALD (eds), *Of the land and the spirit. The essential Lord Northbourne on ecology and religion* (World Wisdom, 2008). xxiii + 249 pp. $19.95.

The writings of Walter Edward Christopher James (1896–1982) – better known as Lord Northbourne – are not especially well known, although historians interested in the early organic farming movement in Britain may know his 1940 book, *Look to the land*. Meanwhile those with an interest in the development of British agriculture after the Second World War may have encountered his name as provost of Wye Agricultural College.

A new collection of James's writings, *Of the land and the spirit: The essential Lord Northbourne on ecology and religion*, provides an opportunity to gain a taste of his views on a range of topics, including agriculture, spirituality and ecology as well as 'philosophical' questions, focusing on the nature of beauty, what constitutes art, the ageing process and how best to live with pain.

The first of *Of the land and the spirit's* five sections is devoted to James's writings on agriculture and includes four abridged essays taken from *Look to the land*, which was a key text for the early British organic farming movement. Indeed, the editors of this collection assert that it was James himself who coined the term 'organic farming', and one of the contemporary organic movement's most fêted writers, Wendell Berry, has penned the book's foreword.

Many of the arguments of early organic campaigners, including Gerard Wallop (Viscount Lymington and later Lord Portsmouth), Rolf Gardiner and Eve Balfour, are present in these essays, supporting Philip Conford's assertion that by the time the Second World War began the organic movement in Britain had developed a coherent set of beliefs and arguments. For example, James writes: 'The health of man and the health of his land are not two distinct matters … Farming is the external mechanism of human biology; it is an essential part of the process of nutrition' (p. 9). This was one of two key arguments explored by Eve Balfour in her *The living soil* (1943) and it is also an idea present in Wallop's writings of the period.

Excerpts from *Look to the land* emphasize James's and other organic supporters' idealism. Those who resisted the industrialisation of British farming dreamed of an agricultural sector driven less by finance and more by beauty and love of the land. James asks:

> Is farming merely a necessary drudgery, to be mechanized so as to employ a minimum of people, to be standardized and run in ever bigger units, to be judged by cost accounting only? Or is the only alternative to national decay to make farming something real for every man … and something in which personal care, and possibly even poetic fancy, counts for more than mechanical efficiency? Mechanical efficiency is all very well – it is good, but life can be sacrificed to it (p. 21).

The two final agricultural essays included in *Of the land and the spirit* were written in the late 1960s and mid-1970s and offer insights into James's understanding of and unease with 'modern' farming. According to his son, who contributes an introduction, James no longer saw himself as a supporter of organic farming when these pieces were written. Nevertheless, he eloquently articulates his concern about the way 'increasingly all natural rhythms are violated' (p. 57), admitting that 'I don't like pumping sheep full of drugs (though they appear to thrive on it); nor killing weeds with hormone sprays (they show every evidence of torture in the etymological sense of the word); nor forcing crop yields to the limit with chemicals' (pp. 59–60).

James's profound religious belief is clear, even if one chooses not to read the pieces that focus specifically on religion. Less obvious are James's racialist views, which he held at least for a time. However, a close reading offers some indication of these. An excerpt from *Look to the land*, written in the late 1930s, includes a discussion about various peoples (all non-European) who were alleged to have achieved perfect health through perfect nutrition. James writes:

> They may not have been endowed with the highest potentialities of the human race … [but] within the limits of their potentialities … they have attained … a state of harmony with their environment and with each other … We may flatter ourselves that our potentialities are higher than theirs: that is poor consolation if we allow ourselves to degenerate in peace or to be annihilated in war' (p. 11).

The introduction written by James's son, the fifth Baron Northbourne, offers useful snippets of biographical information. However, these are rather vague and require checking. Reference is made to James buying a farm in the 1920s with a 'rowing friend' from Oxford but 'when the recession struck they sold out at a loss' (p. xviii). No location or dates are offered. There is also mention of James following biodynamic methods of organic farming as manager of Home Farm on his family's estate during the interwar period. He is also described as having been chairman of the 'War Agricultural Committee'. Given the complex structure of County War Agricultural Executive Committees (CWAEC), this is much too vague a description; my thanks to Brian Short for confirming that James was chair of two Kent CWAEC district committees and also sat on Kent WAEC's technical sub-committee. In May 1946, James became chairman of the county committee.

*Of the land and the spirit* is clearly designed to generate new interest in James as a religious and ecological thinker. For historians, this collection is more likely to offer insights into the role James played as an early organic ideologue as well as, possibly, raising questions about the ambivalence some members of the post-war agricultural 'great and good' may have felt about the industrialization of British agriculture.

ERIN GILL
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MARY YOUNG with Abernyte Heritage Group, *Abernyte. The Quiet Revolution* (Abernyte Heritage Group, 2008). Published by Perth and Kinross Libraries and Lifelong Learning, 2008. viii + 207pp., 16 figs, 3 tabs. £12. Available from Abernyte Heritage Group at www.Abernyte.org.

This book is a history of the parish and community of Abernyte, one of the smallest parishes in Perthshire, in the first half of the twentieth century. At that time, the parish was primarily an agricultural one, dependant on agricultural employment from the farms and estates; it was well served by local tradesmen such as the blacksmith and sawmill. It had a declining population (from 241 persons in 1901 to 192 in 1951), as the inhabitants were attracted by the better employment opportunities, higher wages and better prospects that Dundee could offer.

The focus of the book is an exploration of 'what made this small rural community, and how it faced population loss, economic depression, two world wars, massive social change and, in the abolition of parish councils, the removal of the immediate level of local government' (p. 1). Its chapters focus on the place, the people, the landowners, the community at work, at play and in need as well as at church during the significant period of change. All are themes that are vital to the understanding of a community and its development.

