The AGRICULTURAL HISTORY REVIEW



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PART I

*

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Book Reviews

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Nature Conservation and the Agricultural Historian

By JOHN SHEAIL

At a time when both farming and wildlife conservation are very much in the news, it is particularly appropriate for the agricultural historian to look afresh not only at the issues raised by the Common Agricultural Policy and State aid to farming, but also more generally at the use and perception of the countryside. The traffic in ideas will not be entirely one way. Those topics of contemporary interest, which will benefit from historical insights, may themselves suggest further lines for the historian to investigate. A greater awareness of what is happening today may emphasize how little is known about the agricultural environments of the past.

I

Many members of the British Agricultural History Society are likely to be also members of a natural-history or nature-conservation body. There is a long tradition of association between the historian and naturalist. For many members of local societies and field clubs, an interest in any one aspect of the local environment has led naturally to another. In a remarkably early lecture on the geographical distribution of plant species (given to the Literary and Philosophical Society of Newcastle upon Tyne in 1819), Nathaniel Winch recalled how he had come across numerous plough ridges, covered with heath, well above the limits of cultivation in the early nineteenth century. He regretted that both the written records and oral tradition were silent as to when, and by whom, these 'wide and extensive moors' of the northern counties had been tilled.[1]

Some naturalists realized that the only way to understand the contemporary abundance and distribution of species was to reconstruct in their mind's eye the agricultural history of the area. At the turn of the century, James Trail used the maps available for Aberdeen since the mid-eighteenth century for that purpose. Whilst it was impossible to reconstruct the precise species composition of the vegetation from these sources, Trail believed that 'we may form what is probably an almost accurate conception of it from a knowledge of the original features of the surface, and of the plants that still grow in similar situations in the neighbouring parishes'.[2] Trail was among the first to develop an historical approach that has become increasingly relevant in gauging the extent of changes that have taken place in the natural environment and the need to safeguard species and communities for conservation purposes.

Early instances can be found of ecologists taking account of the historical factor when designating nature reserves. In a memorandum setting out the need for a scheme to preserve the South Downs, submitted to the National Park Committee in 1930, A G Tansley joined O G S Crawford, E Cecil Curwen and others in describing how the characteristic vegetation was affected not only by differences in soil, slope and exposure, but also by the length of time that had elapsed since the ground was last disturbed. Recent archaeological research had made it possible to distinguish areas which appeared never to have been under the plough from others which had been

[1] N J Winch, *An Essay on the Geographical Distribution of Plants, through the Counties of Northumberland, Cumberland and Durham*. Newcastle upon Tyne, 1925, pp 16–17.

[2] Anonymous, *James William Helenus Trail: a memorial volume*. Aberdeen, 1923, pp 57–98.

undisturbed since Celtic times, and from others that had not been ploughed since the Napoleonic Wars. In the words of the memorandum, 'the correlation of these facts with the changes of vegetation — a field of research which has scarcely yet been touched — will be of the greatest interest and should yield important contributions to our knowledge'.[3] The close affinity between the research interests of the ecologist and historian were further emphasized in an official report of 1947, recommending the creation of a series of national nature reserves and the appropriate statutory authority to administer them. In any proposed legislation, it was important to include the preservation of archaeological features in the general conservation and planning machinery.[4] An official body, the Nature Conservancy was established in 1949, with statutory powers conferred under the National Parks and Access to the Countryside Act of that year.[5]

Despite these pronouncements, ecologists remained slow to appreciate how far the activities of man had affected the distribution and abundance of wildlife in the past. It was not until the 1950s that Lambert *et alii* demonstrated that the Norfolk Broads, and their distinctive wildlife, occupied the excavations made by medieval man, digging for peat. Although the suspicions of those looking at the geology and vegetation of the Broads had been aroused, the direct historical evidence was lacking. As Godwin later recalled in the preface to the published monograph, it had been an historical geographer who had added the 'formidable and clinching evidence'.[6] Meanwhile, ecologists had begun to recognize the full impact of rabbit-grazing on calcareous grasslands and other communities. Following the outbreak of myxomatosis and almost total disappearance of rabbits in 1953–4, many tracts of closely-cropped turf had been covered with long coarse growth, scrub and incipient woodland. Not only did the character and management requirements of many nature reserves change, but ecologists were left wondering what such sites looked like before rabbits became abundant and commonplace. According to the historian, there had been no rabbits in England before the Norman Conquest.[7]

An important lesson was learned. Unless ecologists paid more attention to the history of the sites and communities which they sought to conserve, they ran the risk of making fools of themselves as scientists and as managers of land. It was, therefore, no coincidence that the term 'historical ecology' was first taken up in Britain in the conservation movement. By the 1960s, the ecologist had become very conscious of the fact that wildlife could not be left to look after itself on nature reserves, otherwise grasslands became wooded, and wetland sites became dry, and their original wildlife interest would be lost. The challenge was to find ways of sustaining that interest — and very often the most obvious course was for the manager of the nature reserve to sustain, re-introduce, or simulate the kind of husbandry practices pursued by the farmer or woodsman on the site in the past.

In developing the skills to manage wildlife for conservation purposes, the ecologist had much to gain from the resurgence of interest in agricultural and local history. In the first issue of *Agricultural History Review*, published in 1953, the Editor wrote of 'a very general awakening of interest in the history of the countryside'. Recognizing the far-reaching nature of the changes being brought about by 'the farming revolution of the mid-twentieth century', those in university departments, farmers, schoolmasters, craftsmen and other country-dwellers were

[3] National Park Committee, *Report*, Cmd 3851, 1931, pp 77–9.
[4] Ministry of Town and Country Planning, *Report of the Wild Life Conservation Special Committee*, Cmd 7122, 1947, pp 30–2.
[5] J Sheail, *Nature in Trust: the History of Nature Conservation in Britain*. Glasgow, 1976.
[6] J M Lambert, J N Jennings, C T Smith, C Green and J N Hutchinson, *The Making of the Broads*. Royal Geographical Society Research Series, 3, 1960.
[7] E M Veale, 'The rabbit in England' *Ag Hist Rev*, V, 1957, pp 85–90; J Sheail, *Rabbits and their History*. Newton Abbot, 1971, 226pp.

making determined efforts to investigate and record the past.[8] Not only were local historians devoting unprecedented energy to seeking out old maps and records, but they came to realize that the landscape itself was often the most important source of information in reconstructing past landscapes.[9]

It was not long before ecologists, looking at aspects of the management of wildlife for nature conservation, began to contribute to these studies of 'the making of the landscape'. Ecologists were able to demonstrate what historians had often assumed — the older a plant assemblage, the greater the number of species present.[10] There were clearly difficulties in predicting the age of an agricultural artefact on the basis of its contemporary flora, but the experience of many individual studies of the hedgerow suggested that this could often be achieved in respect of that artefact. A recent study of early-medieval organization in the Cotswolds has suggested that the species composition of hedgerows may offer the best evidence for studying sequential change in landscapes dating as far back as Roman times.[11]

II

The ecologist often seeks information on processes that are so gradual and complex that even today they can be monitored only imperfectly. In his seminal study, *Animal Ecology*, Elton stressed how the dispersal and interchange of plants and animals was 'on the whole a rather quiet, humdrum process', whether stimulated by natural processes or by human activity. Elton cited the example of the daily transport of four loads of thorns for fuel from Wytham Wood near Oxford (the site of large-scale ecological studies in the 1950s) to the nunnery at Godstow, a mile away, in the medieval period. As he observed, 'all this transport of dead wood about the countryside must have provided additional opportunities for the dispersal of many kinds of animals and some plants'.[12] It would be hard enough for ecologists to record all the implications of this type of traffic today; there is small chance of Everyman having left detailed accounts of such activities in the past.

Although the distribution and abundance of plants and animals would have been as artificial as the landscape in which they lived, early naturalists, agricultural commentators and topographers recorded the presence of comparatively few species. In his studies of former bird populations, Jones has written of how the information for any one locality or period is likely to be exiguous or non-existent. Most birds adjusted to 'shifting land-uses and farm methods far too subtly for their fortunes or fate to appear in the patchwork of early ornithological records'.[13] The temptation to extrapolate the presumed mix and density of birds and other forms of wildlife from modern information on habitat preferences, and from documentary evidence for farming practices in the past, can give rise to circular argument as to the functional relationships between wildlife populations and the natural environment.

The value of using as wide a range of source material as possible may be illustrated by reference to that available for reconstructing what happened on the site of the present-day National Nature Reserve of Holme Fen, following the drainage of the nearby lake, Whittlesea Mere, in the early 1850s. The lake was the most extensive in

[8] H P R Finberg, 'Editorial', *Ag Hist Rev*, I, 1953, pp 1–3.
[9] W G Hoskins, *The Making of the English Landscape*. 1955.
[10] Anonymous, *Hedges and Local History*, 1971, 36pp.
[11] E Pollard, M D Hooper and N W Moore, *Hedges*. 1974; R A D Cameron, 'The biology and history of hedges: exploring the connections', *Biologist*, 31, 1984, pp 203–8; R Reece, 'Continuity on the Cotswolds: some problems of ownership, settlement and hedge survey between Roman Britain and the Middle Ages', *Landscape History*, 5, 1983, pp 11–19.
[12] C Elton, *Animal Ecology*, 1927, p 148; C S Elton, *The Pattern of Animal Communities*. 1966, pp 53–4.
[13] E L Jones, 'The bird pests of British agriculture in recent centuries', *Ag Hist Rev*, 20, 1972, pp 107–25; E L Jones, 'Reconstructing former bird communities', *Forth Naturalist and Historian*, 6, 1981, pp 101–6.

lowland England, and the last of a series to be drained in the Huntingdonshire Fenland. The accounts written by the leading landowner in the drainage and reclamation scheme, William Wells, and by a contributor to the *Illustrated London News* describe how every effort was made to convert the bed and fringes of the lake, and the tracts of *sphagnum* bog, to arable use in the minimum time. The overriding objective was to grow wheat, the only crop able to provide sufficiently high returns to warrant the capital investment and offset the high drainage rates. The luxuriant vegetation of the formerly undrained fen was pared and burned, and a layer of clay was spread over the peat surface.[14]

The publications and manuscript material of contemporary naturalists suggest the environmental changes were both gradual and limited in extent. Significant changes had been taking place *before* Whittlesea Mere was finally drained. The last specimens of the Large Copper butterfly, *Lycaena dispar dispar*, were taken in the 1840s. In an article published in *Phytologist* in 1851, W T Bree described how 'cultivation had been gradually creeping on for many years past'. He found that some of the sites, where he had gathered bog and aquatic plants on a morning ramble in July 1840, were now in arable use, growing oats and barley. Some of the native species were growing with exceptional vigour in this transitional phase. Bree had never seen such large specimens of *Samolus valerandi* as those growing on land already broken up and sown with a crop.[15] A coleopterist wrote in 1855 of taking specimens from 'one of the few unburnt and uncultivated spots now remaining' between Holme and Yaxley. The survival of some unreclaimed tracts is implied by the comment of a lepidopterist in 1878 that Holme Fen was 'to some extent still unaltered'.[16]

The most detailed insights into the post-drainage environment may be gained from the day journals of the Marchioness of Huntly, a remarkable naturalist who made at least twenty-three visits to the 'fens below Yaxley' between 1880 and her death in 1893. Her journal for May 1880 records how 'I went on . . . to the uncultivated ground in the vicinity of what was Whittlesea Mere — explored for plants, of these many of the old ones remain although the land is gradually becoming dry from the continued drainage'. In May 1884, the Marchioness described a search 'over a rough uncultivated tract of which few pieces are left'. The marsh violet was found. In 1886, the Ordnance Survey carried out its first survey of the area at a large scale. It depicts tracts of rough pasture, scrub and plantations within a regular layout of drainage courses. It may have been within these areas that the Marchioness found, in 1886, '*Parnassia palustris* by the site of one of the ditches, a remnant of the old marsh times'. She included specimens in her herbarium, together with those of *Anagellis tenella*, collected in 1885. In another entry for June 1888, she noted,

> on through Yaxley to Holme and found some nice plants . . . *Carduus pratensis* [*Cirsium dissectum*], which I was not aware lingered still in the fens. It must be 40 years since I found it on the borders of Whittlesea Mere.[17]

These references in the Marchioness's journals, and the specimens in her herbarium, testify to the presence of refugia for wildlife in the otherwise reclaimed landscape. The extent of the refugia may be deduced from references to *Calluna vulgaris* and *Erica tetralix*. In August 1883, the Marchioness recalled how 'Beatrice [her daughter] picked handfuls of heather and

[14] W Wells, 'The drainage of Whittlesea Mere', *Journal of the Royal Agricultural Society*, 21, 1860, pp 134–53; W Wells, 'On the treatment of the reclaimed bog-land of Whittlesea Mere', *Journal of the Royal Agricultural Society*, 6, 1870, pp 203–8; C Bede, 'The drainage of Whittlesea Mere', *Illustrated London News*, 26 April 1851, supplement, pp 324–5.

[15] W T Bree, 'Recollections of a morning's ramble in the Whittlesea Fens', *Phytologist*, 4, 1851, pp 98–105.

[16] J F Dawson, 'Coleoptera. Notes on British Geodephaga', *Entomologists' Annual*, 2, 1856, pp 65–81; J Balding, 'Lepidoptera', in S H Miller and S B J Skertchley, *The Fenland*, 1878, pp 401–12.

[17] J Sheail and T C E Wells, 'The Marchioness of Huntly: the written record and the herbarium', *Biological Journal of the Linnean Society*, 13, 1980, pp 315–30.

said, "this is like Scotland", and in May 1887, she wrote of how 'Peggy [the pony] got a good run over the heather'. The story of the late nineteenth century may have been one of the gradual elimination of the last refugia of species, as part of the reclamation of the fenland and of the succession of any surviving fen pasture to scrub and woodland. It is possible to discern the extension of rough pasture and scrub on the revised edition of the Ordnance Survey maps, surveyed in 1902. By that time, several hundred acres of Holme Fen had become a game-covert; bracken, bramble and further birch were planted as cover for the pheasants and hares. Within these areas, some of the species characteristic of the undrained fen survived the twentieth century and were included in the land designated as a National Nature Reserve in the 1950s.[18]

III

As late as 1963, Jones and Tubbs were able to write of how comparatively little work had been carried out explicitly on the ecological history of Britain. In consequence, the all-pervasiveness of the human influence had hardly been explored. Their observation was made in a note published in *Nature*, drawing attention to the relationship of gorse (*Ulex europaeus*) to previously-cultivated sites in the New Forest. A survey of 1961 had revealed that about 8000 of the 37,000 acres of heath within the perambulation of the Forest were occupied by gorse. Further examination revealed that at least three-quarters of the total area of gorse occupied ground for which there was evidence of earlier disturbance, often in the form of cultivation.[19]

The national survey of areas of importance for wildlife, initiated by the Nature Conservancy in 1965, provided an important stimulant to identifying where and why the main types of natural and semi-natural communities had survived and developed. A total of 735 sites was included in an inventory of sites of national importance, eventually published as the *Nature Conservation Review* in 1977. Among the criteria considered for assessing the quality of sites, account was taken of diversity, rarity, fragility, typicalness, and recorded history. The existence of a scientific record of long standing added considerably to the value of a site, and could elevate its rating above that of a site comparable in intrinsic quality, but about which little or nothing was known.[20]

The value of an historical perspective was increasingly recognized during the promotion of the Wildlife and Countryside Bills and the formulation of policies calling for the protection of at least 10 per cent of the area of Britain for nature-conservation purposes. In justifying the extension of legislation and the reserves-acquisition programme, survey data were put forward to indicate how over 80 per cent of grasslands associated with chalk and Jurassic limestone areas had lost their wildlife importance since about 1940, mainly through conversion to arable. Over a longer time scale, almost 90 per cent of the 120 lowland 'raised bog' systems included in a survey of four regions of Scotland and northern England had been destroyed, according to comparisons made of Ordnance Survey maps compiled between 1850 and 1900, and series of recent air photographs. Half the remainder had been reduced to fragments of less than 25 acres.[21]

In order to identify major changes taking place in upland land use, the Department of the Environment, in consultation with the Countryside Commission, sponsored a study based on a sample of twelve study areas

[18] J Sheail and T C E Wells, 'The fenlands of Huntingdonshire, England: a case study in catastrophic change', in A J P Gore (ed), *Swamp, Bog, Fen and Moor. B. Regional studies*. Amsterdam, 1983, pp 375–93.

[19] E L Jones and C R Tubbs, 'Vegetation of sites of previous cultivation in the New Forest', *Nature*, 198, 1963, pp 977–8.

[20] D A Ratcliffe, *A Nature Conservation Review*, vol 1, Cambridge, 1977, pp 6–10.

[21] D Goode, 'The threat to wildlife habitats', *New Scientist*, 89, 1981, pp 219–23; Nature Conservancy Council, *Nature Conservation in Great Britain*, 1984.

of England and Wales, located within the 'less-favoured areas' of mountain and hill farming, as identified by the EEC. Four main types of vegetation were identified on the basis of visits to 1000 sites within these twelve areas, namely improved pastures (characterized by the presence of introduced species of high agricultural value, eg *Lolium perenne*), rough pastures (characterized by the prominence of such species as *Agrostis tenuis* and *A canina*, *Juncus* and other coarser species), grassy heaths (where coarse native grasses, such as *Nardus stricta*, *Deschampsia flexuosa* and *Molinia caerulea*, are dominant), and shrubby heaths. An attempt was made to correlate their distribution with differences in past and current land-use practices.[22]

A wide range of published and documentary sources was used to chronicle changes that had taken place in each study area. The evidence transcribed from Ordnance Survey maps and air photographs made it possible to distinguish three types of situation, namely farmland which had been continually under intensive cultivation, moorland fringe where an interchange between moorland and farmland (or forest) had taken place over the last 200 years, and, thirdly, moorland core, which appeared from the evidence to have been always under extensive management. Over the combined areas, about 16 per cent of the moorland had been directly affected by land use changes since about 1800. The main influence had been a loss of 9 per cent to forestry. Agricultural reclamation had affected 2.6 per cent of the total moor, but this loss had been offset by reversion from intensive agriculture to moorland on about 5 per cent of the moor. Whereas the rate of loss of moorland to forestry had increased markedly in the last decade, reclamation and reversion through agriculture were long-standing features of the landscape. Forty per cent of the reversions identified had occurred before 1885, and 60 per cent since then.[23]

Any detailed reconstruction of vegetation change must take account of the imperfections of the historical data, namely inconsistencies in the way in which rough vegetation was depicted on successive editions of large-scale Ordnance Survey maps, the infrequency with which these maps were produced, and the paucity of data on how the land has been managed since it reverted to moorland. Although the surveyors and draughtsmen of the Ordnance Survey were expected to distinguish areas of rough pasture from cultivated land, the ecologist, Charles Moss, found inconsistencies in the way they were depicted even on the same 'six-inch' quarter sheet during the course of his surveys of the Mendips and Peak District in the early 1900s.[24]

Fieldwork indicated that the reversion of land to moorland had followed the expected sequence of gradual change through rough pastures and grassy heaths to shrubby heaths from an assumed starting point of some form of improved pasture. What was unexpected was the very long period of time necessary for reversion to reach the shrubby stage on some sites. Although some had reverted to shrubby heaths within a period of forty years, others only developed heaths similar to the adjacent moorland core after more than 130 years (Table 1). The proportion of shrubby heaths on old, reverted sites was lower than on sites within the moorland core.