The book has the community at heart. Mary Young, the author, 'has long lived in the district, and has a familiarity with farming' (p. iii), while the Abernyte Heritage Group, which has collected extensive oral testimony from members of the community who lived in the area between 1900 and 1950, is the driving force behind the book. It 'has been written in the first instance for the people of Abernyte, past as well as present' (p. v). It has helped to shape the community: 'not least, it has fashioned links between those whose roots are in this beautiful corner of Perthshire and those who might be classed as "incomers"'. The community has gained a better understanding of itself: 'it is a glimpse of from whence we came and, in this fast changing world, we hope that it will help in the understanding of where we are' (p. v). It is a community venture by members of the community for the benefit and well-being of the community.

The book displays a sound understanding of the methodologies of local history. It draws on a wide range of sources of evidence, including the official records that would be normally used for a parish study. It also makes extensive use of personal testimonies from members of the community who lived in the area between 1900 and 1950; this is so important in bringing the parish and its inhabitants to life, which this book does so well. The book recognizes the need to place the parish within its broader regional, social and economic contexts (whether of the neighbouring parishes, eastern Perthshire, Perthshire or even Lowland Scotland as a whole) and its wider historical context, to understand how the community came to appear in 1901.

The book is an intimate and personal history of the parish of Abernyte at a significant period that has generally received little attention from rural and agricultural historians in Scotland. The parish is also located within an area that has rarely been discussed even within surveys of Lowland Scotland. It shows that, even within a small parish located some distance from the nearest town, there is much valuable evidence to be found of the everyday lives of ordinary folk.

Mary Young and the Abernyte Heritage Group have written and published a gem of a parish and community history. The book is well written (and very readable) and the research is expertly undertaken, displaying a sound understanding of research methodologies. It is illustrated with numerous illustrations of the people and their activities in the parish. The book is beautifully produced and attractive. It makes a valuable addition to our knowledge on rural Scotland in the first half of the twentieth century.

HEATHER HOLMES
*Livingston*

TOBY BARNARD, *Improving Ireland? Projectors, prophets and profiteers, 1641–1786* (Four Courts Press, 2008). 192 pp., 16 illus. £45.

By the standards of some recent books on Irish history – including Barnard's own – this is slight volume but one which is nonetheless replete with interest. The theme of the book – improvement – is approached from a number of angles. Barnard offers no precise definition of improvement, and what contemporaries thought it might be changed over time. It was a part of the otherness of Ireland – the very fact that it was not England – that meant that English observers and Irish landlords familiar with England could always see room for additional improvements and engaged in a sort of progressive catch up. In every generation there were some who reflected on how little had been achieved and how much more remained to be done.

*Improving Ireland?* falls into seven chapters of which four are, in essence, biographical studies. So we have Sir William Petty, surveyor, landowner, political arithmetician, a man so clever he was kept at arm's length by government. Then Richard Lawrence, who also arrived with the Cromwellian army, did well out of the turmoil of the 1650s and emerged as both participant in and commentator upon Irish affairs. A third chapter looks

at the development of the landscape of Lohort Castle in County Cork, improved and manipulated to prove the antiquity of both the castle itself and the lineage of the its owners, the Percevals, later Earls of Egmont. Finally we come to Robert French of Monivea in County Galway, improving landlord and farmer. The conclusion introduces further improving figures. A central chapter introduces the world of Irish history writing and publishing and shows how this too was tied to ideas of improvement. Here again, Barnard writes of aspirations unfulfilled, projects commenced but left unfinished.

In the sense of improving an estate, improvement was not rocket science. Contemporaries had a pretty clear view of what it involved: the foundation of markets and small towns, the development of industry, glass and iron in the seventeenth century, linen in the eighteenth, the draining of bogs and the improvement of land. Improvement normally implied the drafting in of Protestant tenants with superior farming skills. It was also the commercial exploitation of whatever was available although Sir James Caldwell's venture of selling barrelled eels in Dublin failed. By the mid-eighteenth century it included the provision of adequate roads: but whilst Barnard tells us of the discussion about the need for better communications, he says nothing of any action which followed. (An observer of 1729 thought it easier to import grain to Dublin from Egypt than from Roscommon or Longford.) The discovery was made in every generation that to secure even a modicum of success required resident landlords to drive matters forwards. In the seventeenth century there were those who were pessimistic about the prospects. By the mid-eighteenth century everything seemed possible. And yet improvers wrestled with intractable problems. There was the character of the Irish. Petty recommended sending the Irish to England and recruiting a new population from amongst the English. Robert French let rip in 1741 about his less satisfactory tenants:

> You know I never like such idle, vain persons … In short, we have the fate of meeting treacherous and ungrateful people. The girls are idle, slutty, gadding abroads [sic] and never spin a thread of yarn. [p. 146]

Hence his weaving project depended on recruiting weavers from elsewhere in Ireland. The second was the disabilities under which Catholics lived which some, but not all, recognized was retarding economic development. The preference for English, and if not English, at least Protestant, tenants was always strong. Even in the third quarter of the eighteenth century, there was a conviction that 'Ireland would prosper only when it had become a predominantly Protestant country'. The third was the way in which the English government never bought into the idea of Irish improvement but actively worked against the economic development of Ireland when it came into conflict with English interests. Of course, the hostility of the English allowed responsibility for slow and patchy progress to be blamed on others. Nonetheless, whilst much was achieved, contemporaries also worried about the shallowness of improvement's roots and the patchiness of its benefits. Robert French grew disillusioned with his commitment to linen when boom turned to slump in 1770. Another proprietor, Charles O'Conor, noted in 1786 a modest increase in his rent roll as a result of his exertions, but wondered whether his tenants had received any benefit. Others wondered aloud whether the increased prosperity had brought the landlords any moral benefit as a class: Barnard, always acute on consumption and sensitive to material culture, shows how siren voices feared too much luxury would lead to decay.

Barnard describes a handful of committed landlords who thought hard and struggled long to make a success of their estates. They are the antidote to any view which regards the Irish landlords as merely parasitic absentees. It is, though, a strangely inward looking book which makes no attempt to establish a British and Irish culture of improvement. Perhaps in England there was so much less to do, but examples of what Barnard describes can be found there, even if often earlier in time. Scotland surely offers a multitude of examples to parallel the Irish experience, although here, as in England, historians have perhaps been too ready to equate enclosure and the consolidation of holdings with improvement. But Barnard's book will be a central plank in any study of improvement as a common element within eighteenth-century British and Irish society, and for that reason alone deserves a wide readership.

R. W. HOYLE
*University of Reading*

T. DOOLEY, *The murders at Wildgoose Lodge. Agrarian crime and punishment in pre-famine Ireland* (Four Courts, 2007). 286 pp., 24 illus. £14.95.

One of the many joys of living in Ireland is that bookshops in small provincial towns still tend to have 'History' sections populated with the works of academic historians. One of the ways in which both Irelands have managed to avoid the dismal UK situation wherein a solitary copy of Eric Hobsbawm's *Age of Empire* is often the token gesture beyond the 'coffee table' is through supporting innovative independent publishers. Arguably the very best of these independents is Four Courts Press, a Dublin-based publisher who has consistently managed to publish the work of historians of Ireland

attractively and at a reasonable price. In their ability – and willingness – to so do lies a lesson for many UK publishers. This reviewer then is happy to report that Dooley's book, the latest addition to the already rich historiography on Irish popular protest, continues Four Court's good work.

The murder of eight individuals by setting fire to Wildgoose Lodge, near Ardee, County Louth, on the night of 29 October 1816 has long assumed a symbolic centrality in the history of early nineteenth-century Ireland. Dooley's book though is rather more than the latest telling of a familiar story. As he recounts in the opening chapter, essentially an extended essay on the historiography and 'social memory' of the fire, all past accounts have singularly failed to locate the fire in the broader economic, political and social context. Moreover, so Dooley claims, past accounts have been decidedly partisan, mobilising the story for obvious political ends. These are bold statements that most historians would tend to avoid for fear of setting up straw men. Does Dooley avoid such pitfalls? The answer is – a partial – yes. Such is the thoroughness of his research that one is almost tempted to say that his book represents a definitive archival statement on the subject. But, no doubt, documents will be uncovered which add further layers to this most recent telling. Nevertheless, Dooley situates each twist in the unfurling tale and each individual actor's involvement in social, religious and political context. This is a work of considerable historical sensitivity. The downside of Dooley's approach is that at times the flow of the narrative is disrupted by contextual, but nonetheless somewhat tangential, asides. Do we need to know that two members of the all-Catholic jury at Thomas McCullough's trial in April 1818 would subsequently sit together as commissioners for the improvement of Dundalk Harbour? A more judicious use of footnotes would have eliminated this problem. Conversely, whilst the events of 29 October 1816 are effectively located in the local social and political milieu – a reflection of the continuing strength of locality studies in Ireland – Dooley is weaker on the wider context of Irish agrarian discontent. In part, this is a reflection of the fact that Ribbonism and the Captain Rock disturbances of the early 1820s still await systematic national analysis. It is also a reflection of the author's (untested) assertion that much agrarian discontent in the period reflected essentially local non-sectarian socio-economic tensions. This assertion is singularly at odds with what otherwise is a book remarkable for the fact that every contention and possibility surrounding both the fire and the subsequent arrests and trials is explored.

The conclusion offers a useful but somewhat impressionistic account of the subsequent resort to the tools of rural terror in Louth and the surrounding counties. It would however have added much to our understanding of the ways in which the fire and repression were mobilised by the poor and dispossessed if a more systematic survey was offered. Other than for the skilful, nuanced account of the fire itself and the subsequent trials, Dooley's greatest contribution to the historiography of Irish popular protest derives from his careful reworking of the evolving relationship between the local landowners and magistracy, the Dublin Castle authorities, and the London-based legislature. Any historian of Peel's later move to the Home Office would get considerable profit from reading *Wildgoose Lodge*. Indeed, Dooley's grounded narrative of a single episode of agrarian discontent sheds considerably more light, in the mind of this reviewer, on Peel's formative experiences than Palmer's voluminous *Protest and police in England and Ireland*. Historians of English popular protest would do well to remember though that, whilst the Swing quasi–insurrection resulted in the death of one protestor and nineteen executions, the burning of Wildgoose Lodge alone ended with eight individuals burnt to death and eighteen men hanged. Irish agrarian protest could be far more brutal than English protest and the authorities' response far less concerned with judicial procedure and precedence.

In conclusion, this is a superbly researched and well-written study of a much mythologized episode in Irish history. Some sensible editing and greater attention to the historiographical context of Irish popular protest would have most welcome but this does little to detract from a book for which both author and publisher deserve credit. I hope *Wildgoose Lodge* inspires other historians to return to Dooley's rural Ireland of the 1810s and 1820s for there is much work to be done.

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## Europe and Elsewhere

SCOTT M. EDDIE, *Landownership in eastern Germany before the Great War. A quantitative analysis* (Oxford University Press, 2008). xxiii + 278 pp., 28 figs, 138 tabs, 1 map. £65.