The sequence, tentatively interpreted from sampling sites which had reverted over conjectured periods of time, suggested that there was a fairly rapid initial change to rough pastures and grassy heaths, reflecting perhaps the deterioration of drainage,

[22] The study areas were Alwinton, Cheviot; Lunedale, North Pennines; Shap, Lake District; Bransdale, North York Moors; Heptonstall, South Pennines; Monyash, Peak District; Llanfachreth, Snowdonia; Ysbyty Ystwyth, Cambrian Mountains; Glascwm, Radnor Clun Forests; Ystradgynlais, Brecon Mountains; Lynton, Exmoor-Brendon Hills; Widecombe, Dartmoor.

[23] D F Ball, J Dale, J Sheail and O W Heal, *Vegetation Change in Upland Landscapes*. Cambridge, 1982.

[24] J B Harley, *The Ordinance Survey and Land-use Mapping*. Norwich, Historical Geography Research Series, 2, 1979, 89pp; C E Moss, *Geographical Distribution of Vegetation in Somerset*. 1907, 71pp; C E Moss, *Vegetation of the Peak District*. Cambridge, 1913, p 200.

TABLE I

The Percentage of Sites within Each Land-use Category Falling within the Respective Vegetation Groups

(numbers of sites shown in brackets)

Land Use History	*Vegetation Group*				
	Improved pastures	*Rough pastures*	*Grassy heaths*	*Shrubby heaths*	*Number of sites*
Moorland Core	1 (6)	13 (78)	33 (198)	53 (313)	(595)
Moorland Fringe: Reverted from Improved pasture					
before 1800	4 (1)	22 (6)	41 (11)	33 (9)	(27)
1801–1850	5 (1)	29 (7)	33 (8)	33 (8)	(24)
1851–1885	7 (1)	21 (3)	58 (8)	14 (2)	(14)
1886–1905	8 (1)	23 (3)	54 (7)	15 (2)	(13)
1906–1940	8 (2)	50 (14)	21 (6)	21 (6)	(28)
1941–1978	6 (1)	44 (8)	33 (6)	17 (3)	(18)
total	6 (7)	33 (41)	37 (46)	24 (30)	(124)
Moorland Fringe: Reclaimed from Rough pasture					
	47 (14)	37 (11)	10 (3)	6 (2)	(30)
Farmland	74 (165)	23 (51)	3 (6)	0 (1)	(223)

leaching of fertilizers, and growth of native species. There may, however, remain a tendency for sheep and cattle to continue grazing these areas preferentially, taking advantage of the residual effects of former intensive management. The effect of their cropping, and the return of dung and urine, may serve to sustain a higher circulation of nutrients, and thereby postpone still further what might in any case be a very slow development of the extremely acidic soil conditions required for the dominance of ericaceous shrubs.

Apart from the obvious interpretation that what man can change quickly takes a long time to restore by natural processes, there is a second implication, namely that the current vegetation may still be responding to changes in management that occurred decades or even centuries ago. Although much debate focusses on the absolute loss of moorland, changes of composition within the remaining moorland may be equally significant and long-term.

IV

It is not the purpose of this paper to set out an exhaustive agenda of research of interest to both the nature conservationist and agricultural historian, or to make detailed prescriptions of how it might be carried out. Three topics might, however, be cited, namely weed control, soil erosion, and the re-creation of grass swards. They illustrate how contemporary issues in the management of the environment might suggest fresh topics for historical investigation. Much of the relevant data may already be in the hands of the agricultural historian, in his pursuit of other lines of research.

Even some of the most persistent forms of wild-plant life, namely agricultural weeds, are becoming rare. In a survey of over a thousand fields, conducted by the Weed Research Organization in central southern England in 1981–2, a third of the winter barley and a quarter of spring barley were found to contain no weeds of any kind. Over 40 per cent of the wheat crop, and 65 per cent of the barley, were free from dicotyledonous weeds.[25] How well placed is the agricultural historian to gauge the novelty of the situation portrayed by these figures?

In her seminal work, *Weeds of Farm Land*, Winifred E Brenchley wrote of how 'much of the science of farming consists in the skilful use of methods by which the weeds

[25] R J Chancellor and R J Froud-Williams, 'A second survey of cereal weeds in central southern England', *Weed Research*, 24, 1984, pp 29–36.

are kept in subjection'. In a section on 'weeds and work', Orwin and Whetham alluded to the impact of weed control on crop yields and the cropping pattern of the following year. By attacking weeds in the autumn, the optimal time of the year, farmers could reduce the area of fallow, and sow catch crops instead.[26] All too many historical studies, however, still give the impression that the farmer's crops and livestock were the only living things on the holding. By continuing to overlook the incidence and significance of weeds in the past, such historians may be portraying an unreal world, very different from the one perceived by the farmer and his family.

Increasing concern is being expressed over the incidence of soil erosion on agricultural land. Data from Shropshire, and the Bedfordshire/Cambridgeshire border suggest a surface lowering of between 1.4 and 0.1 mm per annum — rates probably much higher than the amount of soil formed over a similar period by weathering. Studies in south Somerset have highlighted not only the differences in erosion arising from different cropping practices, but also from the methods of cultivation. Soil losses tend to be highest in fields with most wheelings, and where the crop is drilled downslope.[27]

The historian has long been aware of the incidence of dust blows in the fens and breckland, and has speculated on the scale of soil-abuse in the century, say, before the Black Death. The archaeologist has demonstrated the large-scale occurrence of erosion and alluviation following phases of woodland clearance and agricultural activity in parts of the Upper Thames valley and elsewhere.[28] There has been, however, comparatively little attention given to the more general incidence of erosion over the last few centuries. Whilst it is unlikely that many explicit references will be found to soil erosion in estate papers and other documentary sources, the reconstruction of land use for specific periods in the past may make it possible to speculate on the extent of erosion, using the soil erosion models being developed for studying the present situation.

The practice of conservation would be much easier if ways could be found of creating the species-rich communities, normally associated with old grasslands or heathland, over much shorter periods of time. Until recently, conservationists believed such a goal to be impossible. To the agricultural historian, the stance of the conservationist might resemble that of farmers in the early nineteenth century, who argued that many years would have to elapse before the sward of a rich pasture could be reinstated, once it had been broken up and ploughed. Not everyone, however, took so pessimistic a view. In his classic study, *Hortus Gramineus Woburnensis*, George Sinclair asserted that the long delay could be shortened considerably if farmers took a more active part in grassland husbandry. As Sinclair remarked, it was extraordinary that farmers should be content to leave it entirely to nature to produce the kind of grassland best adapted to the soil. In view of the fact that 'the whole art of cultivating plants is nothing more than assisting nature in the process of the growth of vegetables', it seemed an obvious step for farmers to devise ways of assisting nature in 'clothing the soil with its natural perennial grasses', so that it took only two or three years, instead of eight, ten or twenty years, to achieve that objective.[29]

If the relevant techniques were devised, there is no *a priori* reason why ecologists cannot create species-rich swards for amenity or nature-conservation purposes over short periods of time by introducing

[26] W E Brenchley, *Weeds of Farm Land*, 1920, 239pp; C S Orwin and E H Whetham, *History of British Agriculture 1846–1914*. Newton Abbot, 1964, pp 114–17.

[27] G J N Colborne and S J Staines, 'Soil erosion in south Somerset', *Journal of Agricultural Science*, 104, 1985, pp 107–12; R P C Morgan, 'Soil erosion measurement and soil conservation research in cultivated areas of the UK', *Geographical Journal*, 151, 1985, pp 11–20.

[28] M A Robinson and G H Lambrick, 'Holocene alluviation and hydrology in the upper Thames basin', *Nature*, 308, 1984, pp 809–14.

[29] G Sinclair, *Hortus Gramineus Woburnensis*, 1824.

species, either as seed into bare soil or as seed and vegetative fragments in established turf. In describing a series of trials designed to manipulate grassland communities in this manner, Wells has drawn attention to the value of studying the techniques and experience of farmers in the past, who converted 'plowed land into a delicate thick planted profitable Meadow'.[30] A reappraisal of the early writings on grassland husbandry, and the conversion of arable to grassland, might not only be of practicable value to the conservationist, but it could provide insights into how farmers in the past perceived and understood the relationships between productivity, species composition, and the environment.

V

One area where the agricultural historian may provide direct assistance to the conservation movement may be in explaining why the role of the farmer in preserving wildlife appears to have changed so markedly. Farmers were regarded traditionally as custodians of wildlife and amenity in the countryside — a role which they were keen to promote in the public mind. Over increasing tracts of countryside today, they are now regarded as the greatest single threat to wildlife. The striking change in public perception is puzzling to some farmers, who point out that wildlife has always been subject to change, prompted by shifts in the use and management of farmland. Wildlife can be expected to adapt and adjust to these changes in the same way as in the past. For their part, conservationists agree that there is nothing primeval about the plant and animal communities of the countryside — they are largely the outcome of millennia of farming operations. What is new is the intensity and extensive scale of farming activity. For the first time, farmers have the capacity to eliminate species and communities on a regional and national scale.[31]

The significance of these changes for wildlife conservation has been graphically displayed in the Somerset Moors, and most particularly on West Sedgemoor. Where conflict occurs over land-use priorities, the obvious response is to assess how far wildlife may be affected by drainage and other agricultural operations. What artefacts of the countryside are important for the conservation of wild plant and animal species, and how far is their protection jeopardized by farming and other activities? In seeking to answer these questions, the first priority is to plot the present-day distribution of wildlife. In a survey carried out for the Nature Conservancy Council, the plant life of 240 sites in the Somerset Levels was recorded in 1982 (with further surveys of a proportion of these sites in later years). Each site consisted of a ditch and adjacent fields. It was soon found that the main refugia for wild plant life were the banks of the watercourses — over half the fields in the sample had been ploughed, or their swards were treated with herbicides and fertilizers.

Two types of multivariate analysis were used to determine what features of the ditch were likely to favour particular kinds of species and plant community structure. The long-term effects of ditch cleaning and regular maintenance are to keep the ditch at the same stage in seral development. Species impoverishment is much more likely to occur where a ditch has become redundant (and where the cessation of management leads to the watercourses becoming overgrown by a very few species). Alternatively, it happens where the ditch becomes part of a much larger drainage system. Here, the ditch will probably be deepened, and the substrate of peaty ooze, the gently-sloping banks, and their associated plant life, will be removed.

[30] T C E Wells, 'The creation of species-rich grasslands', in A Warren and F B Goldsmith (eds), *Conservation in Perspective*, Chichester, 1983, pp 215–32; W Ellis, *The Farmer's Instructor*, 1747, pp 130–7.

[31] D A Ratcliffe, 'Post-medieval and recent changes in British vegetation: the culmination of human influence', *New Phytologist*, 98, 1984, pp 73–100.

The evidence obtained from fieldwork will provide a base-line from which future change may be monitored; further, but less complete base-lines can be constructed for periods of time in the past, based on the Flora published on a regional, county, or local basis since perhaps the mid-nineteenth century. If the records available for the Somerset Levels and Moors are collated, 101 species appear to have declined (of which forty-three have experienced a marked decline). Most species are associated with long-established pastures and high water tables. No more than thirty-two species have undergone an increase in status.[32]

The agricultural historian may have two kinds of contribution to make to such an appraisal. First, he can use the documentary and field data with which he is already familiar to indicate the presence and role of the watercourses and other features of the Levels and Moors in the past. If the ecologist uses his knowledge of plant life in the Moors today, together with the information provided by early maps, and manorial and estate records, he may be able to speculate on the kind of plant life that occupied the habitats depicted and described, and the degree to which the changing extent and juxtaposition of closes, furlongs, rhynes, and the sedgemoor may have affected species diversity. Data on the extent and degree of success of drainage schemes, attempted in the medieval, post-medieval, and more recent periods, may provide a perspective for assessing the rapidity and areal significance of changes taking place in the same valleys today.[33]

A second role for the agricultural historian might be to provide guidance as to how far the agricultural policies of the 1970s might be regarded as a break with the past. A report by the Minister's Agricultural Advisory Council on Soil Structure and Soil Fertility in 1970 had been highly critical of those farmers in the Somerset Levels and Moors who treated watercourses primarily as 'wet' fences for confining their livestock. If there was greater investment in arterial drainage, ditching, and under-drainage, the Council believed that about 130,000 acres (out of a total area of 146,000 acres) could be made suitable for arable cultivation. Since 1966, the scale of drainage work had increased by 10 per cent per annum in terms of the value of schemes.[34]

How far did these recommendations of the Advisory Council reflect a new dimension in the perception of the region? A rather different set of recommendations had been put forward by the Agricultural Land Commissioners in 1952. In a special study of the Brue Valley and Northmoor, the Commissioners had supported plans to eliminate summer flooding, and to reduce the incidence of spring and autumn floods, but they had urged that 'the present system of dairy farming with permanent pasture should continue to predominate the area'. Experience during and after the war had indicated that there was little advantage to be gained from 'any extension of arable cultivation'. In some senses, a greater affinity can be discerned between the report of the Advisory Council in 1970 and the sentiments expressed in a prize essay on the farming of Somerset, originally published by the Royal Agricultural Society of England in 1851. The latter emphasized the need to control water much more rigorously so as to ensure that it flooded and fertilized the peatlands when required, but was drained away as soon as the silt was deposited. Where this management regime could be achieved, skilful arable cultivation could lead to extensive areas of grass being broken up for wheat and mangold-wurzels.[35]

[32] R P Murray, *The Flora of Somerset*. Taunton, Somersetshire Archaeological and Natural History Society, 1, 1896; J W White, *The Bristol flora*. Bristol, 1912.

[33] M Havinden, *The Somerset Landscape*, 1981, p 158; M Williams, *The Draining of the Somerset Levels*. Cambridge, 1970.

[34] Agricultural Advisory Council on Soil Structure and Soil Fertility, *Modern Farming and the Soil*. 1970, pp 87–8.

[35] Agricultural Land Commission, *Land in the Brue Valley and Northmoor, Somerset*. 1955; T D Acland, *The Farming of Somerset*, 1851, pp 44–58.

More detailed comparisons of the perception of different regions at varying points in time may suggest that, while the farmer of today might be much more successful in achieving his objectives in land use and management, his perception of what is desirable may represent not so much a revolution in outlook as a resumption of what had become evident in some parts of the country during the period of so-called High Farming during the mid-nineteenth century, before the onset of the peacetime decades of agricultural depression that did not come to an end in the mind of the farming community until the 1950s. In that context, the kind of wildlife encountered on farmland during the post-war years represented not so much the outcome of a 'traditional' pattern of farming, but of a degraded system, when measured against the base-line of the 1850s.[36]

VI

The aim of this paper has been to illustrate ways in which the agricultural historian might contribute to knowledge on a range of topical issues in the nature conservation movement. Under his inspiration and guidance, it may become possible to construct further base-lines, from which changes in the rural environment can be monitored and assessed. It may become easier to explain how and why there has been such a dramatic change in the impact of farming on the environment over recent decades. An historical dimension may assist in finding optimal ways of sustaining or creating species-rich wildlife communities today.

Through collaborating with ecologists and others in the conservation movement, the agricultural historian may look anew at ways in which the farmer in the past perceived, understood and utilized the natural resources of the countryside. By participating in wide-ranging, current enquiries, including those related to habitat destruction and pollution, the historian will encounter plenty of opportunities to study particular localities and periods of time from a fresh angle. By responding to such openings for research, the agricultural historian will bring the fascination of his own subject before a wider audience.

[36] I am grateful to Dr E J T Collins, who drew my attention to a paper, 'Nature conservation in England: the historical perspective 1880–1939', which he gave to the International Congress of Agriculture Museums at St Riquier, France, in September 1984; E J T Collins, 'Agriculture and conservation in England: an historical overview', *Journal of the Royal Agricultural Society*, 146, 1985, pp 38–46.

Notes and Comments

WINTER CONFERENCE, 1985

Once again the Winter Conference of the Society was held jointly with the Historical Geography Research Group in the Institute of Historical Research, University of London. Professor P D A Harvey opened the proceedings with a useful survey of 'The Regions of Medieval England'. In a different vein Dr N Gregson examined some of the problems involved in 'Conceptualizing Agricultural Regions'. A paper dealing largely with abstract ideas about the nature of regions understandably stirred its audience. After lunch Dr E J T Collins presented a paper on 'Local and regional designs of edge-tools in England and Wales'. The conference was brought to an end with some examples of regional variation in nineteenth-century farming in a paper by Dr G Robinson on 'Agricultural Regionalization in England in the late nineteenth century'. The Society is grateful to Mr Phillips for organizing another successful conference and to the Director and staff of the Institute for their hospitality.

The next Winter Conference on the theme of 'Agricultural Censuses and Statistics' will be held on Saturday 6 December 1986 in the Institute of Historical Research, University of London. The organizer is Dr Michael Turner, Department of Economic and Social History, University of Hull, Hull HU6 7RX.

SPRING CONFERENCE, 1986

The next Spring Conference will be held at Seale-Hayne College, Newton Abbot, Devon from 6 to 9 April 1986. The excursion on Tuesday afternoon will include visits to some farms belonging to the Royal Duchy of Cornwall and will be introduced in a paper by Mr J W Y Higgs on Monday evening. On Tuesday morning Dr B M S Campbell will speak on 'The Geography of Seigneurial Agriculture in

(continued on page 44)

The Perception of Profit before the Leasing of Demesnes*

By DAVID POSTLES

One of the critical questions of the agrarian economy of the thirteenth and fourteenth centuries, is the performance of the seigneurial economy. From the late twelfth century, lords had begun to resume their demesnes in hand, to exploit them directly, rather than to continue to lease them to *firmarii*.[1] Direct exploitation persisted into the later fourteenth century, when there was a return in many cases to the leasing of demesnes.[2] The inducement to lords to engage in direct exploitation is therefore a central issue. Research into particular estates has attempted to face this issue. In many cases, however, the performance of the properties has had to be reconstructed. Reflections on 'profit' have necessarily comprised retrospective analyses — the historian's interpretation of 'profitability'.[3] For want of other information, this approach is entirely valid. An equally helpful method may be to try to recognize the lords' own perceptions of how well their property was paying. As long ago as 1965, P D A Harvey wrote perceptively: 'But, however reached, the figures are of value as showing what the College itself considered to be its profit from Cuxham.'[4] He was referring to the memorandum of the profit of the manor entered on the foot of the face of the manorial accounts of Cuxham. Perhaps only a minority of lords — or their auditors — added these statements of profit to the manorial accounts.[5] The purpose of this paper is to assess these memoranda from a small number of lesser and medium-sized estates, to attempt to show the lords' perception of the profitability of their properties.

The principles behind these *proficua* calculations were cogently explained by Eric Stone some twenty years ago.[6] He revealed the two calculations which might be introduced: the *proficuum manerii* and the more sophisticated *proficuum ganagii (wainagii) et stauri*. This paper is basically concerned with the *proficuum manerii* and its variants. Some attempt will be made to assess the nature of the calculation, building on Stone's research; to review the data from the selected estates, within the context of the various properties; and finally to draw some further conclusions about attitudes to the calculations.