This is a book that very much does what it says on the cover. It seeks, successfully, to provide a quantitative account of the structure of large-scale landownership in the eastern provinces of Prussia between 1875 and 1914. This is a task rendered useful by the fact that Prussian statisticians collected census data on the units by which the land was actually worked (often so hard for agricultural historians to obtain!), but not on ownership, that is, how many of these units were held,

separately or in combination, by individuals. Eddie's remedy is to use 'address books', basically compilations produced from 1875 onwards on the holdings of the families and institutions in these *Junker* heartlands. We should note however that this picture remains partial: only landowners holding 100 hectares or more are investigated. Although the smaller properties were a vanishingly small proportion of those recorded in the address books, the address books themselves covered less than half of East Elbian land in 1882. This is a study of large-scale landownership.

The author provides an exhaustive demonstration that census data on farms cannot be used a proxy for ownership units, and notes variation in accounting of farms between censuses – a salutary lesson in the use of agricultural statistics. He provides an equally exhaustive account of method. One wonders if we really need to know that, 'the records were examined page by page', but the manner in which the results were achieved is certainly transparent.

The *Junkers*, unsurprisingly, are found to have owned a majority of the land of large states, but not greatest number, and they certainly held much less than half of the total land area. This is in line with findings more broadly across Europe, that the position of the nobility can be exaggerated, perhaps because of the relative ease of finding records related to them. Eddie finds relative stability in landownership among the greatest owners, and that the process of 'embourgeoisement' subsequent to Prussia's liberal reforms in 1807 had basically ended by the mid-1850s. Indeed the trend was reversed as non-nobles tended to withdraw from estate holding after 1890. A more novel finding is the extent of industrial activity on great estates, especially in food processing, and brickworks. Eddie concludes the book with a cluster analysis of land use in estates, where he expresses surprise at the relative unimportance of animal husbandry (i.e. pastures and meadows). But given this is a period of rapid expansion in the use of fodder crops, data based solely on land use criteria is perhaps not terribly useful for determining the economic orientation of landowners.

This is very much a book for the specialist. As the author himself states, much of the analysis is presented in 'excruciating detail'. Contextualization is brief, and there is very little consideration of agriculture itself, the role of tariffs, relating landownership to other sources of income, or wider Prussian economic development. Nevertheless it will be an essential port of call for those who want to know who exercised control over the land in East Elbia in the decades after unification.

PAUL WARDE
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ELIZABETH B. JONES, *Gender and rural modernity. Farm women and the politics of labor in Germany, 1871–1933* (Ashgate, 2009). xvi + 238 pp., 15 figs, 4 illus. £55.

In the last two decades or so historians have produced a growing body of diverse and inventive literature on farm women, be they hired labourers, farmers' female relatives, or farmers in their own right. This book on Germany, by a scholar based in the USA, is a welcome addition to the literature on farm women in the nineteenth and twentieth centuries. It is a case study of the state of Saxony in south-east Germany, an area dominated by small- and medium-sized family farms, and is set against a background of rapid industrial and social change, rural depopulation, war and its aftermath. The vast majority of rural women in the area continued to work in agriculture across the whole period of the study and they constituted a group who attracted much contemporary comment, criticism and commendation. This book sets out to analyse the roles and representations of women on family farms, why they assumed such significance in debates over national identity and security, and how women themselves reacted to, and often resisted, their situation.

The book is divided into five main chapters. The first explores farm women's work and agricultural politics in the years between German unification and the First World War, a period of great agricultural intensification and diversification. The urban demand for products such as meat, milk, eggs and butter meant the need for female labour increased as the numbers of men working in agriculture fell. The extra burden put on farm wives and daughters and also on yearly hired female farm servants (*Mädge*) was recognized by officials in the pre-war period but, as much of the work was traditionally categorized as 'women's work' on the farm, it was seen as part of their natural province. Chapter Two however moves on to show how some farm women, notably the *Mädge*, railed against their position, complaining of overwork and abuse, running away from their situations and taking their masters to court. A detailed analysis of these disputes is interwoven with an overview of contemporary pre-war debates about the increasing disinclination of rural female youth to work on the land and the potential disaster this drift from the land signalled for the German nation as a whole.

These debates escalated during the First World War and its immediate aftermath, with the panic over female labour resulting in a 'full-blown gender crisis' (p. 95). This is the focus of Chapter Three. The shortage of labour on the land, and the increasing movement of women into industry, led to criticism of farm women not fulfilling their national duty and resulted in two

state attempts to restrict the freedom of movement of agricultural workers, in March 1917 and March 1919. The failure of these sanctions led to fresh campaigns to reform farm women's work by a range of agricultural experts, rural social welfare reformers and state officials in the 1920s. This rationalization movement is analysed in Chapter Four. Recognizing the burdens placed on farm women, new standards of household and farm efficiency using new labour-saving devices and hand-tool technology were promoted through farming periodicals, home economics classes and agricultural organizations. This aimed to enhance the social and economic status of farm women by recognizing the importance of both their productive and reproductive roles, and thereby making the life of the farmer's wife more attractive to young farm girls. How far farm women themselves followed this advice is debatable and the lack of mains electricity and cash resources on small family farms meant the overburdening of women continued. This is reinforced in Chapter Five where it is shown that the continued strain on farm women, labour shortages in agriculture and the flight from the land became powerful metaphors for the disintegration of national life and the general failures of the Weimar Republic. This trope was used by a range of conservative agrarian political groups and led, in the late 1920s, to the growing political mobilization of farm women themselves, as they took part in a variety of activities such as petitioning, demonstrations and political meetings to air their labour grievances.

This is a fascinating study which utilizes a range of official, published and archival sources and is sensitive to the need to give farm women some space to speak for themselves (where possible) and not be seen merely as subjects of contemporary debates or bystanders in political action. It shows that there were numerous continuities in farm women's lives in Saxony across the whole period, with the centrality of female farm labour and the overburden on women as enduring themes. Although it is in essence a local study, its subject matter and arguments make it relevant to major themes in agrarian history and women's history, as well as German history, and I would recommend it to anyone with an interest in any of these areas.

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C. BARCIELA, *'Ni un español sin pan' La red nacional de silos y graneros* (Sociedad Española de Historia Agraria, 2007). 199 pp., 15 figs, 96 illus, 23 tabs, 4 maps. €22.

In the middle of the Spanish Civil War the nascent Franco regime first signalled its intentions to pursue an interventionist approach to economic and social affairs with the creation of a new body, the Servicio Nacional del Trigo (National Wheat Service). The SNT was originally conceived as a response to a 'wheat crisis' of fluctuating supply and prices, which became acute after 1932 when overproduction caused a downturn in the incomes of growers, and as a means to secure the support of Spain's numerically and politically significant cereal producers. Along with its successor organizations during the ensuing dictatorship, policies were initiated to control the wheat market in order to regulate supply and to guarantee prices and incomes to consumers and producers. This short book by an eminent economic historian charts the development of one of the most prominent strands of this activity in the creation between 1945 and 1984 of a national network of silos and granaries, under the slogan 'not one Spaniard without bread'.

As the author makes clear in the introduction, though the scale and the commitment of the dictatorship to the construction of such a network were unprecedented, the plans drew upon long-standing proposals for state-led measures to conserve harvests, prevent deterioration of flour and provide a reserve to meet periods of want or price inflation and deflation. Although plans for a 70-day flour reserve were drawn up under the democratic Republic, it was from foreign, Catholic and right-wing circles – including the future Francoist agriculture minister, Rafael Cavestany – that the dictatorship drew its own inspiration. Not surprisingly, the regime's predilection for economic autarchy in the 1940s and a limited liberalization in the 1960s, allied to its general favouritism towards producers and employers, was perfectly demonstrated in its policies. In a succinct section of the book, Barciela outlines the basic lines of policy towards wheat production, and eventually to cereals as a whole; from the launch in 1937 of the first policy document (*The wheat problem and national-syndicalism*) with its plans for 'totalitarian intervention' (p. 19) to the final denouement with a law of 1984 which re-established a free market in cereals in line with a new era of economic liberalism and political democracy. In between, the state directly purchased an ever-increasing proportion of the national cereal crop at set prices, matched by a corresponding storage requirement for grains and flour.

As a result 949 silos and granaries were created; the largest number in the 1960s and 1970s. The majority were new buildings in concrete but others were adaptations of existing structures, including existing granaries but also converted castles and señorial houses. A selection of photographs makes clear that many were purposefully monumental in scale, dominating surrounding

landscapes and serving as visual symbols of the regime and its policies. While Barciela touches on this physical as well as economic statement of 'progress' under the Franco regime (p. 10), he largely steers clear of such cultural considerations in a study strongly based on telling quantitative data that is usefully presented in a range of figures and tables. Likewise, tables, maps and graphs demonstrate the regional distribution of the network which naturally saw the majority of installations built in the wheat-growing heartlands of Castile, Extremadura and Andalusia. In two further sections, the author outlines the costs of building the network, which actually consumed a relatively small part of the total budget spent on agriculture, and on its final abandonment and dismantlement.

In Barciela's view the effectiveness of the network was mixed and varied over time, but was largely paradoxical in terms of stabilizing supplies and prices. The real need was clearest in the 1930s and 1940s when, '… the socio-economic circumstances of the country, made necessary the construction of a network of storage …' (p. 101), but also when the capacity did not yet exist. The rejection of a private solution was, the author suggests, technically and economically unjustified; yet the ideological assumption that a state solution was automatically preferable was not matched by performance, enabling an era of black-markets and scarcity of staples. By the 1960s and 1970s, when the network was largely completed, the need was less justified as problems of scarcity subsided. A more liberal market would have benefited consumers who were forced to pay higher prices for a staple than they should have done. Continuing the network became unjustifiable when protection of producers ceased to be at the heart of public policy and the needs of consumers became politically and electorally predominant. Alongside a very effective technical analysis, this book neatly demonstrates that the rise and fall of the state system of cereal storage mirrored in concrete form, in many ways, literally, the economic trajectory of Spain since the Civil War.

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P. LAINS and V. PINILLA (eds), *Agriculture and economic development in Europe since 1870* (Routledge, 2009). xix + 407 pp., 57 figs, 117 tabs. £85.

In the 1950s it was clear to development economists that economic growth was the result of industrialization; by the 1960s they were equally convinced that agriculture was central to the growth process. Nearly half a century of academic endeavour since then has produced much more evidence, and several new theoretical approaches, but little consensus as to the direction of causation between agricultural growth and growth in the economy as a whole. The more we know about what happened, it seems the less certain we become about why it occurred.

This is the context in which Lains and Pinilla have brought together sixteen other scholars from a dozen countries to examine agricultural productivity differences and the relationship between agricultural productivity and economic growth across Europe. In their introduction, the editors outline the way in which theoretical approaches to the role of agriculture in economic growth have changed. The only non-European contributors, Professors Olmstead and Rhode, also examine the insights and limitations of a variety of growth models produced by agricultural economists, and find most of them unsatisfactory, generally for want of testing against historical experience. Much of the remainder of the book therefore carries out this testing for the period since 1870, since, it is argued (p. 11), the 'single major event in regard to agriculture' over Europe as a whole was the rapid expansion of wheat exports to the continent after that date. A further chapter on world trade documents Europe's import dominance at the beginning of the twentieth century, when it took 75 per cent of all world food imports, and its relative rise as a food exporter by the end of the century. This implies that as European agriculture's contribution to the economy as a whole has declined, its output and productivity has increased. Broadberry, after comparing productivity levels in Britain and other parts of western Europe, demonstrates that economic growth was greatest in those countries that moved most rapidly out of agriculture, so that the principal contribution of agriculture to economic growth appears to be the release of labour to other sectors of the economy. Since most western European countries had less than five per cent of their labour forces in agriculture by the 1990s, where the figures in southern and eastern Europe were generally between 15 and 25 per cent, this suggests a core/periphery split, which is how the rest of the book is organized. In the core countries of western Europe (those analysed here are the Netherlands, Denmark, Sweden, Germany, France and Italy) the agricultural labour force had declined, on average, to about a third of the total by 1939, and so the chapters on these countries cover the period 1900–39. In most of the peripheral countries (Poland, Hungary, Spain, Portugal and Greece) much of this structural change was still going on after the Second World War, and consequently their histories are discussed up to the 1970s. In the case of Turkey, where the process is still going on, the discussion is taken up to the year 2000.