* I am indebted to the British Academy for their assistance with a small research grant, which allowed me to undertake some of the research for this paper. For permission to use their archives, I am grateful to: The Queen's College, Oxford; the Warden and Fellows of Merton College, Oxford; the Dean and Chapter of Lichfield; His Grace, the Duke of Devonshire; Winchester College; Christ Church, Oxford; and the Dean and Chapter of Westminster Abbey. Above all, I am grateful to their respective archivists for enabling my research, in particular: Dr J R L Highfield, Mr J Burgass, Mrs J Hampartumian, Mr N MacMichael, Mrs E Nixon, Mr J M Kaye, and the staff of the Bodleian Library. Without committing them to the inadequacies of the paper, I must record my gratitude for advice at various times from: Dr E King, Professor P D A Harvey, Dr J Z Titow, Miss B F Harvey, Dr C C Dyer, and Dr H S A Fox.

[1] P D A Harvey, 'The Pipe Rolls and the Adoption of Demesne Farming in England', *Econ Hist Rev*, 2nd ser, XXVII, 1974, pp 345–59.

[2] R A Lomas, 'The Priory of Durham and its Demesnes in the Fourteenth and fifteenth Centuries', *Econ Hist Rev*, 2nd ser, XXXI, 1978, pp 339–53, suggests this tendency was not absolute.

[3] For example, recently, M Mate, 'Profit and Productivity on the Estates of Isabella de Forz (1260–92)', *Econ Hist Rev*, 2nd ser, XXXIII, 1980, pp 326–34; and, in the past, for example, Frances Davenport, *The Economic Development of a Norfolk Manor*, 1967, pp 43–4.

[4] P D A Harvey, *A Medieval Oxfordshire Village*, Oxford, 1965, p 97.

[5] P D A Harvey, *Manorial Records of Cuxham, Oxfordshire*, Historical Manuscripts Commission, JP 23, 1976, pp 56–7.

[6] E Stone, 'Profit-and-Loss Accountancy at Norwich Cathedral Priory', *Transactions of the Royal Historical Society*, 5th series, XII, 1962, pp 25–48.

I

The *proficuum manerii* was designed, in Dr Stone's phrase, to answer the question: 'how well is our property paying?' The objective was to assess the level of current profitability. The memorandum recording the statement would often be quite summary: *Proficuum manerii hoc anno xliiij.li. vij.s. iij.d.*[7] According to Professor Harvey, the memorandum is 'the last significant stage in the compilation of the manorial account', and 'perhaps the most interesting addition to account rolls at Stage 3'.[8] The memoranda collected together here derive from the estates of several lesser or medium-sized lordships: the estates of Merton College; God's House (Southampton); the Bishopric of Lichfield; Southwick Priory (Austin Canons); and Bolton Priory (Austin Canons). The memoranda are often very cryptic, and in many cases the brevity of the entries makes it impossible to re-work the nature of the calculation which lay behind the bare statement. It may be that the principles — as explained in the treatises from a few estates[9] — varied only little from one estate to the next, with the significant exception of whether or not the balance of the account was included in the calculation.[10]

Nevertheless, the memoranda do sometimes reveal something of the nature of the calculation. Principally, they divulge that productive investment would be added towards 'profit' or noted. For example, there is the reference to 40*s* for the new building at Gussage (God's House) in 1312–13, the costs of the new grange (1311–12) and new house (1313–14) at Werrore with Cosham (God's House), and the new grange at Hickley (God's House) in 1296–7. Similarly, at Hickley, marling was noted in 1295–6. In that same year, ditching contributed to profit on the grange of Bolton Priory at Cononley. Improvements were also included to profit on the estates of Oseney Abbey, although not consistently. In this respect, the memoranda reflect that lords were conscious of the value of investment in their estates, even if the general level of investment was low.[11] Equally, foreign expenses were credited to profit or noted. In the Hickley memoranda, the value of hay and forage sent for the stock at Southampton in 1301–6, is consistently noted. Similarly, hay bought at Gussage in 1308–9 for the lord's horses, was valued towards profit. At Werrore with Cosham, the keep of members of the convent was recorded in two years (1313–14 and 1314–15). The rationale behind this action was presumably that the value of these commodities would otherwise have accrued to profit, had it not been consumed in an extraneous expense. Conversely, foreign receipts were deducted or noted, as the three quarters of wheat received at Cononley for seed from the tithes of Carlton in 1295–6. The great question mark about these aspects — investment, foreign expenses, foreign receipts — is how consistently they were applied.

The calculations of Bolton, Beaulieu and Oseney allow a more detailed insight into the principles behind the calculation. The main components of the calculation were the liveries of cash to the household *and* the value of grain and stock delivered to the household or to other manors on intermanorial livery.

A further calculation — of unknown provenance, but mid-fourteenth-century — is slightly more refined than Bolton (*c*1296), Oseney (*c*1280), and Beaulieu (*c*1269–70). The sophistication of this calculation rests in the inclusion of grain remaining in the granary and the issue of livestock during the year, and the deduction of arrears. The latter especially was not considered in many other calculations. The author of this formulary,

[7] Leicestershire Record Office DG9/1954 (Beaumanor, Leics.).
[8] Harvey, *Manorial Records . . . Cuxham*, pp 56–7.
[9] See Tables 1–4.
[10] E Stone, 'Profit-and-Loss Accountancy . . .', p 29.
[11] R H Hilton, 'Rent and Capital Formation in Feudal Society', repr. in *The English Peasantry in the Later Middle Ages*, Oxford, 1975, pp 174–214; J Z Titow, *English Rural Society, 1200–1350*, 1969, pp 49–50; M M Postan, 'Investment in Medieval Agriculture', *Journal of Economic History*, XXVII, 1967, pp 576–87.

however, recognized that there were other possibilities: *Tamen aliqui discreti habent alium modum extrahendi verum valorem manerii.* Indeed, the author suggested other methods, including checking the current account with the extent and with accounts of previous years, as well as rules of thumb (such as grain yielding to the fourth grain for break-even, and the necessity of making £10 profit on every carucate tilled in the paragraph *De valore terre regula*).

A less refined effort was made a century earlier on the estates of Eynsham Abbey, before the Beaulieu, Bolton and Oseney calculations. For the manors of Stoke, Charlbury and Mickleton, the Abbey noted the issue of grain each year between 1256 and 1259. A standard price was then applied to each grain: 4*s* per qtr. of wheat; 2*s* 6*d* per qtr. of mixtil; 2*s* per qtr. of barley; 1*s* 6*d* per qtr. of *tramesium*; 1*s* per qtr. of oats but only 8*d* per qtr. at Mickleton; and 2*s* per qtr. of beans. An average was then calculated from the four years to provide the annual figure for profit with some of the costs of collection deducted: *Summa denariorum iiii libre xv solidi et sic subtractis de illa summa xxiiii solidos* [*sic*] pro conduccione et locacione hominum et carectarum et remanent lxxi solidi.[12]

Undoubtedly, however, the Oseney, Beaulieu and Bolton calculations represented the most widespread form of the application. The significance of the basic tenets of the calculation was that they recognized the value of the supply of the household as much as the proceeds from the commercial sale of produce, an important consideration on many lesser and medium-sized estates.

Two further problems should be considered before moving on to address the data. The first problem concerns the terminology, and relates to the use of the terms *valor* and *proficuum* (*profectus*). During the fourteenth, and especially in the late fourteenth, century, some baronial and episcopal estates introduced the calculation called the *valor*. This *valor* occurred in two forms: a *valor* for each manor appended at the foot of each manorial account; a central *valor* for the entire estate, compiled from the individual returns. Professor Davies, in an important article, suggested that these later *valores* were related closely to the decision to lease demesnes, in contrast with earlier profit calculations which had been produced for demesnes being directly exploited. The later *valores* thus comprised liveries of cash, mainly rents and farm (*firma*), whilst the *proficuum* was concerned with wider agricultural activity. Theoretically, the *proficuum* was concerned with current profitability; by the time of the *valor* a decision had been made irrevocably in favour of leasing.

The difference, however, was not quite so absolute. Some of the calculations of the early fourteenth century were called *valeur* or *valor*. The first Merton memoranda occur as *valet manerium*, and some of the God's House statements appear initially as *manerium valet*. On the Lichfield accounts, the statement is interchangeably *valet hoc anno* and *proficuum* in the late thirteenth and early fourteenth centuries. The Stubbington accounts in the thirteenth and fourteenth centuries have consistently *valet (hoc anno) manerium*, and in 1351–2, when the demesne was still in hand, *valor*. On the estates of Westminster Abbey, the term *valor* was used in the early fourteenth century for manors where the demesne was still in hand, as well as in the later fourteenth century for demesnes then at farm. At Hickley, moreover, the term *valet* was used when the profit calculation was re-introduced transiently in 1383–4, the demesne being then still in hand, although it had previously been leased. Other *valores* which were introduced in the later fourteenth century, applied to demesnes still in

[12] H E Salter (ed), *The Cartulary of the Abbey of Eynsham*, I, Oxford Historical Society, XLIX, 1906–7, pp 8–9; Salter, *The Cartulary of Oseney Abbey*, VI, Oxford Historical Society, CI, 1936, pp 184–207; Dom S F Hockey, *The Account Book of Beaulieu Abbey*, Camden Society, 4th series, 16, 1975, *passim*; D Oschinsky (ed), *Walter of Henley and Other Treatises on Estate Management and Accountancy*, Oxford, 1971, pp 470–1 (*Valor manerii*); for Bolton Priory, see Appendix 4.

hand in the 'Indian Summer' of the 1380s and 1390s. The *Valor* of the Worcester episcopal estates was initiated in 1391, when some demesnes (eg Bibury) were still in hand, and the *valor* included separate elements for grain, stock, wool, and 'the manor', similar to the Clare *valor* of sixty years previously. Ramsey Abbey embarked on a similar exercise as some demesnes recovered in the 1380s. The manor of Elvethall, which was held by Durham Cathedral Priory, was maintained in hand through to the sixteenth century, as a home farm for which a *clarus valor* was calculated between 1443 and 1514. One of the most remarkable examples of *valores* being employed for demesnes still in hand, was the Catesby *status maneriorum* of 1385–6, deriving from a small lay estate.[13]

A general tendency can therefore be observed. In the late thirteenth and early fourteenth centuries, a profit calculation would probably be designated *proficuum* or *profectus*, but the terms *valor* or *valet* would also be used. This is not unusual since the same terms (*valet* especially) had been used in other contexts previously, for example in Domesday Book, and even instead of a *summa* in some extents of manors. By contrast, most calculations in the later fourteenth century would fall under the rubric of *valor* — whether the demesnes were still in hand or, more often now, placed at farm. The change of emphasis in the use of the terms had coincided with a shift in the economic climate. By this time, the climate had altered so radically that many *valores* simply comprised cash liveries from manors now leased, although some still related to demesnes in hand. The increase in the use of *valores* in the 1380s and 1390s — the 'Indian Summer' — may have reflected a genuine effort of lords to assess again their policy towards leasing or direct exploitation at this critical juncture.

Some lords had attempted to address this important question at an earlier time, by comparing the manorial account with the extent of the manor to assess the level of profit. In this case, the extent would represent the expected return on the property and its husbandry *vis-à-vis* the actual amount achieved by re-working the account. Certain examples of this method have been discovered on the estates of the Bishopric of Worcester in the 1290s, and the Abbey of St Alban's in the fourteenth century. The officials of the Bishop of Ely may also have employed the concept, as the balance of one of the accounts for Wisbech Barton is qualified: *Item debet ut Gaigneria respondeat ad extentam Liiij. li. ix.s. vij.d.* This alternative may have been more widespread than is yet known, but the *proficuum manerii* was undoubtedly the most favoured method, and it is to this calculation that the paper returns.[14]

II

The estates selected here for comparison are not the larger Benedictine houses, but rather a collection of medium-sized and lesser estates. Several of the larger Benedictine houses are known to have introduced a *proficuum* calculation: Canterbury Cathedral Priory, Norwich Cathedral Priory, Crowland Abbey, the Abbot of Westminster for

[13] R R Davies, 'Baronial Accounts, Incomes and Arrears in the later Middle Ages', *Econ Hist Rev*, 2nd ser, XXI, 1968, pp 211–29; C D Ross & T B Pugh, 'Materials for the Study of Baronial Incomes in the Fifteenth Century', *Econ Hist Rev*, 2nd ser, VI, 1953, pp 185–94; C C Dyer, *Lords and Peasants in a Changing Society*, Cambridge, 1980, pp 147, 162, and 178–9; R A Lomas, 'A Northern Farm at the End of the Middle Ages', *Northern History*, XVIII, 1982, p 49; for Westminster Abbey, for example, Westminster Abbey Muniments 15339 (*Valor manerii* for Launton, Oxon., 1330–1, the demesne being in hand), 20277–20278 (*Valor rectorie* and *Valor manerii* of Oakham, co. Rutland, 1358–60, Oakham including the rectorial glebe, but the demesne being at farm); Jean Birrell, 'The *Status Maneriorum* of John Catesby, 1385 and 1386', in R Bearman (ed), *Miscellany I*, Dugdale Society, XXXI, 1977, pp 15–28. Dr C C Dyer kindly informed me of the last item.

[14] M Hollings (ed), *The Red Book of Worcester*, Worcs Historical Society, 1934–50, Part 2, *passim*; Stone, 'Profit-and-Loss Accountancy . . .', pp 34 and 46; Cambridge University Library Ely Diocesan Records D8/1/4 (Wisbech Barton, 1319–20); D Oschinsky, *Walter of Henley*, pp 312–13 (Walter, *c*21).

the abbatial *mensa*, the monks of Westminster, the Abbey of Bury St Edmund's, for example.[15] (See Table 4.) Although significant and interesting, these great religious houses are not entirely representative. The very fact that lords of smaller estates had adopted the calculation is equally important, suggesting a far wider use of the *proficuum manerii*. Merton College introduced the calculation virtually from the foundation of the College, in the 1270s. God's House had established the statement by the time of the first extant manorial accounts from its estates, in 1293–4. Oseney Abbey had a centrally enrolled calculation by *c*1280, although the earliest extant accounts for its estates only slightly antedate the central account. Bolton Priory had a calculation by 1295–6, the accounts in the Bolton *compotus* volume surviving from 1286. The Beaulieu memoranda, occurring in the account-book, survive for *c*1269–70, as also the Stubbington ones survive from *c*1268, although the earliest extant Stubbington accounts antedate the calculation by some twenty years. Some tentative points emerge: firstly, the increase of interest in the 1280s and 1290s, at a time when direct demesne exploitation had reached a mature level, such that even the lords of lesser estates realized a need to assess more precisely the performance of their properties; secondly, the central enrolment of some of the accounts with their *proficuum* date — Bolton (although enrolment of the accounts preceded the *proficuum*), the Merton *kalendarium* (inconsistently), the Oseney centrally enrolled account, the Beaulieu account-book, and the first account for Southampton on which are collected together the *proficua* for all the properties of God's House.

To place the *proficuum* data in context, the estates and their varied manors and granges will be summarily described. Whereas the estates of the large Benedictine houses comprised a high proportion of large 'classical' manors, the composition of the estates selected here varied greatly, including medium-sized 'classical' manors, small manors and granges. The use of each manor or grange also varied: there was a high level of sales of produce from some, whilst others acted more as suppliers of the household. The *proficuum manerii* was applied to all of them, regardless of their function. Despite these diverse functions and nature, the general picture was 'profitability', but with varying levels and ranges.

The estates of Merton College have been the subject of considerable research.[16] Analysis is concentrated here on several important manors: Cuxham, Holywell, Ibstone, Cheddington, and Malden. Holywell was a rectorial manor on the perimeter of the borough of Oxford, described in one schedule as *in manerio de Haliwelle in suburbio Oxon'*. This manor also included the smaller property at Wolvercote, from which tithe receipts were important, and for which separate accounts were rendered from *c*1332. The manor of Holywell supported no sheep, but it was intensively cultivated with the purchase of large quantities of manure.[17] The garden was also intensively cultivated, particularly

[15] Stone, 'Profit-and-Loss Accountancy . . .', *passim* (Norwich and Canterbury Cathedral Priories); Frances Page, *The Estates of Crowland Abbey*, Cambridge, 1934, pp 240, 249 and 256; B F Harvey, *Documents Illustrating the Rule of Walter de Wenlok, Abbot of Westminster, 1283–1307*, Camden Society, 4th series, 2, 1965, p 242n; Bodleian Library MS Suffolk Roll 21, m 7 face (*Profectus* of the manor of Mildenhall, Abbey of Bury St Edmunds); J A Raftis, *The Estates of Ramsey Abbey*, Toronto, 1957, pp 262–3.

[16] Mrs E C Lowry, 'The Administration of the Estates of Merton College in the Fourteenth Century', University of Oxford DPhil thesis, 1933, being Bodleian Library MS DPhil c 70, relates mainly to the College's manor of Gamlingay, co. Cambs.; Harvey, *Medieval Oxfordshire Village*, for Cuxham; C Howell, *Land, Family and Inheritance in Transition: Kibworth Harcourt, 1280–1700*, Cambridge, 1983; T H Aston also describes the estates in J L Catto (ed), *The History of the University of Oxford, The Early Oxford Schools*, Oxford, 1984.

[17] M(erton College) M(uniments) 4493 (inventory or schedule of stock, 1331); MM 4484, 4495 and 4497 have very detailed accounts of extensive manuring and planting in the garden, but most of the Holywell accounts have similar expenses.

the raising of madder and hemp. Despite its proximity to the College, Holywell was not exploited as a home farm. Large quantities of grain were sold, even carted as far as Wallingford and Reading, possibly for trans-shipment to London. The following figures from sample years reflect the extent of the sale of grain:

TABLE I

Grain Sales from Holywell

	Issues	*Sales*
1296–7		
wheat	142 qtrs. 6 bs.	114 qtrs. 6 bs.
rye	21 qtrs. 1 bs.	2 qtrs. 2 bs.
barley	200 qtrs. 2½ bs.	88 qtrs. 5 bs.
legumes	38 qtrs. 7 bs.	21 qtrs. 1 bs.
1299–1300		
wheat	85½ qtrs.	23 qtrs.
barley	108 qtrs.	50 qtrs.
legumes	27 qtrs. 5 bs.	10 qtrs. 1 bs.

The cash receipt from sales of grain in 1296–7 comprised £25 0*s* 3½*d* for wheat, £13 2*s* 8½*d* for barley, and £2 16*s* 0½*d* for beans and peas. In 1300–1, the sale of grain amounted to £32 17*s* 8¾*d*. The main deficiency continued to be oats, which were not produced on the manor until 1300–1. Consequently, 22 qtrs. 1 bs. of oats were purchased in 1296–7, 35 qtrs. in 1299–1300, with a further 30 qtrs. 3 bs. received by inter-manorial livery in 1299–1300, offsetting some of the sales of grain. In 1300–1, the demesne issue only accounted for 7 qtrs. of the total grange issue of 27 qtrs. 6 bs. 3 pecks, and the account included: *Minute expense. Et dati ij garcionibus querentibus auenam apud Cukesham ij d.* In 1299–1300, the account revealed a similar story: *Et dati vij hominibus querentibus Auene* [*sic*] *apud Farendon' cum vij Equis viij d. ob. et ibidem pernoctauerunt.*[18] The manor, despite the deficiency of oats, was exploited by Merton as a commercial unit, with a relatively high level of investment, particularly in manuring. Its proximity to a local urban market may have influenced the decision to manage it in this way, although grain was also sold farther afield. The range of profit for the manor consequently fluctuated between £21 and £49, perhaps second only to Cuxham amongst the College's manors.