Each of the studies of individual countries examines this relationship between overall economic growth, agricultural output, and the level of inputs to agriculture, and especially agricultural labour. Many of the chapters also include estimates of total factor productivity in agriculture. The book has the expected virtue of one written by a collection of national experts, in that it brings together an enormous amount of up-to-date, extensively referenced, and carefully considered data. At the same time, it avoids the problem that often bedevils collections of essays, because the editors have been careful to ensure that each author covers more or less the same topics in a consistent way. The publishers, on the other hand, faced with a text mostly written by non-native English speakers, might have been more careful in their copy editing of an expensive book to remove some of the more obvious spelling errors ('dept-ridden agriculture' on p. 297) and infelicitous phrases ('the 1879 cereals bad harvest' on p. 213). A concluding chapter to consider the findings in detail would also have been useful. The editors do indeed summarize the main findings of each chapter in their introduction, and argue that the diversity of European experiences make generalizing difficult (p. 20), but, given the variety of theories and models outlined at the beginning of the book, it would have been useful to see some attempt to discuss them in the light of its empirical findings. Nonetheless, we should be grateful for what we have been given, which is a rich and fascinating collection that students will mine for ideas, data, and references, and researchers will ignore at their peril.

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SHUZO TERUOKA (ed.), *Agriculture in the modernization of Japan, 1850–2000* (Manohar Publishers and Distributors, 2008). 375 pp., 32 figs., 30 tabs. Rs 895.

This volume is covers the role of agriculture in the political, economic and social development of Japan from the late Tokugawa period (1603–1868) to the present day. It is divided into seven chronological chapters and has been written by four very prominent Japanese agricultural historians. It is a sad reflection of the waning of agricultural history in Japanese universities that one essay is published posthumously and two of the other three contributors are now emeritus professors. The volume as a whole makes a major contribution to understanding the trajectory of the Japanese economy since 1850 and complements recent work that emphasizes the enormous importance of traditional sectors certainly until the First World War.

The volume begins with a detailed survey by the editor, which summarizes the contributions and sets them into a wider context of patterns of development. The first two essays, by Kozaburo Kato on the distinctive features of Tokugawa agriculture and Keiji Ushiyama on agriculture in the Meiji period (1868–1912), emphasize how much of Japan's political, economic and social systems were profoundly shaped by feudal agriculture and its self-governing villages, and these first essays restate the importance of agriculture in Japanese political economy. Even in the mid-nineteenth century, 70 per cent of the occupied population was in agriculture and the peculiarities of the Japanese feudal system (with the feudal lords and their samurai warriors separated in the castle towns from the peasant farming community in the self-governing village) had encouraged the growth of a peasant commodity economy in which rice, silk and other agricultural products were exchanged for cash from the lords and samurai. The tensions between traditional and reforming lords and within an increasingly stratified peasant social structure spilled over into the growing crisis of legitimacy in the Tokugawa regime and helped shape the political settlement of 1868. The power of the feudal lords did not endure in the Meiji regime (1868–1912), not least because a land tax was the least problematic source of income for the new state and the feudal domains were abolished and private ownership of land recognized. Agriculture's role in Meiji Japan was no less important. The imperialist powers forced Japan to open its ports but the Japanese managed to produce enough rice to remain self-sufficient in food, and exported simple manufactures (silk and cotton fabrics) – produced by young female factory labour drawn from the countryside – or agricultural and marine products (tea, rice and camphor). Thus Japan earned a balance of payments surplus to finance imports of machinery from the developed countries while simultaneously increasing the commercialized sector of the economy. The need to expand the supply of rice, other agricultural products and raw materials from the 1890s, as Japan began to urbanize quite rapidly, was an important factor in the emergence of imperialist pressures in this period.

The next two chapters are the work of the late Yuichi Hayashi and cover the period from the First World War to the end of the Second. The First World War gave an important stimulus to Japanese heavy industry and helped create a growing military-industrial complex with a rapidly urbanizing population as rural-urban migration flows increased. However, agriculture remained by far the biggest employer (50 per cent of the occupied population in the 1920s) and tensions over high agricultural rents dominated political debates in the early 1920s. Like every other primary producer, Japanese agriculture suffered during the world slump of 1929–32 and the efforts of the state to cope with rural

poverty and agricultural distress formed part of the wider processes of centralized support and organization that marked an increasingly militarized society. Indeed, rural society formed the backbone of the Japanese army and its growing armaments industries from the later 1930s onwards.

The final three chapters deal with the period since 1945 and are all the work of the editor, Shuzo Teruoka. Chapter seven focuses on the land reform, giving tenants the right to buy the land which they had tilled at affordable prices. The US occupying forces insisted upon this measure to promote faster agricultural improvement and, with other measures, to create a more democratic political system. In the era of super-growth, Japanese agriculture made a powerful contribution by increasing output, especially of rice, while freeing labour for industrial and service sector employment. The accelerated rural-urban migration is but one part of this story, as Teruoka points out in chapter eight, in which he emphasizes the increasing tendency of farmers to seek part-time employment in non-agricultural occupations. The other important element in post-war agriculture has been the impact of trade liberalization from the 1960s, which has led to rising food imports and increasing problems in the countryside as the ageing agricultural workforce has been unable to prevent the abandonment of cultivated land.

In sum, this is a major contribution to the English-language literature on Japanese agricultural history. It sets agricultural developments firmly within their wider socio-political and economic contexts and provides an authoritative and convenient study of a sector that has been largely forgotten in the story of Japanese economic growth but which has played a critical role in that development.

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WILLIAM LOCKERETZ (ed.), *Organic farming: an international history* (CABI, 2007). xi + 282 pp. £75.

Despite its title, *Organic farming: an international history* is not a book that conforms to the conventions of history writing. Instead, this is a book of essays penned by key figures within the organic agriculture movement. In their highly-variable essays the authors discuss, first, how organic farming developed during the twentieth century and, second, how best to describe the current state of the organic sector. Essentially, *Organic farming* is an attempt by the organic movement to explain its own history and, thereby, to 'take stock'.

Of course, official histories and histories written by 'insiders' bring with them a host of problems, and in this respect *Organic farming* is no exception. Unsurprisingly, much of the book has a campaigning tone, with the authors assuming that readers naturally share their hope that organic food production and consumption will continue to increase, as it has done in many parts of Europe and North America over the last twenty years or so. However, the difficulties that arise from the 'insider' status of the authors are minor when compared to the richness of the fodder they provide historians seeking to improve their understanding of the nature of the organic movement and the reasons for its growing strength during the final years of the twentieth century.

The first few chapters of *Organic farming* attempt to chart the origins and values of the organic movement, as it emerged in Europe, particularly in German-speaking Europe and Britain. While some readers may disagree with a few of G. Vogt's more sweeping statements about the historical roots of organic farming, he is right to emphasize the differences between the way organic agriculture developed in Germany, Austria and Switzerland and its development in Britain. There were always links and co-operation between the two, but the German and English organic movements were nevertheless quite different beasts, and they remain so.

U. Niggli's chapter on 'The evolution of organic practice' offers valuable insight into the way organic farming techniques have changed over time, as the initial belief in 'the self-regulation of nature' gave way to a less idealistic approach and a more practical commitment to developing effective methods for the control of pests and diseases. Meanwhile, O. Schmid's chapter on the way in which organic farming standards were developed is an important introduction to an aspect of the movement that has, inevitably at times, become a battleground. Certainly, the decision to develop detailed standards for organic production in the UK was a controversial one, with pioneers such as Lady Eve Balfour initially opposed to such a move.

Throughout the book there is acknowledgement of the role played by religion and/or spirituality in the organic movement, as well as a useful overview by D. H. Stinner on the influence of dissident agricultural science on organic agriculture.

Growth in the organic food and farming sector has taken place, within the EU at least, thanks to 'official' support and financial assistance. One of *Organic farming's* greatest strengths is the comparative picture it paints of how organic policy and financial support has developed in different nations. S. Padel and N. Lampkin's chapter on governmental support for organic production and marketing within Europe not only describes the often contradictory impacts of the financial assistance offered by the EU, but it also serves to highlight how different

– not to mention much less comprehensive – the UK government's strategy to bolster the fortunes of the organic sector has been, compared to the strategies adopted by Denmark, Sweden, Germany and other European states.

In addition to brief organizational histories of key bodies, including the International Federation of Organic Agriculture Movements and a history of the UK's own Soil Association (written by Philip Conford and current Soil Association director Patrick Holden), there are also summaries focusing on the development and current state of organic agriculture in the USA, Argentina, Australia, Switzerland and Sweden.

It must be acknowledged that *Organic farming* is, by and large, not a beautifully written book. Nor does it offer a complete or coherent international history of organic agriculture. And it is too expensive. At £75 how many libraries, let alone individuals, will buy it? Yet these shortcomings do not nullify the book's strengths, which are its rich detail, its comparative approach, and its discussion of several long-standing, internal disputes that have beset the organic movement. All of these make *Organic farming* a highly-interesting read for historians of twentieth-century agriculture.

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# Conference report: The Society's Spring Conference, 6–8 April 2009

*by* Joe Barker

The Spring Conference met at the University of Northampton's Sunley Management Centre. An unexpectedly high attendance level meant that not all delegates were housed on site, with latecomers finding berths, as the President put it, in various 'haulks on the River Nene'. Following registration and tea, proceedings were initiated by Professor Richard Smith of the University of Cambridge, who presented a paper 'Assessing the relative efficacy of the English Old Poor Law: a rural perspective'. In this wide-ranging paper, Smith highlighted several ways in which the Old Poor Law ensured that England developed differently to continental Europe, particularly France. The Revolutionary government in France was amazed to learn that, in England, the per capita costs of poor relief were far higher in rural than in urban parishes; the reverse of the pattern found in France, where the provision of relief was essentially an urban phenomenon. Fascinating though this paper was, it will probably prove most memorable for the new 'yellow custard test', which will surely in future be applied to all maps.[1]

It was then time for dinner, when it became clear that this year's conference had all it needed to prove a greater success than in other years. There was a bar, and it was open.