The demesne under seed at Ibstone, in Buckinghamshire, varied from 192½ acres to 240 acres between 1279/80 and 1300/1. Production of grain was concentrated on oats, mixtil and wheat, with the oats and mixtil being virtually all consumed on the manor. The wheat was produced for sale, as in 1284–5, when 33 qtrs. from the demesne issue of 44 qtrs. was sold. In 1279–80, 49½ qtrs. ½ bs. had been sold from the total issue of 70 qtrs. ½ bs., although only 8 qtrs. of mixtil (total issue 78 qtrs. 2½ bs.) and 11½ qtrs. oats (total issue 134 qtrs.) had been sold. Ibstone thus comprised a medium-sized demesne, not intensively exploited for the market, but producing some quantities of wheat for sale. The level of *proficuum* ranged accordingly from £8 to £13.

The demesne of the College's manor of Cheddington in Buckinghamshire fluctuated between 120 and 163½ sown acres between 1297–8 and 1304–5, the principal crops being wheat, dredge and legumes, although by 1311 pure barley began to replace dredge. Only small quantities of oats were produced. Considerable amounts of wheat and dredge/barley were sown: in 1311–12, 33 qtrs. wheat and 56 qtrs. 5 bs. barley; in 1313–14, 42½ qtrs. wheat and 73 qtrs. 7 bs. barley. Sample figures for receipts from sales are given below (Table 2), although the receipt from the sales of grain plummeted to only £8 7*s* 7¾*d* in 1315–16. As the table reveals, sales of wool also contributed highly to receipts. Cheddington was therefore a medium-sized demesne, smaller than Ibstone, but with a range of profit of £9 to £27 compared with the range of £8–£13 at Ibstone.

[18] MM 4476–4477.

TABLE 2
Sales of Produce at Cheddington

	Grain			*Wool*		
1302–3	£10	5*s*	5¾*d*	£1	4*s*	0*d*
1304–5	£22	16*s*	0½*d*	£4	8*s*	8*d*
1310–11	£15	17*s*	2¼*d*	£3	4*s*	0*d*
1311–12	£19	3*s*	4½*d*	£4	3*s*	3*d*
1313–14	£23	5*s*	9*d*	£4	5*s*	0*d*
1314–15	£16	0*s*	9¼*d*	£4	0*s*	0*d*

Malden, situated in Surrey, was the most remote of the College's demesnes; it was the largest in the Surrey group of manors which included also Farleigh and Leatherhead, studied by Miss Briggs.[19] Malden was a further medium-sized demesne, with a range of profit from £1 to £29, similar to Cheddington, but with a lower bottom range.

The estates of God's House (the Hospital of St Julian) were more disparate, comprising the large 'classical' manor of Gussage, the grange at Hickley, the small manor of Werrore with Cosham, and the property at Southampton. Of these properties, Gussage (Dorset) was the largest agricultural concern. The sown acreage at the end of the thirteenth century varied from 208 to 259½ acres, producing wheat, barley and oats as the principal crops, of which wheat and barley were largely sold. In the late thirteenth century, between 39 per cent and 66 per cent of the gross issue of wheat was sold; the proportion of barley which was sold attained 64 per cent of the gross issue in 1293–4, although none was sold when the yield fell in 1295–6. Occasionally, the sale of oats was also high. Consequently, the sale of grain accounted for as much as 77 per cent of receipts in 1295–6, 72 per cent in 1293–4, 56 per cent in 1294–5, and 47 per cent in 1297–8. Gussage, having much in common with the large 'classical' manor, had an equivalent range of profit, extending from £24 to £48.

Hickley, by contrast, had a grange-type economy. Its sown acreage in the later thirteenth century probably reached about 130 acres, and was still a carucate in 1362. The composition of crop production altered radically in the early fourteenth century. In the same way, although the grange had functioned initially in the early 1290s as an appendage of Southampton, it later became more an independent unit, although still relying on foreign receipts of cash in many years from Southampton. From *c*1311, the grange developed its own flock, rather than simply being a transhumance pasture for the Southampton flock. Sales of grain were not important, except in uncharacteristic windfall years: £7 8*s* 3½*d* in 1299–1300, £28 3*s* 7½*d* in 1300–1, £2 14*s* 7½*d* in 1302–3. Discounting four years of loss, the *proficuum* ranged from £1 to £16.[20]

Although a manorial type of property, with some customary tenants, Werrore with Cosham (Isle of Wight) was hardly a more impressive concern. The accounts do not state the acreage sown, but some impression of the size of the demesne can be obtained from the figures for the demesne issue of grain. The manor also supported a small flock of sheep, but a very low level. The range of profit was higher than at Hickley, with minimum and maximum of £5 and £31.

Southampton was a totally different kind of operation. The demesne was not particularly large, producing in 1305–6, for example, 32 qtrs. 2 bs. of wheat, 6 qtrs. 7 bs. of rye, 27 qtrs. 6 bs. of barley, 2 qtrs. of beans, 3 qtrs. 6 bs. of peas, 6½ bs. of vetches, 6 qtrs. 2 bs. of dredge, and 13 qtrs. 6 bs. of oats. The yields in 1311–12 were comparable: 35½ qtrs. of wheat, 10 qtrs. 3 bs. of curall, 5 qtrs. 3 bs. of rye, 38 qtrs. of barley, 9 qtrs. 6 bs. of beans, 12 qtrs. of peas, 1 qtr. of vetch, 7 qtrs. 7 bs. of dredge, and 15 qtrs. 7 bs. of oats. More important for the

[19] H M Briggs (ed), *Surrey Manorial Accounts*, Surrey Record Society, XV, 1935.

[20] Eg Bodleian Library Queen's College Rolls 181 and 182: *De exitu stauri non respondet hic quia irrotulatur in compoto Hamton'*; *De stauro non respondet hic quia in compoto Hampton'*. In the same accounts, the foreign receipts from Southampton were £28 6*s* 6*d* in a total receipt of £30 0*s* 6*d* and more than £32 in a total receipt of £34 plus. Queen's Roll 230 is a *status manerii* describing the demesne in tillage as one carucate (1362).

economy of Southampton, however, was the high level of receipts from rents, usually in excess of £40. With these rents as its nucleus, the *proficuum* attained the range of £43 to £65, exceeding the level at the large 'classical' manor at Gussage.

The estate of God's House thus comprised very diverse properties, even though it was small and compact geographically. Much the same is true for the estate of the Bishop of Lichfield, where the manors were of varying size and composition. Cannock, Rugeley, and Lichfield had no demesne in hand, Lichfield, moreover, being a borough. The sown acreage at Chadshunt amounted to 293 acres; at Itchington in various years about 221, 233 and 330 acres; at Stanton a mere 77 acres. The sale of grain from Chadshunt realized £36 1*s* 7½*d* in 1306–7; from Stanton only £7 13*s* 10*d* in 1314–15; from Berkswich £3 16*s* 0*d* in 1312–13; and from Wirksworth £29 15*s* 2½*d* in 1304–5 (but conversely the purchase of grain, mainly 62 qtrs. 1½ bs. of oats, cost £14 2*s* 7½*d* there). The immense sheep flock on the Peak manor of Wirksworth yielded 999 fleeces, whilst Berkswich produced 294 fleeces. The episcopal estate thus comprised a wide variety of types of property, from the very large manors of Wirksworth and Chadshunt, to the small demesnes of Berkswich and Stanton, where the income from sales of produce was minimal in comparison with the large revenue at Wirksworth and Chadshunt. Further contrast was provided by the manors of Lichfield, Cannock and Rugeley, where there was no demesne agriculture. The *proficuum* figures varied as greatly. Unfortunately, the sporadic survival of the Lichfield accounts prevents any analysis of the changes of the *proficuum* over a period of years on any one manor. There survives only one account for each of Berkswich, Wirksworth, Chadshunt, Cannock and Stanton; two accounts for each of Lichfield, Rugeley and Turvin; and three for Itchington.

The estate of Bolton Priory has been admirably described by Kershaw.[21] Bolton relied mainly on granges, mostly with smallish demesnes, marked by a strong concentration on the production of oats, and, from the end of the thirteenth century, large sheep flocks. The exceptionally large granges were the home farm at Bolton, and Kildwick and Holmpton. The *proficuum* from the majority of the granges never exceeded £10, but the level at Bolton ranged from £28 to £175, Kildwick £7 to £34, and Holmpton £16 to £34. Receipts from tithes may have been an important element in some of the *proficua*.

Receipts from tithes were certainly contributory to the profit of Stubbington (Hampshire), a grange of Southwick Priory. The sown acreage of the demesne at Stubbington exceeded 150 acres in 1319–20 (152½ acres) and 1330–1 (151 acres), but was usually below this level. Substantial quantities of grain were delivered to Southwick, Stubbington acting somewhat as a home farm. Such a brief résumé of the estates which form the basis of this study, has necessarily been cursory, but will hopefully provide the context for the comments below on the figures of the *proficua*, and also help to relate the size and range of profit to the size and nature of the properties.

III

TABLE 3

The Range of Profit

(Figures are rounded)	
Holywell	£21 to £49
Ibstone	£8 to £13
Cheddington	£9 to £27
Malden under	£1 to £29
Gussage	£24 to £48
Hickley	£1 to £16 (excluding losses)
Werrore	£5 to £31
Southampton	£43 to £65
Bolton	£28 to £175
Kildwick	£7 to £34
Holmpton	£16 to £34
Stubbington	£69 to £119 (but only £13 in 1351–2)

[21] I Kershaw, *Bolton Priory*, Oxford, 1973.

The statements of the *proficua* present a certain number of problems. The genuineness of some of the figures raises some doubts. The Lichfield figures, for example, are often rounded figures. On the other hand, figures from the other estates are not rounded, which suggests that a very real calculation had been made.

The Lichfield calculations were also undertaken for manors where the demesne was not in hand or where there was no demesne, such as Lichfield, Cannock and Rugeley. Westminster Abbey similarly produced its memoranda for manors where the demesne was at farm as well as for demesnes in hand. By contrast, Merton College does not seem to have been concerned to assess profit where there was no demesne in hand. The College's manor of Barkby had no demesne, the reeve accounting continuously from 1285–6 simply for the *redditus assise*, fines and perquisites, and expenses. None of his accounts contains a memorandum of the *proficuum*.[22] In the light of later *valores*, produced for estates after the leasing of demesnes, the College's attitude might seem less committed. Given the simplicity of the accounts of the reeve of Barkby, however, the Warden and Fellows may have needed no further refinement to assess the performance of the property.

The commitment of the College to the *proficuum manerii*, however, was probably less than wholehearted. The ambivalence is demonstrated by the infrequency with which the statement is recorded on the original accounts. These accounts include the memoranda most diligently in the decade 1295–1305, but before and after these years, the memoranda appear only inconsistently. Mrs Lowry, moreover, found only three statements in the accounts for the College's manor of Gamlinghay in Cambridgeshire. Denholm-Young revealed the same inconsistency on the Bigod accounts, only some thirty-five of some three hundred containing *proficua*.[23] The accounts from manors of God's House record the *proficuum* consistently from 1293–4, but a decision seems to have been taken *c*1318–19 to discontinue the calculation.[24] The demesnes, however, continued to be kept in hand, although Hickley was probably farmed for a short period in the late 1360s and Gussage in the 1380s.[25] The transience of the *proficuum* is illustrated well by its use by Oseney Abbey. Abbot William de Sutton (1267–84) was responsible for a centrally enrolled account of *c*1280, which abstracted and engrossed the manorial and obedientiar accounts, including the *proficua* of the manors. Only one original manorial account thereafter contains a *proficuum*, that for Forest Hill in 1302–3 recording a profit of £4 16*s* 6*d*. Nothing further is heard of the *proficuum* except for a self-styled *proficuum* on a very much later account for Watlington: *Proficuum. Item petit Allocationes de viij carectis straminis liberatis domino Nicholao de la Bech.*[26]

The possibility of loss on the transactions of the manor occurs in the memoranda from some manors. Several of the granges of Beaulieu Abbey performed poorly to record a loss in 1269–70. In the early fourteenth century, the demesnes of Darley Abbey were recording a total loss of £60.[27] Hickley recorded losses in four years. The losses may have been associated with the susceptibility of some grange-type properties, where the absence of customary labour incurred higher costs of production, combined with the susceptibility of husbandry and no stable

[22] MM 6483–6548: manorial accounts of Barkby, 1285–1486.

[23] Lowry, thesis, pp 164–6; N Denholm-Young, *Seignorial Administration in England*, Oxford, 1937, pp 120–30.

[24] The *responsio* on fleeces and dairy produce was also discontinued simultaneously. For the *responsio*, see J S Drew, 'Manorial Accounts of St Swithun's Priory, Winchester', *English Historical Review*, LXII, 1947, pp 20–41.

[25] Bodleian Library Queen's Rolls 35–38.

[26] H E Salter (ed), *The Cartulary of Oseney Abbey*, VI, Oxford Historical Society, CI, 1936, pp 184–207; D Postles, 'The Manorial Accounts of Oseney Abbey', *Archives*, XIV, 1979, pp 75–80; Bodleian Library d d Christ Church Oseney Roll 23 (Forest Hill); Bodleian Library d d Christ Church Oseney Roll 63 (Watlington).

[27] Dom S F Hockey, *The Account Book of Beaulieu Abbey*, Camden Society, 4th series, 16, 1975, pp 113, 120, 136, 145, 151, 157 and 163; Stone, 'Profit-and-Loss Accountancy . . .', p 42, for losses on wainage; R R Darlington, *The Cartulary of Darley Abbey*, I, Kendal, 1945, p 34.

income from rents of assize. As a result, a large foreign receipt of cash would be necessary to bail out the grange. For example, Hickley produced a loss in 1295–6 and 1296–7, when foreign receipts from Southampton amounted to £28 6*s* 6*d* and more than £32 respectively.

The disparate nature of the data makes it difficult to assess trends over time. Kershaw remarked upon the dramatic inflation of the profit of the properties of Bolton Priory in 1309 and 1315–16. Bolton employed the current actual price of grain in its calculation rather than a notional price. Consequently, three years of dearth, poor yields, and the high price of grain, resulted in high profit. Since virtually all the grain was required for internal consumption, Kershaw concluded that 'as realistic estimates the profit calculations are therefore meaningless in these cases'.[28] A slightly different perception, perhaps that of the canons, is that, had the demesne been leased, the canons would have been obliged to spend that amount of cash on the open market to purchase grain for its consumption. In which case, the figures for profit still represented the value of the manors and the demesnes to the house. The profit accurately reflected the importance of the supply of the household. Indeed, had the demesnes been farmed out at a fixed farm, and the price of grain been enhanced so dramatically, the canons would have been well out of pocket by having to purchase their grain. In some sense, therefore, the canons may have concluded from this lesson the advantages at that time of keeping with direct exploitation.

The effect of the years 1315–17 is also demonstrated by the *proficua* at Southampton, Cuxham and Hickley. Profit was inflated also at Cheddington, Gussage and Werrore with Cosham in 1308–11. Years of higher profits occurred at Malden in 1301–5 and 1322–3; Cheddington 1337–8 and 1343–5; Gussage 1293–4 and 1295–6; Werrore 1298–9; Hickley 1299–1302 and 1307–8. The fluctuations may have been generated internally on some manors. At Hickley, for example, the level of sales of grain was affected by grain lying unthreshed in one year and sold in the following. There seems to be a general correlation, however, between the levels of profit and the levels of prices and dearth, although the effect would have been influenced by which type of grain predominated on each property.[29] The difficulties of 1315–17, however, may have persuaded God's House to abandon the calculation of profit and simply renew its commitment for direct demesne exploitation.

The manor of Ibstone may be illuminating in this respect, since it may reflect a harder relationship between the *proficuum* and the leasing of demesnes. The memorandum recorded that in 1299–1300, no profit was made. In the following year (1300–1), the recorded profit was £7 17*s* 11¾*d*. From 1303–4, the manor was placed at farm, with the *firmarii* continuing to submit accounts to Merton. The first *firmarius*, William de Mersham, the former serjeant (*serviens*), paid a farm of £10; his successor from 1313, Master William de Alburwyk, held the manor for an increased farm of £10 13*s* 4*d*. The *firmarii*, however, deducted their expenses from the full farm, with the result that the final farm to the College approximated to the *proficuum* in several previous years. For example, the actual farm after deductions in 1319–20, represented by the balance of the account of the *firmarius*, was £7 5*s* 7*d*.[30] The manor may also have been placed at farm in 1286–7 and 1293–4, and certainly the stock in the account for 1293–4 is described as received *de firmariis*. Then, as in 1303, the College may have based its assessment of the farm of the manor on its experience of the *proficuum*. Indeed,

[28] Kershaw, *Bolton Priory*, p 46, and *idem*, 'The Great Famine and Agrarian Crisis in England, 1315–1322', in R H Hilton (ed), *Peasants, Knights and Heretics*, Cambridge, 1976, pp 85–132.

[29] H E Hallam, 'The Climate of Eastern England 1250–1350', *Ag Hist Rev*, 32, 1984, pp 124–32, esp. pp 131–2.

[30] MM 5077, m 7.

Kershaw has suggested that Bolton Priory may also have related the farm of leased properties, to the recent profit calculation.[31] These examples, however, seem to be fairly isolated. In most other instances where the *proficuum* was calculated, no experiment was made with the leasing of properties.

The role of rents of assize in the calculation deserves some mention. Holmes remarked that the general stability of the Clare *valores* between 1329–30 and 1338–9, was largely imparted by the large element of rents, which comprised 35 to 50 per cent of the constituents of the calculation.[32] A suspicion must remain, however, that the profit founded on rents of assize was misleading, because of the persistence of arrears of rent. Southampton is an excellent example. Here, the major contribution of rents ensured a consistent level of the profit. Even so, the arrears of rent at Southampton attained £59 13*s* 2¾*d* in 1303–4, had been £55 9*s* 10¼*d* in 1302–3, and expanded to £68 5*s* 4½*d* in 1305–6. The extent of arrears was still £44 14*s* 11*d* in 1311–12, virtually the equivalent of the annual rental. There is no evidence that God's House took arrears into account in calculating profit, and this weakness continued to detract from *valores* in the late fourteenth and fifteenth centuries on many estates.

[31] MM 5062; Kershaw, *Bolton Priory*, p 46–7.

[32] G A Holmes, *The Estates of the Higher Nobility in Fourteenth-Century England*, Cambridge, 1957, pp 89, 108–9 and 143–7, the quotation from p 189.

IV

The overall impression of the statements of profit is that, in the perception of the lords, even the smallest demesne or grange was of some value in the late thirteenth and early fourteenth centuries, although losses were also recorded on some types of property. This profitability extended to manors which produced simply for internal consumption as well as those properties which operated for the supply of the market. The attempts by lords to assess profit thus fully recognized the contribution of the supply of the household. The profitability of manors, however, fluctuated widely in the course of a few years, and the range of profit was often

TABLE 4

The Adoption of Profit Calculations on Some Estates

Canterbury Cathedral Priory	From *c*1225
St Mary's Abbey, Winchester	From *c*1233–4
Westminster Abbey (conventual)	From 1267–8
Norwich Cathedral Priory	From *c*1268
Southwick Priory	From *c*1268
Beaulieu Abbey	*c*1269–70
Beaumanor, Leics	1277–8
Bigod estates	Late thirteenth century
Oseney Abbey	*c*1280
Merton College	From 1281–2
Westminster Abbey (abbatial)	By 1292
God's House, Southampton	From 1293–4
Bolton Priory	From 1295–6
Lichfield episcopal estate	From 1304–5
Abbey of Bury St Edmund	By 1323
Clare estates	1329–30 and 1338–9
Darley Abbey	Early fourteenth century

References will be found in the text, except the following:
Westminster Abbey (conventual) — Westminster Abbey Muniments 15286;
St Mary's Abbey, Winchester — P D A Harvey, *Manorial Records of Cuxham*, p 15.

very wide. The element of rent might provide a stabilizing influence, but could be an ambivalence given the often high level of arrears. The commitment to the calculation also looks suspect on some estates. The zenith of its use may have been limited to the 1290s and first two decades of the fourteenth century. The attempt to monitor current profitability may have been no more than an intellectual exercise, of a transient nature. Managers, however, are always trying to refine their systems of analysis, even if some of their methods do not last the test of time. Certainly, the adoption of the calculation of the *proficuum manerii* extended beyond the largest estates.

APPENDIX 1

Merton College Manors

Ibstone MM5053–5089	£	s	d	*Holywell* MM4466–4507	£	s	d	*Malden* MM4633–4662	£	s	d	*Cheddington* MM5529–5599	£	s	d
1279–80[i]	8	17	10½	1296–7	44	18	7¾	1281	20	0	0	1298–9	10	17	10¾
1296–7	12	0	9¾	1297–8	20	17	7½	1296–7	12	5	6	1300–1	13	9	2½
1297–8[ii]	7	13	1¼	1298–9	45	15	1½	1300–1		16	4	1302–3	9	3	5
1298–9[ii]	9	13	4¾	1299–1300	34	2	10½	1301–2	24	17	10	1304–5	13	15	6¾
1299–1300	0	0	0 [iii]	1300–1	28	0	0	1302–3	29	2	3¼	1310–11[vi]	27	6	8
1300–1	7	17	11¾	1303–4	40	11	1¾	1303–4	28	17	9½	1314–15	18	3	5½
				1304–5[iv]	48	14	2½	1304–5	28	6	6¼	1321–2	11	12	0½
								1316–17	15	11	7½	1323–4	18	18	4¾
								1320–1	?30	7	0	1336–7	8	17	4
								1322–3	?45	8	6¼	1337–8	21	9	9
												1343–4	24	12	8
												1344–5[vii]	20	0	0

*For Cuxham, P D A Harvey, *A Medieval Oxfordshire Village*, Oxford, 1965, p 95, Table IX.

i *Et valet manerium de Ybeston' de claro cum redditu assise et consuetudinibus . . .* In subsequent years, the term is *profectus*.

ii Separate *profectus* for the mill in these years.

iii *Memorandum quod nichil de profectu isto anno set a nobis capet lx.s. preter certum redditum illius manerii.*

iv Term is *profectus* throughout, but *profectus ecclesie* (ie the rectory manor) in 1300–1. There are no statements in 1287–8, 1295–6, and in the extant accounts from 1308 to 1346.

v *Valet manerium* in 1281–2, but *profectus* thereafter. No statements in 1271–2, 1278–80, 1285–7, 1292–3, 1298–1300, 1308–9, 1311–12, 1313–14, 1317–18, 1321–2, 1329–30, 1334–5. Figures in 1320–1 and 1322–3 are cancelled.

vi *Profectus huius anni in hoc rotulo et rotulo annexo* [*sic*] *xlj marcas xxj.d.* (ie two years).

vii No statement in 1297–8, 1311–13, 1315–16, 1317–21, 1322–3, 1325–6, 1328–9, 1332–5, 1339–40, 1341–3, 1345–6, 1347–8, 1349–50 and subsequent years.

APPENDIX 2

God's House Manors

Southampton R265–284	£	*s*	*d*	*Gussage R1–39*	£	*s*	*d*	*Werrore/Cosham R236–256*	£	*s*	*d*	*Hickley R181–230*	£	*s*	*d*
1296–7	42	16	5	1293–4	45	16	0¼	1293–4[vi]	4	17	9	1295–6	−14	3	4½[viii]
1300–1	46	9	4½	1294–5	36	9	3¼	1294–5[vi]	10	7	10	1296–7[i]	− 3	14	4[viii]
1305–6[ii]	54	6	10	1295–6	47	5	9¾	1295–6	9	7	2	1299–1300	8	7	6
1306–7	58	11	11	1296–7[i]	34	0	11	1296–7[i]	10	0	0	1300–1	8	4	0¾
1311–12	56	2	4	1297–8	30	3	8¾	1297–8	8	16	10½	1301–2	13	3	4
1314–15	65	10	0	1299–1300	29	1	8½	1298–9	24	3	2	1302–3	2	6	2
1317–18[iii]	62	0	0	1300–1	29	15	5¼	1301–2	12	13	6¼	1303–4	5	12	9
				1305–6	32	5	5½	1302–3	12	2	11	1304–5	1	4	1
				1308–9	47	16	6	1303–4	10	19	0	1305–6	1	7	2
				1309–10	43	10	0	1309–10	16	13	4	1306–7	2	1	2½
				1310–11	47	4	8	1310–11	31	3	0	1307–8	11	8	8¾
				1311–12	33	16	8	1311–12	11	18	3	1308–9	2	15	6
				1312–13[iv]	30	0	0	1312–13	5	2	0	1309–10	4	0	7
				1312–13[iv]	33	15	3	1313–14	13	4	3	1310–11	− 1	11	0[viii]
				1318–19[v]	24	0	0	1314–15	12	10	2	1311–12	− 1	14	4[viii]
								1315–16[vii]	15	0	0	1312–13	4	2	0
								t Edw II	21	11	2	1313–14	2	13	3
												1315–16	15	12	4
												1316–17	1	16	0
												1317–18[ix]	2	6	8

R: Bodleian Library Queen's College Rolls.

i The Southampton account for this year includes statements for all the manors of the House, giving the profit from the whole estate as £83 3*s*0*d*: *Et sic valent de claro iiij*^{xx} *iij. li. iij.s.*

ii A separate figure is given for the wainage for this year: *Et sic valet Waynagium Ciiij.s. vj.d.*

iii No statements in 1298–1300, 1302–5, 1308–9 and after 1317–18.

iv Two accounts dated 6–7 Edw II.

v No statements in 1304–5, 1307–8 and after 1318–19.

vi In 1293–5 *Manerium valet*, but *proficuum* thereafter.

vii No accounts extant in 1316–18; no statement in 1318–19 and thereafter.

viii Losses in 1295–7: *Waynagium consumsit*; and in 1310–12 *Manerium consumit.*

ix No statement in 1298–9 and after 1317–18, but in 1383–4 *Valet hoc anno xlij.s. j.d.*

APPENDIX 3

Lichfield Episcopal Manors. *Proficua* Statements

Berkswich	1312–13	Valet hoc anno ix li. xs.	£ 9	10*s.*	0*d.*
Wirksworth	1304–5	Proficuum istius manerii hoc anno xiij li. xvs.	£13	15*s.*	0*d.*
Chadshunt	1306–7	Valet hoc anno Liiij li.	£54	0*s.*	0*d.*
Itchington	1309–10	Valet hoc anno xxij li. xs.	£22	10*s.*	0*d.*
Itchington	1310–11	Valet hoc anno xxxvj li.	£36	0*s.*	0*d.*
Itchington	1305–6	Valet hoc anno xxx li.	£30	0*s.*	0*d.*
Cannock	1308–9	Valet hoc anno xvj li. vjs. iiijd. per Ricardum prepositum	£16	6*s.*	4*d.*
Lichfield	1308–9	Valethoc anno Lxxviij li. vs. xd. ob.	£78	5*s*	10½*d.**
Lichfield	1312–13	Valet hoc anno Lxviij li. xiijs. iiijd.	£68	13*s.*	4*d.**
Rugeley	1310–11	Valet hoc anno xviij li. cum lxvjs. de minera ferri unde respondetur in compoto de Longedon'	£18	0*s.*	0*d.*
Rugeley	1313–14	Valet hoc anno cum incremento reddituum annorum precedentium xvij li.	£17	0*s.*	0*d.*
Stanton	1314–15	Summa valoris vij li. xs.	£ 7	10*s.*	0*d.*
Turvin	1304–5	Proficuum istius manerii ix li.	£ 9	0*s.*	0*d.*
Turvin	1308–9	Valet xij li. iijs. iiijd.	£12	3*s.*	4*d.*

Source: Lichfield Joint Record Office D & C Muniments N1–N28.
*Cf. Jane Isaac, 'Two Medieval Accounts for the Town of Lichfield', *Transactions of the South Staffordshire Archaeological and Historical Society*, XVII (1975–6), pp 59–67.

APPENDIX 4

Bolton Priory *Clarum de maneriis*

(Source: Chatsworth MS. 73A)

	Cononley	*Rither*	*How*	*Ingthorpe*	*Malham*	*Riddings*
1295–6	2–13–5	3–7–11½[1]				
1296–7	4–2–4	5–8–11[2]				
1297–8	2–12–9		0[3]	0[4]	4–19–0	3–10–10
1298–9	5–4–0		4–14–4	0[5]	4–16–3	6–18–4
1299–1300	0[7]		3–0–7	3–8–7	6–2–7	5–18–0
1300–1[8]						
1301–2[8]						
1302–3[8]						
1303–4[8]						
1304–5[8]						
1305–6		8–0–8¼	2–1–7½	3–14–6	3–19–9	6–8–9½
1306–7		6–9–5	2–7–7		5–13–8½	5–12–11½
1307–8		3–3–3	17–1		5–10–1¾	6–19–1
1308–9		8–18–2½	11–5½[10]	2–18–4	7–11–5½	9–9–4½
1309–10		12–9–4½	6–12–0	1–12–9[12]	8–17–8	14–6–11
1310–11		7–2–2	4–17–10	2–5–4[15]	4–19–2[16]	5–14–2
1311–12		7–5–8¾[20]	3–4–4	3–8–10½[21]	4–3–0¾	4–17–1½
1312–13		1–1–1¼[26]	18–0	0[27]	3–5–6	1–6–0½
1313–14		4–14–6½	3½	0[33]	1–12–0	18–10
1314–15		3–18–11	3–16–7	8–1[37]	2–7–5	1–4–11
1315–16	0[39]	10–0–0[40]	5–8	0[41]	12–2–5	1–8–6[42]
1316–17	8–6–0½[44]	10–0–0[45]	8–19–0[46]	13–12–8½[47]	19–3–7	4–16–4
1317–18	0	10–0–0[52]	0	0[53]	2–11–8	10–0–4
1318–19[8]						
1320–1[8]						
1321–2					14–12–5½	
1322–3		6–0–0[55]			12–6–1	
1323–4[8]						
1324–5[8]						

[1] preter fenum in expensis equorum.
[2] preter fenum.
[3] How respondit de nichilo [sic] hoc anno.
[4] Unkethorp nichil reddidit domi hoc anno quia totum clarum ibidem deputatur ad manerium instaurandum.
[5] Unkethorp. Unkethorp nichil Respondit de claro hoc anno.
[6] Kildewik. De claro de Kildewik non fit mencio hoc anno quia non fuit in manu prioris.
[7] Conedley. De Conedley nichil hoc anno quia terre dominice dimmituntur ad firmam.
[8] No *clarum* statement this year.
[9] Et sciendum quod semen omnimodi bladi non subtractur.
[10] resumit hoc anno.
[11] De manerio de Halton ignoratur hoc anno quia compotus inde rite[?] non potuit fieri pro morte fratris I. conuersi.
[12] preter sustentacionem omnium.
[13] preter sustentacionem omnium.
[14] in parte.
[15] feno [sic] pro bidentibus.
[16] dum taxat excepto.
[17] Kyldewyk' nichil hoc anno quia bladum fuit domino Rogero.
[18] Angrum respondit de claro cum Boulton ut supra quia per carucatorem de Boulton fuit aratum et seminatum.
[19] Holmeton. Respondit de claro in parte xxiij.li. vj.s. viij.d. Et non plus hoc anno quia residuum in edificiis ibidem.
[20] cum Lxj.s. vij.d. ob. de arreragiis Thome forestarii ibidem. Et non plus quia non vendebantur nisi ix acras dim. prati et residuum ad manerium in feno ad vendendum.
[21] preter sustentacionem omnium.
[22] preter sustentacionem omnium.
[23] preter sustentacionem diversorum animalium.
[24] Et non plus quia pars frumenti remanet in garbis.
[25] With Bolton.
[26] excepto feno.
[27] Unckethorp respondit de claro de nichil hoc anno.
[28] Halton respondit de claro de nichil propter mortem conuersi.
[29] Kyldewyk respondit de claro de nichil preter de feno et cariagio forinseco.
[30] preter cariagium.
[31] With Bolton.

APPENDIX 4 — *continued*

Bolton Priory *Clarum de maneriis*

(Source: Chatsworth MS. 73A)

Stead	*Halton*	*Kildwick*	*Bolton*	*Angrum*	*Holmpton*	*Appletreewick*
4–19–9						
5–4–10	12–10–0	0[6]				
3–13–4		3–4–11½				
2–11–3	18–14–1½		42–13–1½	6–12–0		
2–16–8	12–18–7		61–15–6	7–11–1½		
3–0–1	16–0–6		117–3–5½[9]	4–16–0		
4–16–9	?[11]		78–17–2	14–17–8		
6–14–5½	1–0–0[13]		164–2–1	4–4–1	34–10–0[14]	
4–15–4	19–8–0	0[17]	67–4–10	–[18]	23–6–8[19]	
3–2–11	17–15–8[22]	7–2–2[23]	28–8–9¼[24]	–[25]	16–13–4	2–14–8
1–7–0	0[28]	0[29]	88–0–3[30]	–[31]	–[32]	1–9–4½
2–0–11	3–5–0	0[34]	67–17–3	–[35]	–[36]	5–2–2
13–0	2–11–5½[38]	7–9–2	62–10–4	11–18–3	31–17–11½	3–11–10
4–15–2	4–5–0	33–19–10	175–4–11	2–15–5[43]	19–15–10	10–9–4
4–15–3	?[48]	22–4–9½	130–18–8½	–[49]	–[50]	9–10–0[51]
1–19–4	0	20–4–11½[54]	109–17–0	0	32–11–2	5–14–2
		8–11–9½	77–16–8			
[55]		9–0–0	96–6–11¾			

[32] MS. blank.
[33] Unckethorp Respondit de nichil hoc anno.
[34] Kyldwyk de nichil preter fenum.
[35] With Bolton.
[36] MS. blank.
[37] Unckethorp Respondit de claro de nichil set resumpsit viij.s. j.d.
[38] Halton Respondit de claro de nichil set resumpsit Lj.s. v.d. ob.
[39] Condeley respondit de claro de nichil hoc anno.
[40] Ryth' respondit de claro per conuencionem de x.li.
[41] Unckthorp respondit de claro de nichil hoc anno.
[42] Ryddyngs respondit de claro de nichil set resumit xxviij.s. vj.d.
[43] Angrum respondit de claro de nichil set resumit Lv.s. v.d.
[44] Conedley respondit de claro de nichil set resumpsit in blado et denariis viij.li. vj.s. ob.
[45] Ryth' respondit de claro per conuencionem de x.li.
[46] But some grain sent to Halton and Angrum.
[47] Unckthorp respondit de claro de nichil set resumpsit xiij.li. xij.s. viij.d. ob.
[48] Halton respondit de claro de nichil set resumpsit in denariis blado liberacione et roba seruientis . . . (figure illegible).
[49] MS. blank.
[50] MS. blank.
[51] respondit de claro per conuencionem ix.li. x.s.
[52] ex conuencione.
[53] nichil set multum resumpsit.
[54] preter vij.li. xviij.d. solutos pro factura unius noue grangie.
[55] Rither and Stead conjointly £6.

NB. From 1305–6, the Priory began to give a *Summa* of the profit of all granges, as follows:
1305–6 £94 13*s*. 10½*d*; 1306–7 left blank; 1308–9 left blank; 1309–10 left blank; 1310–11 £139 13*s* 6*d*; 1312–13 left blank; 1313–14 £85 11*s* 0*d*
In 1310–11, 1311–12, 1312–13, 1313–14, 1316–17, the statement is qualified by the following:
De semine vero nec de conduccione nec de valore terre non fit mencio (fos. 237v, 264v, 297v, 325v, 394v).

APPENDIX 4 — *continued*
Source: Chatsworth MS 73A, fos. 27r, 31v–32r

The *Clarum* for 1295–6 and 1296–7 for Cononley and Rither is elaborated in some detail, and reflects the principles of the calculation.

1295–6. (Cononley) Memorandum quod manerium de Conedley Respondit hoc anno de xiij quarteriis auene precium quarterii ijs. vjd. Et de Ls. in denariis. Et de vjs. jd. in fossis factis in diuersis locis. De quibus subtrauntur xxxvs. pro iij quarteriis dim. frumenti receptis de decima de Carleton ad semen. Et sic respondit manerium hoc anno de claro de Liijs. vd.
(Rither) Memorandum quod manerium de Conodley [sic] respondit hoc anno de xij quarteriis dim. auene precium quarterii xxd. Et de xlvijs. jd. ob. in denariis liberatis.
Summa Lxvijs. xjd. ob. Preter fenum in expensis equorum.

1296–7. Clarum de maneriis.
Rither. Memorandum quod manerium de Rithert respondit hoc anno de claro De xj quarteriis frumenti precium quarterii iiijs. viijd. Et de vj bus. siliginis precium bus. vjd. Et de viij quarteriis auene precium quarterii xxd. Et de xxxixs. xjd. in denariis.
Summa de claro Cviijs. xjd. preter fenum.
Conodley. Manerium de Conodley respondit hoc anno de claro De vj quarteriis frumenti precium quarterii iijs. viijd. Et de iiij quarteriis dim. siliginis precium quarterii iijs. iiijd. Et de xij quarteriis auene precium quarterii xviijd. Et de xx plaustratis feni precium plaustrate vjd. Et de xvijs. iiijd. in denariis liberatis.
Summa iiij li. ijs. iiijd.

Until 1299–1300, the *Clarum* included a full list of the constituents and deductions. From 1300–5, there is no *Clarum* section. When the *Clarum* reappears in 1305–6, it is a simple statement, omitting the constituents, such as:

Manerium de Boulton Respondit de Claro hoc anno de xlij li. xiijs. jd. ob. (fo. 125r).

The single exception is Holmpton from 1314–17 (fos. 354v, 374v, 394r). The *Clarum* was omitted completely in 1318–19, 1320–1, 1323–4 and 1324–5.

APPENDIX 5
Stubbington Figures.
Manor of Southwick Priory
Source: Winchester College Muniments
15376–15387

1268 Valet hoc anno manerium in omnimodis exitibus deductis necessariis expensis iiij^{xx}iiij libras vij s jd qua. Cum tota decima infra pontem.

1268–9 Et valet hoc anno manerium deductis expensis necessariis in omnimodis expensis cum tota Decima infra Portesbrig' C libras vs viijd ob.

1270 Et valet hoc anno manerium deductis omnimodis expensis necessariis cum omnimodis Exitibus* C et vij libras ij sol. iijd. ob.
**expensis necessariis* cancelled, *Exitibus* superscript.

?1281 Et valet in hoc anno iiij^{xx}xiiij li. ixd. ob.

1287–8 Valet hoc anno manerium de Stubinton' deductis expensis necessariis Lxviij libras xviijs. ixd. ob.

1319–20 Et valet manerium hoc anno Lxxix li. vs. jd.

1330–1 Et valet manerium hoc anno Cxix li. vs.

1344–5 Et valet manerium hoc anno Lxxij li. viijs. Ideo minus pro defectu bladi hoc anno.

1351–2 Valor hoc anno xx marce. Ideo minus causa pestilencie.

*c*1405 Valor huius manerii hoc anno cum decimis personatus.Lxxix. li. xiij.s. vij.d.