The difficult after dinner slot was shared by Professor Matthew Cragoe of the University of Sussex and Dr Briony McDonagh of the University of Hertfordshire, who kept the post-prandial audience alert with an introduction to 'Enclosure and the Northamptonshire rural landscape'. Cragoe gave us some exciting insights into the impact of enclosure on the Church of England. He argued that the commutation of tithes accompanying parliamentary enclosure diffused anticlericalism in the countryside in two ways. First, by removing the regular confrontations between tithe-holding clergy and tithe-paying farmers – the source of much rural unrest – and, second, by endowing many clergyman with extensive landholdings, ensuring that their interests were closely entwined with those of their more substantial landholding or farming parishioners. McDonagh then looked in detail at some enclosures in Northamptonshire, focusing especially on those we were to visit on the next afternoon's field trip.

The following morning began with the new researchers' session. First, we heard Mary Carrick of the University of Hull, whose paper was entitled, 'Water and wood: aspects of water management in agriculture in the valley of the River Hull, *c.*1150 to the Dissolution'. This title did not do justice to the extent of the paper, which took us not only back to the Iron Age, but also across the Channel, where the Cistercian order was founded. This paper raised some exciting issues, providing a fascinating insight into the role of the Cistercians in spreading agricultural innovations, innovations that Carrick considers profound enough to constitute an agricultural revolution in the twelfth and thirteenth centuries.

We were then transported forward nearly 300 years and relocated to southern England by Samantha Shave of the University of Southampton, who spoke about 'Welfare provision under Gilbert's Act: the experience in southern England, 1782–*c.*1850'. Shave argued that although Gilbert's Act was only an enabling piece of legislation, it was far more widely adopted and significant than historians have allowed. In particular the ideas and methods advocated in Gilbert's Act were often adopted by parishes or unions of parishes without them specifically using Gilbert's legislation. It is pleasing

[1] A map of the country had been presented, in which areas were shaded in different colours, including yellow. The questioner was concerned that north-west England had been completely 'covered in custard', thus hiding several completely different 'puddings'. The speaker's defence was that the data had been aggregated.

to note that Shave had recognized the importance of the yellow custard test, and had incorporated a variant green custard methodology into her discussion of the geographic spread of Gilbert's Act parishes and unions.

The third paper was given by Abigail Hunt of the University of Lincoln, on 'The changing role of women as agricultural producers in twentieth-century Lincolnshire'. Hunt emphasized the important and varied roles that women have played in the county's agriculture: from the Women's Land Army of the First World War to the contemporary diversification of farming efforts, which include, we were assured, the making of ice cream. This paper was enlivened with the use of recordings of some of Hunt's interviewees. One of her female informants was able to confirm a suspicion I have long had – that washing-up is unlucky.

Following a restorative cup of coffee, Dr Ernst Langthaler of the Institute of Rural History, St Polten, Austria, kept us in the twentieth century with a paper entitled 'Seven long years in a short century: embedding the Nazi era in Austrian agricultural development, 1918–95'. Whilst saying that the Nazi regime did not mark a sharp break from earlier patterns of agricultural development, Langthaler did argue that many later twentieth-century developments were begun during the Nazi era: in particular, greater mechanization of agriculture and a focus on productivism. It was also interesting to see how farm sizes have grown in Austria through the twentieth century, although this was more of a post-war development than a direct result of Nazi policy.

After lunch we piled onto a coach and headed into the beautiful Northamptonshire countryside, the tranquillity of which was about to be disturbed by the arrival, in two of its villages, of 50 curious historians and a coach for which their streets had clearly not been designed. First we visited Pilton, from where we looked across the river at Lilford, before moving onto Wadenhoe, where we viewed the church and the adjacent motte and bailey. As well as seeing the two tiny parish churches we were treated to a discussion by Briony McDonagh and Professor Chris Dyer of the various man-made features over which we were walking. Having earned our refreshment we retired to the King's Head to help them continue their 25 year long celebration of the cream tea. We polished off all the scones, helped in no small part by several members who piled their plates high, whilst claiming that 'they are not all for me'. It was a lovely trip, and Briony McDonagh must be thanked and congratulated for organizing it.

The annual general meeting saw some important changes in the Executive Committee. Paul Brassley stood down as chairman; John Broad took his place, vacating the secretaryship, which was taken up by Nicola Verdon. The highlight of the delicious annual dinner was Professor John Chartres's presidential speech, in which we were introduced to the concept of Northamptonshire as a 'billowing' county, and reminded that it was the 270th anniversary of Dick Turpin's hanging.

Following the previous night's excesses, we were amply repaid for dragging ourselves out of bed the next morning by Dr Stephen Mileson of the University of Oxford, who gave a paper entitled 'Parks and communities in medieval England'. Mileson emphasized the negative impact that parks often had on local communities, which could lose prime arable land and vital areas of common, and even have their villages relocated. However, during questioning it emerged that there may have been some positive impacts of emparkment, as a well-maintained park ensured that crop-damaging deer were kept away from the village fields.

There was an exciting contrast between this and the next paper, by Dr Richard Follett of the University of Sussex. In his powerful 'Plantation economies in the American South: database design and southern US agricultural history', Follett introduced us to an enormous database, now available on the Internet, and the fascinating differences in the development of cotton and cane sugar agriculture in the southern United States. Of particular interest were the changes associated with the abolition of slavery, which in the cotton states lead to the break-up of plantations and the adoption of a sharecropping system, whilst in Louisiana the sugar plantations survived with continuing use of gang labour.

In the final paper of the conference, Dr Clare Griffiths of the University of Sheffield spoke about 'Facing the future of farming: agriculture and the 1945 general election'. In this paper Griffiths looked at a much ignored feature of Labour's historic landslide victory: their degree of success in rural constituencies. She considered the significance of the continuing perception of a 'Great Betrayal' at the end of the First World War, when the farming community was not rewarded for its role in victory, and the fact that in 1945 the rural community feared another betrayal at the hands of a Conservative government.

The conference concluded with thanks to Dr John Broad for organizing another excellent conference. The next Spring Conference will be held in Durham on 29–31 March 2010.