(This broken series of accounts runs from *c*1247 to the early fifteenth century. The survival of the earliest accounts, *c*1247 to 1268, is quite fair, but the *valor* does not appear on the accounts until 1268. The series thereafter is very sporadic.)

The Social and Economic Impact of a Rural Railway: the Wensleydale Line[1]

By CHRISTINE HALLAS

THE impact of the railway on the social and economic life of rural communities has been the subject of much general comment but, apart from D W Howell's study of the influence of the railway on agriculture in Wales, no detailed research appears to have been undertaken.[2] This paper seeks to redress this omission, in part, by examining the impact which the Wensleydale railway, in facilitating the more rapid movement of goods and people, had on the life of the rural community which it served. In particular, it examines the role of the railway in stimulating the development of both traditional and new industries, and how this contributed to the fuller integration of the social and economic life of the dale into that of its wider region and the nation at large.

Wensleydale is one of the relatively isolated north Yorkshire dales which shoulder the eastern flank of the north central Pennines. It lies at the heart of an extensive area of rural upland situated between the industrial towns of West Yorkshire to the south, Lancashire to the south-east, and the Tees, Wear and Tyne estuaries to the north-east. With its east-west alignment and broad valley floor, it forms one of the traditional routes through the Pennines. The branch line serving the dale ran from Northallerton to Garsdale Head but this paper is concerned only with the Wensleydale line proper, that is the twenty-two mile stretch between Leyburn and Garsdale Head (see Fig 1).

I

Despite many proposals between the 1840s and 1860s a railway line was not constructed through Wensleydale until the 1870s.[3] In 1870 the North Eastern Railway Company (NER), motivated by a desire to protect its interests from encroachment by rival companies, successfully promoted a scheme for the construction of a sixteen-mile line between Leyburn and Hawes. The scheme proposed the continuation of the existing NER Northallerton to Leyburn line, which had been opened to Bedale in 1855 and to Leyburn in 1856. The new line would connect with the Midland Company's proposed six-mile branch line linking Hawes with the Settle-Carlisle line at Garsdale Head.[4]

Construction of the NER Leyburn-Hawes line commenced in 1873 and was completed in late 1876.[5] The construction had a direct impact on the economy of the dale in terms of land purchase and payment of compensation; the purchase of some

[1] I am indebted to Dr John Chartres for his helpful comments on an earlier draft of this paper, which is part of a wider study of social and economic change in nineteenth century Wensleydale and Swaledale.

[2] D W Howell, 'The Impact of Railways on Agricultural Development in Nineteenth Century Wales', *The Welsh History Review*, 7, 1974–5. See also H W Parris, 'Railways in the Northern Pennines to 1880', unpublished M A thesis, University of Leeds, 1954, pp 279–81. Parris briefly comments on the fact that the railway in the dales had some small impact but maintains that it was insignificant and that there was no real expansion of economic activity as the result of railway development. N M Mason, 'Unprofitable Railway Companies in England and Wales 1845–1923, with Special Reference to the South Midlands', unpublished PhD thesis, University of London, 1982, pp 330–46, makes passing reference to the impact of a railway on rural communities.

[3] A detailed discussion of these proposals can be found in C S Hallas, *The Wensleydale Railway*, Clapham, 1984, pp 4–18.

[4] Parris, *op cit*, pp 130–76 *passim*, 224–5, 236–7.

[5] *The Darlington and Stockton Times*, 22 February 1873, stated that the building of the line had not commenced. The *Richmond and Ripon Chronicle*, 1 November 1873, reported that the construction was well under way.

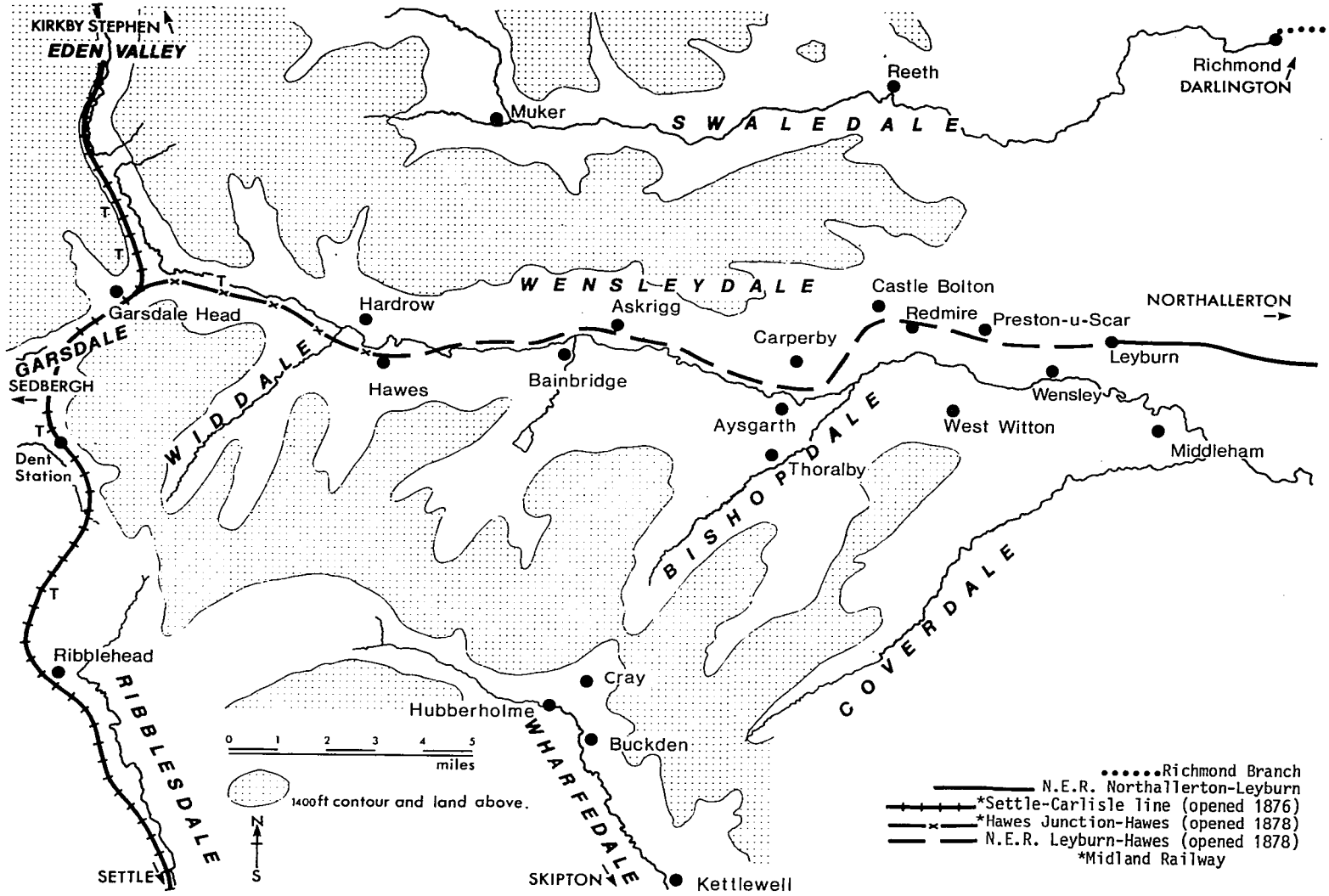


FIGURE 1
Wensleydale and its Railways.

materials locally; employment opportunities for local labour; and the spending power generated by the arrival of a substantial non-indigenous workforce.[6]

Although no record exists of the number of labourers employed in the construction of the NER line, some indication can be gained by a projection based on the numbers employed on the Midland branch. In 1871, 164 railway labourers were based near the Moorcock Inn, Upper Wensleydale and were employed in constructing the six miles of line between Hawes and Garsdale Head. The total length of the Wensleydale line (Leyburn to Garsdale Head) was twenty-two miles, of which the Midland branch, therefore, represented a little over 27 per cent. If it is assumed that the labour employed was in direct proportion to the length of line, approximately 600 workers may have been employed on railway construction in Wensleydale in the mid 1870s.[7]

From the foregoing it is possible to estimate an annual wages bill of £38,520.[8] Making the conservative assumption that one third of the navvies' wages were spent within Wensleydale, this would have represented an annual injection of £12,840 into the economy of Wensleydale at the peak of construction in the mid 1870s.[9] This in turn would have stimulated local production and employment.[10] Assuming an employment multiplier of 1.3, an additional cash flow of £3852 would have been generated which, with a local average annual wage of £18, would have had the potential of creating 214 new jobs in the area.[11]

Approximately 16 per cent of the navvies at the Moorcock settlement were from Wensleydale. Projecting this percentage to the whole line would give a total of ninety-six local men employed on railway construction in the mid 1870s. Assuming a family size multiplier of 4.7, this would suggest that directly and indirectly the railway construction provided the principal livelihood for some 451 local people. This would represent 5.5 per cent of the 1871 Wensleydale population of 8176 and, therefore, possibly about 10 per cent of the dale's workforce.[12]

The NER line was opened between Leyburn and Askrigg on 1 February 1877 and extended to Hawes on 1 June 1878, after the Midland Company had completed the construction of Hawes Station.[13] The Midland branch, between Hawes and Hawes Junction at Garsdale Head, opened on 1 October 1878, completing the link between the East Coast route and the Settle-Carlisle line, and establishing for the first time good communication between Wensleydale and the rest of England.[14] The line was served by stations at Leyburn, Wensley, Redmire, Aysgarth, Askrigg and Hawes. Hawes was a joint station, built by the Midland Company and manned by NER

[6] *NER Report of Directors for Half Year ending 31 December 1875*, document in the possession of Mrs Yardley. Additional information supplied by M Weatherald, a director of the local building firm which had the contract for maintaining the stations on the line.

[7] PRO, RG 10/4871, Census Enumerators' Handbooks (hereafter CEB), 1871. Such indications as exist appear to suggest that the sixteen-mile NER Leyburn to Hawes line and the six-mile Midland Hawes to Garsdale Head line took approximately the same time to construct ie two and a half to three years. After making allowance for the clear differences in the rate and cost of construction per mile between the two lines, it is assumed that the labour force at any one point in time would have been more or less in proportion to the lengths of the two lines.

[8] Based on an 80 per cent unskilled workforce, see T R Gourvish, *Railways and the British Economy 1830–1914*, 1980, p 20; a table of weekly wages, 1843 to 1869, for a major railway contractor's employees and quoted in T Coleman, *The Railway Navvies*, 1967, p 61; and Coleman's subsequent general comments on wage rates on the Settle-Carlisle construction. It is proposed to present further details in a future article.

[9] It is probable that a higher proportion of the wages of the NER navvies was spent in the locality, as the NER line passed through villages at approximately four-mile intervals and, therefore, local services may well have been used by the navvies.

[10] Local people were not slow to take advantage of the influx and on occasions charged inflated prices. *Bedale and Northallerton Times*, 8 February 1879.

[11] This is an employment multiplier drawn from the modern economy. It has been assumed that it is appropriate to a labour intensive occupation such as railway construction.

[12] PRO, RG 10/4868–71, CEB, 1871.

[13] *Bedale and Northallerton Times*, 10 August 1878.

[14] *Darlington and Richmond Herald*, 5 October 1878.

staff. There was also a small exchange station at Hawes Junction (later renamed Garsdale).

II

When the first railways were constructed in the early nineteenth century their promoters considered that, at best, they would be substitutive, taking over traffic which had formerly moved by road, sea and canal. It was quickly realized, however, that the facility which the railway afforded for the relatively cheap and rapid movement of goods and people could be creative and could lead to substantially increased levels of traffic.[15] Wensleydale was no exception and the arrival of the railway stimulated a major increase in both passenger and goods traffic.

Prior to the opening of the railway in 1878, communications in Wensleydale had been limited to the Richmond and Lancaster Turnpike, which followed the dale for part of its length, and a network of minor roads and tracks. These roads were generally in a poor condition and the Wensleydale Royal Mail was able to provide a service only during the summer months.[16] Throughout the area there was a lack of a frequent and regular system of public conveyance.

Once the railway opened it served not only the people of Wensleydale but also the neighbouring community in upper Swaledale. The daybooks kept by successive generations of the Garths, a Swaledale farming family, illustrate the importance of the Wensleydale railway to local people and provide a personal glimpse of the greatly increased mobility which rail transport made possible.[17] When the complete line was opened in 1878, Francis Garth, who was the head of the family, travelled extensively, particularly to agricultural shows and markets as far afield as Northallerton, Darlington and Carlisle. Also, he visited London regularly and took his family for holidays to Harrogate, Scarborough, Bridlington, and Lytham St Annes. The Garth family was not alone in using the new mode of transport and the local community quickly took advantage of the railway, as shown in Table 1.

[15] R C O Matthews, *A Study in Trade Cycle History*, Cambridge, 1954, p 108.

[16] *The Wensleydale Advertiser*, 18 November 1845.

[17] Garth Daybooks, 2/5/1–6, 1795–1911. Documents in the possession of J L Barker.

TABLE 1

Passenger Tickets Issued in Wensleydale 1871–1931

Year	*Tickets Issued*[1]	*Population of Wensleydale & Upper Swaledale*	*Number of Tickets per Head of Population*
1871	14,481[2]	16,116	0.9
1881	85,275[3]	15,213	5.6
1891	85,191	12,361	6.9
1901	84,262	10,910	7.7
1911	89,008	11,093	8.0
1921	96,340[4]	10,882	8.9
1931	34,034[5]	10,951	3.1

Note[1]: At all six stations including Midland branch traffic (except 1871).
Note[2]: Only Leyburn Station open.
Note[3]: 1880 figure and includes estimates for some NER stations.
Note[4]: Includes estimates for certain stations based on 1920 returns.
Note[5]: Includes estimates for certain stations projected from Leyburn Station returns.
Source: PRO, RAIL 491/671–2, 674–5, Midland Railway Company Traffic and Expenses at Stations, 1880–1919; RAIL 527/2179, 2142, *NER Annual Traffic Receipts and Statistics Book*, 1885–1931; *Census Abstracts*, 1871–1931. Pearson MSS, NER Leyburn Station Annual Traffic Returns, 1871–1931.

Although the population of the area decreased steadily in the decades following the opening of the railway, passenger traffic on the combined NER/Midland Wensleydale line was maintained at a consistently high level, rising to a peak, estimated at 96,340, in 1921 and thereafter, due to the increased use of motor transport, declining rapidly in line with the national trend. The contribution of the Midland branch to the overall passenger traffic levels was always subordinate, averaging about 7500 passengers per annum in the decades up to 1920 and never rising above 10,000 in any year.[18]

Detailed returns available for Leyburn Station between 1871 and 1931 illustrate the changing trends in numbers of passenger tickets issued. Leyburn was the market town of the lower dale and handled approximately one third of all the NER Wensleydale passenger traffic and one quarter of the combined NER-Midland traffic on the Wensleydale line.[19]

The peak year for passenger traffic at Leyburn was 1915, when 29,160 tickets were issued, but this figure was inflated by the inclusion of over 4500 tickets issued to forces personnel from the nearby army camp. The peak for peacetime traffic followed the national trend, occurring in 1920 when 27,081 tickets were issued.[20] By 1926 the number of tickets issued at Leyburn was down to 17,737 and by 1938 it had fallen further to 5056, a decline of 81 per cent from the 1920 peak. Nationally, passenger traffic quadrupled between 1870 and 1912 and over the same period traffic on the NER system tripled.[21] Although passenger traffic at Leyburn increased between 1870 and 1912, it did so by little more than 50 per cent.[22] This considerably lower rate of increase may be attributable largely to the continuing outward migration which resulted in the population of the area falling by over 30 per cent between 1871 and 1911.

The Wensleydale line was apparently very popular for travel within the dale, to neighbouring villages, to local markets, to school and, more occasionally, for travel beyond the dale for business trips, visits to district agricultural shows, day excursions, and holidays.[23] This is consistent with the view of earlier historians that travel on branch lines tended to be predominantly local.[24]

III

Wensleydale was not wholly inaccessible to the visitor prior to the arrival of the railway. In 1844 the daily summer service of the Wensleydale Royal Mail between Bedale and Sedbergh was extended on three days a week to run a return journey from Northallerton Station through Wensleydale to Kendal, thereby considerably improving access to the dale from both east and west.[25] Following the opening of Leyburn Station in 1856 the opportunities for exploring Wensleydale improved. There was a substantial increase in the number of visitors to the dale, a fact supported by evidence of the growth of a significant tourist trade. From the 1860s, tourist guidebooks of the area proliferated, carrying many advertisements for hotels, boarding houses and conveyances to local beauty spots.[26] From 1856 many excursion trains were run into the dale from the North East. For example, on 14 August 1858 two

[18] PRO, RAIL 491/671–2, 674–5, Midland Railway Company, Traffic and Expenses at Stations, 1877–1919.

[19] PRO, RAIL 527/2179, NER Annual Traffic Receipts, 1885–1914; RAIL 527/2142, NER Statistics Book, 1915–35; RAIL 491/671–2, 674–5, *op cit*. NER Leyburn Station Annual Traffic Returns, 1871–1931. Documents in the possession of H W Pearson (hereafter Pearson MSS, Annual).

[20] Pearson MSS, Annual, *op cit*; H J Dyos and D H Aldcroft, *British Transport*, Leicester, 1971, p 303.

[21] *Ibid*, p 148; R J Irving, *The North Eastern Railway Company 1870–1914*, Leicester, 1976, pp 295–6.

[22] Pearson MSS, Annual, *op cit*, 1870–1912.

[23] Garth Daybooks, *op cit*, 2/5/4–6, and local oral tradition.

[24] D Thomas, *The Country Railway*, 1976, p 79; D Brooke, 'The North Eastern Railway 1854–80', unpublished PhD thesis, University of Leeds, 1971, p 341. Brooke notes that NER traffic in the 1870s was confined almost entirely to the Company's own network.

[25] *The Wensleydale Advertiser*, 7 May 1844.

[26] For a detailed list see Hallas, *op cit*, p 72.

TABLE 2
Tickets Collected at Leyburn and All Wensleydale Stations

Year	*Leyburn*	*NER Wensleydale*[1]	*Midland branch*[2]
1912	41,839	144,272	12,970
1920	45,073	150,243	12,620
1930	15,559	40,945	4,357
1939	10,706	28,174	2,998

Note[1]: Estimates based on tickets issued at Leyburn as a percentage of tickets issued for the whole of the NER line, including Leyburn.
Note[2]: Estimates based on the proportion of tickets issued at Hawes to those issued at Leyburn.
Source: Pearson MSS, *op cit*, 1912–39.

special excursion trains arrived carrying a total of 300 visitors and in August 1860 450 railway clerks and officials from Tyneside arrived in Leyburn for the day.[27]

When the Wensleydale line was completed in 1878, substantial numbers of visitors arrived for the first time in the upper dale. The Midland Company immediately announced plans to provide 'frequent and cheap' opportunities for the 'operative classes' in the commercial centres of the West Riding to travel to the dale.[28] In late August 1879 the Company ran two cheap excursion trains from the West Riding to Hawes carrying about 1000 visitors.[29]

In 1884 one guidebook noted that travel in Wensleydale had been greatly improved with the arrival of the railway and that the journey time between Leyburn and the industrial areas of Tyneside, Manchester, York and the West Riding was only between two and a half and three and a half hours.[30] By the 1890s the NER was advertising cheap circular tours from Leeds to be run in conjunction with the Midland Company.[31] Other railway connections were listed in an attempt to attract visitors from further afield. Interest in active outdoor recreation was growing nationally in the late nineteenth century and, in step with this new trend, cyclists and walkers were encouraged to visit the dale.[32]

Returns of tickets collected at Leyburn commenced in 1912 and provide some indication of incoming traffic. An estimate of total incoming passenger traffic for Wensleydale can be derived from these returns.

In 1912, 10,960 return tickets were issued at Leyburn and, therefore, approximately one quarter of the 41,839 tickets collected at Leyburn in that year may have been these return tickets. Of the remaining 30,879 tickets collected, some will have been single tickets handed in by local people who had departed from Leyburn (travelling on single tickets). Even assuming that all the 12,489 who purchased single tickets at Leyburn in 1912 subsequently returned to Leyburn on single tickets, this still implies that 18,390 visitors arrived at Leyburn Station.[33] If this figure is projected to the rest of the Wensleydale railway, including the Midland

[27] *Richmond and Ripon Chronicle*, 14 August 1858 and 18 August 1860.
[28] J Routh, *A Railway Guide Through Wensleydale*, Hawes, 1880, p 1.
[29] *Bedale and Northallerton Times*, 6 September 1879.
[30] Late G Hardcastle, *Wanderings in Wensleydale*, revised C Horner, 1884, p 54.
[31] J Leyland, *Wensleydale and Swaledale*, 1896, p 1.
[32] A E Harrison, 'The Competitiveness of the British Cycle Industry 1890–1914', *Econ Hist Rev*, 2nd ser, 22, 1969, p 288. The cycle industry enjoyed a boom in the mid 1890s and, because of the railway, Wensleydale was able to gain a greater advantage from this than would otherwise have been the case. A local newspaper, in 1895, reported that many cyclists and pedestrians had visited Wensleydale during the Easter holidays. *Darlington and Stockton Times*, 13 April 1895.
[33] Pearson MSS, Annual, *op cit*. Some of these will have been from other stations in the dale but for the purposes of the present exercise all are regarded as visitors from outside the dale. The basis of this calculation is not unreasonable because the resultant over-estimate of visitor numbers will, to a large extent, be compensated for by the assumption that all persons purchasing single tickets at Leyburn subsequently returned to Leyburn by rail.

branch, an estimated 69,000 visitors arrived in the dale by train in 1912.[34]

If the modest assumption is made that these visitors spent 1*s* per head in the dale in 1912, this would have generated a revenue from tourism in Wensleydale of £3000–£4000 per annum.[35] As many visitors spent several days in the area, the total revenue from tourism is likely to have been much higher. Although such a calculation can provide only an approximate guide, it does give an indication of the financial importance of the tourist trade in Wensleydale. Substantial indirect benefits will also have accrued from tourism through improved productivity and employment opportunities due to increased demand for accommodation, provisions, road transport to beauty spots and the souvenir trade. Due to Wensleydale's isolation, it would not have been possible for this tourist industry to develop to any significant degree without the advent of the railway.

IV

From the time of the first railway proposals in the 1840s, residents and other observers had recognized the potential which a railway would release in the economy of the area. The editor of a local newspaper commented in 1845 that, in addition to the stimulation of the tourist trade, dairy products would be sold quickly to the industrial West Riding; manufacturers would establish businesses in the dale, providing work for local people; and the mineral wealth of the area would be exploited.[36] This point was reiterated in the *Darlington and Stockton Times* immediately prior to the opening of the line.[37]

In 1877, in anticipation of the arrival of the railway, Hawes established a market for dairy produce and, in September 1878, following the construction of pens to accommodate 10,000 sheep, the market committee instituted a new sheep and lamb market.[38] Later in the nineteenth century, Farmers' Auction Marts were established at Leyburn and Hawes, a factor which was not unrelated to the continuing decline of local fairs.[39] Prior to the arrival of the railway, livestock had been moved laboriously on the hoof with an attendant loss of quality.[40] The new railway facilitated the swift and efficient movement of fat cattle and sheep to the industrial areas, where they arrived in prime condition. Returns for Leyburn Station demonstrate the importance of the railway for the movement of livestock.

[34] Tickets issued at Leyburn represented 26.6 per cent of the tickets issued on the whole line. This same proportion has been used to estimate the number of visitors arriving on the whole line.

[35] For example, an album of Wensleydale photographs was 6*d* in 1897, and a day's membership of Hawes Golf Club 1*s*.

[36] *The Wensleydale Advertiser*, 24 June 1845.

[37] *Darlington and Stockton Times*, 22 July 1876.

[38] *Ibid*, 17 February 1877. *Bedale and Northallerton Times*, 7 September 1878.

[39] Information supplied by M Hartley and J Ingilby.

[40] HLRO, Minutes of Evidence, HC, 1846, Vol 70, Liverpool Manchester and Newcastle Junction Railway Bill (hereafter LMNJ), evidence of Col Wood; HC, 1865, Vol 57, Skipton, Wharfedale and Leyburn Railway Bill (hereafter SWL), evidence of C E Coleridge. See also R Perren 'The Meat and Livestock Trade in Britain 1850–70', *Econ Hist Rev*, 2nd ser, 28, 1975, p 386.

TABLE 3
Cattle Handled at Leyburn Station 1871–1931

	1871	*1881*	*1891*	*1901*	*1911*	*1921*	*1931*
Cattle							
Forwarded	3,715	4,153	6,098	3,183	3,894	3,253	2,001
Received	983	1,354	3,992	1,748	2,705	1,473	918
Calves F & R	19	299	609	214	430	180	232
Total	4,717	5,806	10,699	5,145	7,029	4,906	3,151

Source: Pearson MSS, *op cit*, 1871–1931.

TABLE 4

Total Cattle in Wensleydale 1874–7 to 1934–7[1]

	1874–7	*1884–7*	*1894–7*	*1904–7*	*1914–17*	*1924–7*	*1934–7*
A Cows & heifers in milk or calf	4,330	4,653	4,410	4,575	5,120	5,698	6,349
B Total cattle	12,207	11,464	11,406	11,707	11,723	11,119	11,246
A as a % of B	35.5	40.6	38.7	39.1	43.7	51.2	56.5

Note[1]: Average of four years in each decade.
Source: PRO, MAF 68/382, 439, 496, 553, 952, 1009, 1066, 1123, 1522, 1579, 1636, 1693, 2092, 2149, 2206, 2263, 2662, 2719, 2776, 2833, 3214, 3268, 3322, 3376, 3744, 3780, 3816, 3852.
Figures for 1874–7 and 1934–7 supplied by R Fieldhouse.

The numbers of cattle received at Leyburn (often in excess of 50 per cent of those forwarded) reflect its position as the lower dale market centre and will have included animals sent short distances from within the dale as well as incoming cattle for fattening in the area. Cattle handled at Leyburn reached a peak of 10,699 in 1891. Thereafter, a steady decline in numbers ensued, interrupted by a slight recovery in the early twentieth century, reaching a low point of 1897 in 1934 when the freight returns available for Leyburn end. The decline in cattle movement by rail was established, therefore, prior to the First World War and before the full impact of motor transport was felt.

The decline in numbers of cattle handled at Leyburn, a fall of 82 per cent from the peak in 1891 to 1934, reflected a general decline of cattle numbers in the dale, of about 8 per cent between the mid 1870s and the mid 1930s. This was against the national trend and was due partly to a shift from cattle fattening into more intensive dairy farming.[41] In the mid 1870s an average of 35.5 per cent of all cattle were cows and heifers in milk or calf, a proportion which had risen to 43.7 per cent in the period 1914–17 and to 56.5 per cent in the mid 1930s. Further, after the 1920s, cattle were moved increasingly by road, a factor which helps to explain the decline of 61 per cent in the number of cattle handled at Leyburn Station between 1921 and 1934.

Another factor in the overall decline of cattle in the dale was that there was a shift in the type of pastoral farming in Wensleydale. The number of sheep in the dale increased by 14 per cent from an average of 77,682 per annum in 1874–7 to an average of 90,284 per annum in 1934–7.[42] Table 5 shows the numbers of sheep handled at Leyburn.

The number climbed erratically from 5044 in 1868 to reach a peak of 29,240 in 1907, followed by an equally erratic decline. The peak and the establishment of the subsequent decline occurred, therefore, as with cattle, before the arrival of motor transport.

[41] MAFF, *A Century of Agricultural Statistics, Great Britain 1866–1966*, 1968, pp 51, 123.

[42] PRO, MAF, 68/382, 439, 496, 553, 3744, 3780, 3816, 3852, Ministry of Agriculture, Parish Summaries of the June Returns, 1874–77, 1934–37.

TABLE 5

Sheep Handled at Leyburn Station 1871–1931

Sheep	*1871*	*1881*	*1891*	*1901*	*1911*	*1921*	*1931*
Forwarded	9,751	12,643	16,177	18,668	18,756	18,398	15,258
Received	550	2,128	5,332	3,741	4,243	2,073	2,088
Total	10,301	14,771	21,509	22,409	22,999	20,471	17,346

Source: Pearson MSS, *op cit*, 1871–1931.

However, it was only after 1931, with the increasing use of motor lorries, that the numbers of sheep handled at Leyburn collapsed from 17,346 in 1931 to 4347 in 1934.

Sheep movements on the Wensleydale railway fluctuated according to the time of year. The most important period was early autumn when the annual sheep fairs took place. In 1868, for example, of the 4392 sheep forwarded from Leyburn, 889 were sent in September and a further 2084 in October, 68 per cent of the annual sheep movement within two months. Other years reflect the same pattern.[43]

Cattle movements exhibited a similar seasonality. The main cattle fairs took place in October and November. In 1868, when 3369 cattle were forwarded from Leyburn, 666 were moved in October and 1722 in November, 71 per cent of the annual total within two months.[44]

Sheep were normally shorn in July and the number of fleeces sent by rail would have been substantial as the new transport system facilitated the removal of this bulky commodity. Formerly, wool (like livestock) had been transported by road due south via Wharfedale to the West Riding.[45] After 1878, the railway transported the wool either eastwards along the NER line or westwards by the Midland branch to reach the West Riding via the trunk systems. As soon as the NER line opened to Askrigg in 1877, Francis Garth of Swaledale forwarded his wool by rail. He recorded sending annually about 200 fleeces which, with each fleece weighing an average of four pounds, will have totalled some 57 stones. In 1873 he recorded receiving 1*s* per pound for the wool but by 1896 the price had fallen to 5¼*d* per pound.[46]

An estimate of the number of fleeces forwarded from Wensleydale alone in the period 1874–7 can be made from the numbers of sheep above one year old. Based on present-day local practice one fifth of the sheep above one year old (the previous year's lambs retained as flock replacements) would have been unshorn. For the period 1874–7 this would have left an average of 34,180 fleeces per annum, which would have produced wool weighing approximately 9766 stone. At 1*s* per pound this would have yielded an income of £6836 to Wensleydale farmers. In the period 1894–7 the average number of fleeces per annum had risen slightly to 35,120, which would have produced wool weighing approximately 10,034 stone.[47] At the reduced price of 5¼*d* per pound which prevailed at this time, the income which Wensleydale farmers would have received from wool would have fallen to £3073. As noted earlier, however, wool had been a traditional export from the dale and, although the railway greatly facilitated its movement, the revenue which Wensleydale farmers received from this traffic cannot be attributed to the railway.

Pigs and geese figured to a lesser extent in the agriculture of the dale and the movement by rail of these animals was never great.

Individual categories of livestock are not available for the Wensleydale stations apart from Leyburn but total livestock figures for the NER stations demonstrate a similar overall trend to that of Leyburn. From 1885, the earliest available return, numbers rose rapidly from 37,610 to a peak of 75,933 in 1909 and thereafter declined, steadily at first, and then dramatically in the 1930s with the more widespread use of the motor lorry.[48] Livestock movements on the Midland branch rose steadily from an estimated 10,000 head in 1879 to a peak of 25,898 in 1919.[49] The peak for this traffic is later than that on the NER line, and reflects the fact that

[43] NER Leyburn Station Summary of Monthly Totals, 1868–1932. Documents in the possession of H W Pearson (hereafter Pearson MSS, Monthly).
[44] *Ibid.*
[45] HLRO, Minutes of Evidence, HC, 1866, Vol 30, Midland Railway (Settle–Carlisle) Bill (hereafter S–C), evidence of C Other, SWL, *op cit*, evidence of C E Coleridge; Garth Daybooks, *op cit*, 2/5/4.
[46] Garth Daybooks, *op cit*, 2/5/3–5.
[47] PRO, MAF 68/382, 439, 496, 553, 1522, 1579, 1636, 1693, *op cit.*
[48] PRO, RAIL 527/2146, 2179, NER Station Traffic Index and *op cit.*
[49] PRO, RAIL 491/671–2, 674–5, *op cit.*

Hawes was the market town for the upper dale and sent the greater proportion of its livestock westwards by the Midland network. The market at Hellifield, situated on the Midland line to the south of Settle, became increasingly popular with the dale's farmers as it was easily accessible, was well attended by dealers from the industrial West Riding and Lancashire, and was a good centre for purchasing stock from other areas for fattening in Wensleydale.[50]

Horses and dogs were carried by rail but numbers were generally small, except at Leyburn Station which served nearby Middleham, an important centre for racehorse training.[51] The total number of horses forwarded and received at Leyburn Station rose from 1251 in 1868 to 1539 in 1900 and, contrary to other livestock numbers, continued to rise until the late 1930s when the records end.[52] This traffic, of course, cannot be classed as agricultural.

V

The opening of the railway directly induced one major change in farming practice in Wensleydale which the speculators of the pre-railway days had not anticipated. Prior to 1878 most of the milk produced in the dale was converted into butter and cheese with only a little liquid milk retained for local consumption. With the advent of a rapid transport system, fresh milk could be sent from the Wensleydale farm to the urban consumer and, henceforth, other dairy produce played a supporting and not a dominant role. The timely arrival of the railway provided the dale's farmer with the means for survival when foreign competition was threatening traditional markets. The arrival of refrigerated ships carrying meat from New Zealand and North America in the 1880s and the increased imports of continental dairy produce were adversely affecting pastoral farmers by the late nineteenth century.[53] The liquid milk market remained immune from foreign competition and the dale's farmer was quick to capitalize on the natural protection which this market enjoyed. Wensleydale was not alone in this respect and many rural areas moved into large-scale liquid milk production at this time. Henry Rew in 1892 commented 'every traveller by rail has noted the outward and visible signs of the expansion of this trade in the battalions of cans . . . which daily come and go along all the country lines of railway'.[54]

The earliest reference to the movement of fresh milk from Wensleydale occurs in 1894, although probably milk had been sent by rail to the cities prior to this date. In 1894 milk was sent from Wensleydale via Northallerton to Newcastle-upon-Tyne, Sunderland, Darlington, Hull, York, and Leeds.[55] By the turn of the century it was being forwarded also to other West Riding towns, to Lancashire and to the large depot at Finsbury Park for supply to London.[56] The freight charge to farmers for the Lancashire traffic was 1*s* 11½*d* per 17-gallon can.[57]

[50] Local oral tradition.

[51] For example, in 1899 only 492 Horses, Carriages and Dogs were forwarded on the NER line excluding Leyburn. PRO, RAIL 527/2166, NER Traffic Receipts.

[52] Pearson MSS, Annual, *op cit*, 1868–1934.

[53] C S Orwin and E H Whetham, *History of British Agriculture 1846–1914*, 1964, pp 259–60.

[54] R H Rew, 'An inquiry into the statistics of the production and consumption of milk and milk products in Great Britain', *JRSS*, LV, 1892, p 262.

[55] PRO, RAIL 527/290, *NER Minutes and Reports on Milk Traffic*, 1905.

[56] NER Rate Book for perishable merchandise by passenger train or other similar service, Askrigg, 1892, used with updates until the early twentieth century (hereafter Bell MSS, Askrigg Rate Book); letter re milk traffic from Askrigg to Liverpool, 1899. Documents in the possession of K A Bell. The growth of rail-borne milk to London has been discussed elsewhere, though with no mention of Wensleydale milk. See E H Whetham, 'The London Milk Trade 1860–1900', *Econ Hist Rev*, 2nd ser, 17, 1964–5, pp 369–80, and *The London Milk Trade 1900–1930*, Reading, 1970; D Taylor, 'London's Milk Supply, 1850–1900: A Reinterpretation', *Agricultural History*, 45, 1971, pp 33–8, and 'The English Dairy Industry 1860–1930: The need for a reassessment', *Ag Hist Rev*, 22, 1974, pp 153–9. Taylor makes the point that the years 1890–1910 were not characterized by any marked increase in milk production nationally, p 155. Clearly, this was not the case in Wensleydale. P J Atkins, 'The Growth of London's Railway Milk Trade, c 1845–1914', *Journal of Transport History*, IV, 1975, notes that in the 1890s the GNR with its Finsbury Park depot was one of only two companies to provide a special milk terminal, p 213.

[57] Bell MSS, Askrigg Rate Book, *op cit*.

Milk forwarded from NER Wensleydale stations grew from 27,000 gallons in 1899 to 118,584 gallons in 1901 and to 454,562 gallons in 1905.[58] Because of the increase in demand, and the consequent need to process and distribute Wensleydale milk quickly and efficiently, a bottling depot was erected by the NER at Northallerton. This was let to the newly-formed Wensleydale Pure Milk Society (WPMS).[59] Unlike their Welsh counterparts, the dale's farmers accepted the need to work through co-operatives to realize the potential which the railway offered for the export of both liquid milk and other dairy produce.[60]

Within its first few years of operation the WPMS depot was sending milk to Tyneside, Teesside, the West Riding and London.[61] Despite certain early financial problems the Society thrived and by 1907 the WPMS milk accounted for over £1800 of the total NER milk traffic revenue of £15,000.[62] In 1911, with the encouragement of the NER, the Wensleydale Farmers' Association was established at Redmire and a dairy was constructed adjacent to the railway at Redmire Station.[63]

Following the establishment of the WPMS, milk traffic from the stations on the Wensleydale line rose dramatically and by 1911 759,763 gallons were being forwarded annually from Wensleydale to the WPMS depot at Northallerton.[64] In addition substantial quantities of Wensleydale milk were being forwarded direct to urban markets.[65] The Redmire co-operative, which had fifty members in 1911, was run in conjunction with the WPMS until it ceased trading in 1931. The following year the WPMS depot and the Redmire dairy were sold to Cow and Gate Company.[66] The Northallerton depot continued to operate, although less milk was sent from Wensleydale.[67]

Accounts for milk sent from Askrigg between 1925 and 1932 illustrate the scale of this traffic. In the mid 1920s thirteen farmers and two local dairies were forwarding their milk daily and paying on a monthly account. Table 6 shows the numbers of farmers with monthly accounts in the early 1930s and the destination of the milk.

It is interesting to note that in the early 1930s an average of 82.5 per cent of all milk forwarded from Askrigg was destined for London, some 250 miles distant. During September 1932 the last consignments of milk passed through the upper dale stations. On 1 October the milk lorries arrived in the

[58] PRO, RAIL 527/1273, miscellaneous documents relating to the WPMS Depot, includes *Report on the WPMS Depot*, 1908.
[59] PRO, RAIL 527/290, *op cit*.
[60] Howell, *op cit*, pp 55–7.
[61] PRO, RAIL 527/1273, *Report on the WPMS Depot*, c1906.
[62] *Ibid*, *Report on the WPMS Depot*, 1908. Total milk from Wensleydale in 1907 accounted for £3117 of NER milk traffic revenue.
[63] PRO, RAIL 527/745, *Agreement between NER and Wensleydale Farmers' Association Ltd*, 26 October 1911.
[64] PRO, RAIL 527/391, NER Goods Dept District Officers Report, 1911.
[65] T C Calvert, *Wensleydale Cheese*, Clapham, 1977, pp 14–15.
[66] PRO, RAIL 527/1273, *Sale notice of WPMS Depot and Redmire Dairy*, 1932; K Hoole, *Railways in the Yorkshire Dales*, Clapham, 1975, p 33.
[67] PRO, RAIL 527/1273, Milk Traffic Forwarded from Northallerton, 1936–7.

TABLE 6
Milk Freight from Askrigg Station (in gallons) 1930–2

Year	*Farmers*	*Destinations*			
		Leeds	*Appleby*	*Finsbury Park*	*Total*
1930	22 + 1[1]	21,683	—	228,189	249,872
1931	22 + 1[1]	15,614	17,985	240,038	273,637
1932[2]	not recorded	9,120	71,940	172,964	254,024

Note[1]: Mason's Dairy, Askrigg.
Note[2]: For the sake of comparison figures are projected for the whole year, although from 1 October all milk was sent by road to Appleby.
Source: Bell MSS, LNER Milk Accounts Ex Askrigg, 1925–33.

TABLE 7

Milk Freight at Leyburn Station (in gallons) 1909–39

	1909	*1914*[1]	*1919*[2]	*1924*	*1929*	*1934*	*1939*
Non-WPMS	13,484	37,100	174,470	259,233	345,875	38,865[3]	3,227,215
WPMS		Not recorded			41,094	102,275	139,936
					386,969	141,140	3,367,151

Note[1]: Estimated.
Note[2]: 1920 figure.
Note[3]: This exceptionally low figure may be due to an incorrect return (1935 = 162,981 Non WPMS milk and 101,402 WPMS = total of 264,383 gallons).
Source: Pearson MSS, *op cit*, 1909–39.

dale and, with the exception of some farms in the Hawes area which served the local cheese factory, the milk was taken direct from the farm to the Express Dairy at Appleby.[68]

A consideration of the milk traffic at Leyburn between 1909 and 1939 provides further indication of the importance of liquid milk as part of the agricultural economy of the dale.

The amazing increase in milk traffic at Leyburn in 1939 was due mainly to the diversion of most of the upper dale milk from Appleby to the new Express Dairy at Leyburn (opened 1937). Initially this cooling dairy handled 4000 gallons of milk daily which was sent forward to the Express Dairy's bottling plant at Cricklewood.[69] For much of the life of the line a substantial volume of milk was forwarded westwards by the Midland branch but detailed information is not available to quantify this traffic.[70]

The new liquid milk industry had an important impact on the economy of the dale. The price of milk fluctuated greatly in the early twentieth century and, on occasions, farmers were able to command high prices for their milk, particularly from city buyers who bought direct from the farm. However, the sale of milk on the open market involved a certain amount of risk and many farmers preferred the comparative security of contracts with the WPMS and other local outlets.[71] In 1907 the WPMS was paying 7½*d* per gallon. In that year 570,241 gallons were forwarded from Wensleydale on the NER line, of which 370,882 gallons were destined for the WPMS. Based on the WPMS price, the total milk forwarded would have produced revenue of £17,820.[72]

By 1932, after much fluctuation, farmers supplying the cheese dairy at Hawes were receiving an average of 6½*d* per gallon for milk.[73] By this date, at a conservative estimate, some two million gallons of milk were forwarded annually from the dale, which would have yielded a revenue of £54,167 to local farmers.[74] This was followed by a decline in both milk output and prices during the depths of the depression but by 1939 over three million gallons of liquid milk were forwarded from the dale (see Table 7), which even at 1932 price levels would have yielded a substantial revenue.

[68] M Hartley and J Ingilby, *Yorkshire Village*, 1953, p 252.
[69] By the 1950s, thirty people were employed to handle the milk and an average of 33,000 gallons per day were forwarded by rail until the closure of the line to passenger traffic in 1954. This traffic was then diverted to road going mainly to destinations in the North East. Details supplied by A V Slack, former manager of the Express Dairy, Leyburn.
[70] Bell MSS, Askrigg Rate Book, *op cit*; Hoole, *op cit*, p 30. Additional information supplied by the late T C Calvert.
[71] Calvert, *op cit*, 1977, p 15. Additional information supplied by the late T C Calvert.
[72] PRO, RAIL 527/1273, *Report on the WPMS Depot*, 1908.
[73] T C Calvert, *Kit Calvert of Wensleydale*, Clapham, 1981, p 15. 5*d* per gallon in summer and 8*d* per gallon in winter. Calvert notes also the impact of the Milk Marketing Board (established October 1933) on the dairy industry of the dale, p 17, and Calvert *op cit*, 1977, pp 24–30.
[74] The estimate is based on a projection of the LNER Milk Accounts, Askrigg, 1925–33. Document in the possession of K A Bell.

Although liquid milk became of primary importance to the dale's dairy farmer, other dairy produce was not totally eclipsed. The production and forwarding of cheese and butter continued to be substantial.[75] The impact of the Wensleydale railway on dairy production in the area was, therefore, considerable, not only in enabling a liquid milk industry to be established but also in assisting the transportation of other dairy produce.

VI

The Wensleydale railway had a major influence on the rapid development of stone quarrying within the dale. Demand for stone was high in the expanding industrial areas and the potential which the railway offered for exporting stone, a factor which had been recognized in the early days of promotion, was quickly realized.[76] Large deposits of good quality sandstone for use as flags and slates were quarried in the upper dale. Two quarries at Burtersett, near Hawes, were particularly productive, causing a writer to comment in 1884 that since the 1820s 'the village has deteriorated in prosperity . . . but I am happy to think it is again flourishing, since the introduction of a railroad . . . its flags, stones and mines are becoming valuable'.[77] Output at Burtersett rose, with fluctuations, from 5750 tons in 1882 to a peak of 12,950 tons in 1886. Three other quarries in the Hawes area produced a further 3861 tons in that year.[78]

Returns available for the Midland branch demonstrate the rapid growth in the export of stone from Hawes. Stone exports rose from 2664 tons in 1879 to 13,170 tons at the peak in 1889 (see Table 8). There followed a rapid decline leading to the virtual extinction of the industry in the period immediately following the First World War, when the most accessible seams of stone were exhausted and demand for building stone diminished.[79]

Smaller quantities of stone were also sent eastwards over the NER network but detailed information is not available.[80]

In 1882 three quarries in the upper dale employed a total of eighty workers, of which seventy-five were employed at the two Burtersett quarries.[81] It is estimated on the basis of output that the number of workers employed in the upper dale quarries had risen to approximately 200 at the peak in 1886. Numbers then declined but even at the turn of the century the two Burtersett quarries alone still employed about 100 workers.[82] In the late nineteenth century the wage for skilled quarry workers in the upper dale was about 16*s* per week and the starting wage for

[75] NER Telegraphs to Askrigg, complaints from Stockton and elsewhere re consignments of cheese, 1881. Documents in the possession of E Daykin. NER Aysgarth Invoices, April 1877 (hereafter, Bell MSS, Aysgarth Invoices). Substantial numbers of empty butter boxes were received from Bradford Station. Document in possession of K A Bell. NER Traffic Details, *c*1905. The train due to depart Hawes at 3.25 pm on Tuesdays (market day) was instructed to wait until the butter was ready. Document in the possession of P Moore.

[76] HLRO, Minutes of Evidence, HC, 1846, Yorkshire and Glasgow Union Bill, evidence of P Buck; S–C, *op cit*, evidence of C Other. *The Wensleydale Advertiser*, 8 July 1845. *Darlington and Stockton Times*, 22 July 1876.

[77] J Chapman, *Burtersett Sixty Years Ago*, Hawes, 1884, p 12.

[78] PRO, ZHC1/4688, 4622, *Reports of the Inspectors of Mines*, 1882–3; RAIL 1060/18–21, *Mineral Statistics*, 1884–7.

[79] PRO, RAIL 491/671–2, 674–5, *op cit*. Calvert, *Burtersett Seventy Years Ago*, Hawes, 1974, p 7.

[80] Pearson MSS, Monthly, *op cit*.

[81] PRO, RAIL ZHC1/4688, *op cit*.

[82] Calvert, *op cit*, 1974, p 2.

TABLE 8

Stone Freight Forwarded on the Midland Branch from Hawes (in tons) 1881–1916[1]

1881	*1886*	*1891*	*1896*	*1901*	*1906*	*1911*	*1916*
4541	6005	10,883	6654	3640	2279	2400	779

Note[1]: Three year moving average.
Source: PRO, RAIL 491/671–2, 674–5, *op cit*.

unskilled workers was about 6*s*.[83] On this basis the average wage bill for all quarries in the upper dale in 1886 would have been approximately £110 per week or £5720 per year.[84]

In enabling this upper dale industry to flourish, albeit for a short period, the railway directly influenced the employment prospects for a significant number of local people (possibly totalling about 940, including dependants, in the late 1880s) who may otherwise have had to leave the area to find work.[85]

The quarries of the lower dale were primarily limestone and, therefore, supplied a different market from that of the upper dale. The Carboniferous limestone was quarried mainly for aggregate and for flux for use in the steel industry. Limestone quarrying had developed on a significant scale as early as 1856 when a siding was constructed to serve Harmby Quarry, immediately east of Leyburn, when the new Bedale and Leyburn Railway was built.[86] In the late nineteenth and early twentieth centuries other quarry sidings were constructed at West Quarry, Leyburn, at Wensley and at Redmire. Production at the lower dale limestone quarries appears to have expanded rapidly in the 1920s. At Redmire, for example, production rose from 11,478 tons in 1921 to over 33,000 tons in 1923.[87] So, as with the tourist trade and milk production, the railway had a creative impact on the quarrying industry rather than a merely substitutive role.

VII

Miscellaneous goods traffic on the Wensleydale line increased dramatically in the years following the opening of the line. Total goods traffic for the whole line rose to a peak of 26,732 tons in 1898 before settling to an average of about 21,000 tons per annum prior to the First World War.[88] In addition to greatly facilitating the export of dales produce the railway served a vital role in assisting the import of essential commodities, thereby improving the quality of dales life and enabling the area to compete more effectively with other parts of the country.

The facility which the railway afforded to the farming community for the import of fodder and other farm requisites was invaluable in enabling the agricultural economy to respond to change. Invoices of goods received at Aysgarth in April 1877, shortly after the line opened, illustrate the quantity and type of goods imported.[89] A variety of agricultural products, including corn, feedcake, hay, straw, manure, bones and phosphate soda were received.[90] Apart from agricultural products arriving at Aysgarth in April 1877, the railway facilitated the import of building materials, such as bricks and Welsh slates which hitherto had not been used to any great extent in the dales. Domestic provisions and manufactured goods were more easily accessible.

Commodities were received in Wensleydale from the furthest parts of the British Isles and also from abroad via the ports of the north. For example, cider was sent from Leominster, salt from Northwich, Welsh slates from Bangor, Llangollen and Dolgellau, Westmorland slates from Windermere, concrete blocks from Lancashire, cement from the Midlands, sanitary pipes from Castleton, soot from Glasgow and Edinburgh, basic slag from Middlesbrough, iron and steel from Teesside, and

[83] *Ibid*, p 3.
[84] The figures are derived by estimating a nominal 100 workers at 16*s* per week and 100 at 6*s* per week.
[85] Using a multiplier of 4.7.
[86] Ordnance Survey, Sheet 68, Leyburn Area, 6 inches to a mile, 1856.
[87] PRO, RAIL 527/2142, 2146, *op cit*.
[88] PRO, RAIL 527/2179, 2142; 491/671–2, 674–5, *op cit*.
[89] Bell MSS, Aysgarth Invoices, *op cit*.
[90] The movement of hay and straw into the dale during the winter months was often substantial. For example, between January and May 1886, fifty-eight tons of hay and twenty-two tons of straw were received at Askrigg Station. NER Goods Weighing Book, Askrigg, 1 January–29 May, 1886. Document in the possession of D Brown.

deals, battens and boards from Hartlepool.[91] The wide availability of imported goods was not an unequivocal advantage. The numbers of craftsmen in the area declined towards the end of the century and some local industry suffered.[92] However, the advantages of the railway decisively outweighed its disadvantages for the majority of the dales people.

Before the railway era, Durham and other quality coal had been transported into the dale, first by packhorse and later by wagon.[93] This foreign coal was expensive but was of much better quality than local Wensleydale coal.[94] Prior to 1 August 1878, good quality coal was sold at Hawes at 9*d* per hundredweight, but within days of the opening of the rail service increased competition led to a marked fall in prices and St John's Normanton coal was being offered at 6½*d* per hundredweight including delivery within Hawes.[95] In 1879, when 1847 tons of coal were imported into Hawes via the Midland Railway, this would have represented an immediate saving to the local population of £385.[96] It is likely that other settlements along the Wensleydale line enjoyed similar savings.

Coal freight on the Wensleydale line was substantial in the late nineteenth and early twentieth centuries and detailed returns for Leyburn, set out in Table 9, provide an indication of the scale of this traffic.

TABLE 9
Coal Received at Leyburn (in tons) 1871–1931[1]

1871[2]	*1881*	*1891*	*1901*	*1911*	*1921*	*1931*
12,194	6016	5493	5009	5661	4120	3671

Note [1]: Three year moving average.
Note [2]: Leyburn handled coal for the upper dale before 1877.
Source: Pearson MSS, *op cit*, 1871–1931.

Between 1881 and 1931 there was a fall of 39 per cent in the tonnage of coal arriving at Leyburn Station. Coal received on the whole of the NER Wensleydale line followed a similar trend. From 13,184 tons received in 1885 this traffic declined to 10,923 tons in 1901, recovered to 12,719 tons in 1911 and subsequently underwent a sustained decline.[97] This trend is contrary to that on the rest of the NER network where coal freight more than doubled between 1871 and 1912.[98] Coal was received at Hawes over both the NER and Midland networks. In the late nineteenth century an average of about 1900 tons per annum was received at Hawes via the Midland network. This traffic fluctuated at a somewhat lower level in the early part of the twentieth century before undergoing the same sustained decline as was experienced on the NER network. As most of the coal arriving in Wensleydale was for domestic use it is probable that the downward trend reflects the decline in population as much as the adoption of other forms of fuel.[99]

VIII

It is not possible to quantify precisely the impact which the railway had on the economy and society of Wensleydale and upper Swaledale. However, an indication of the benefits which the railway brought can be gained from the foregoing analysis. In general terms the railway opened up the dale to the mainstream influences of Victorian England and, conversely, gave the dalesman and his produce greatly improved access to the nation at large. Specifically, the railway laid the foundations for the modern tourist industry, assisted agriculture to adapt to changed circumstances and markets thereby enabling it to survive periods of depression,

[91] NER Rate Book for Merchandise, Askrigg, 1895, and updated to 1908. Document in the possession of K A Bell.
[92] PRO, HO 107/1252, 1254, 2379–80, RG9/3667–71, RG10/4868–71, RG11/4873–6, *CEB*, 1841–81.
[93] E Pontefract and M Hartley, *Wensleydale*, 1936, p 171.
[94] HLRO, Minutes of Evidence, LMNJ, *op cit*, evidence of R C Allen and W Lodge.
[95] *Bedale and Northallerton Times*, 24 and 31 August 1878.
[96] PRO, RAIL 491/672, *op cit*. Some coal was also transported over the NER network but 1885 is the earliest NER extant record.
[97] PRO, RAIL 527/2179, *op cit*.
[98] Irving, *op cit*, p 293.
[99] Pearson MSS, Monthly, *op cit*, 1868–1932.

and provided essential support to other traditional and new industries. It is clear that the railway did not achieve its peak impact on all sectors of the economy at the same time. Indeed, passenger traffic and the various categories of freight traffic reached their peak levels at markedly different times as is demonstrated in Table 10.

TABLE 10
Peak Usage of the Wensleydale Railway by Passengers and Freight

1877–1900	*1900–1925*	*1926–1954*[1]
Cattle	Sheep	Milk
Upper dale stone	Passengers	Lower dale stone
Coal		Leyburn Race-horses
Goods		

Note [1]: Although the documentary details of the Wensleydale railway summarized in Table 10 end in the 1930s, oral sources confirm that the same pattern of peak usage exhibited in the 1930s continued until the closure of the line to passenger traffic in 1954.

Unfortunately, despite the considerable boost which the railway gave to the dale's economy and the improvement which it brought to the quality of life of the dale's inhabitants, its impact was not sufficient to reverse the sustained decline in population which set in after 1861. In fact, the railway had the paradoxical effect of assisting the dale's economy whilst at the same time, by increasing mobility and extending awareness of the outside world, facilitating depopulation.

To what extent was the Wensleydale line commercially viable and profitable to the NER and Midland Companies? In the absence of complete details of all capital costs and all revenue receipts and expenditure, and without carrying out a full financial appraisal, it is not possible to answer this question with any precision. It would appear, however, that certain classes of traffic, such as passengers, minerals and milk, far exceeded expectations and at times may have rendered the line profitable. Bearing in mind that protection of territory rather than profitability was the prime motive for construction of the line it would certainly seem that, overall, the line performed rather better than anticipated. Nevertheless, as a branch line in a relatively remote rural area, the line cannot have been more than occasionally profitable and, over its full lifespan, cannot have provided an acceptable return on the capital invested.

In the end the railway could not withstand the competition from the motor car and motor lorry and by the early 1950s it was estimated that the line was losing £14,000 per annum.[100] The line was largely closed to passengers in 1954 and to goods traffic west of Redmire in 1964, marking the end of an era in the life of Wensleydale.

[100] *Darlington and Stockton Times*, 24 April 1954.

(continued from page 11)

Medieval England', and Dr C Holmes on 'The Development of Agricultural Advisory Services in England and Wales, *c.* 1900–1950'. Thereafter the conference will concentrate on the early modern period with a round-table discussion of *The Agrarian History of England and Wales* Volume V on Tuesday evening and papers on Wednesday morning by Dr M Mylechreest on 'Thomas Andrew Knight, FRS, FLS (1759–1838) — from Gentleman Farmer to Scientific Gardener', Dr P Edwards on 'Horses in the Economy of Tudor and Stuart Britain' and Dr P Glennie on 'Agrarian Change in an early modern "Metropolitan County": Hertfordshire *c.* 1550–1700'. Booking forms should be inserted with this issue of the *Review* and further copies can be obtained from the Secretary of the Society.

The 1987 Annual Conference will be held at the University of Ulster, Magee College Campus Londonderry and is being organized by Dr P Roebuck, Department of History, University of Ulster, Coleraine, Co. Londonderry, Northern Ireland BT52 1SA. Offers of papers should be sent to the Secretary of the Society as soon as possible.

(continued on page 59)

The Infancy of France's First Agricultural Syndicate: the Syndicat des Agriculteurs de Loir-et-Cher 1881–1914*

By ALAN R H BAKER

FRENCH peasants — like those elsewhere — were accustomed to confronting both man-made and natural hazards, both edicts of Government and acts of God.[1] Against such threats, individual peasants traditionally sought group protection within the immediate family and the proximate village community rather than remotely in larger organizations (such as unions and political parties) and institutions (such as Church and State). Peasant recognition of a real world of scarcity coupled with an imagined world of equality encouraged mutual aid and cooperation within families and communities. Thus the idea of equality mediated between the conflicting concepts of liberty and fraternity, of individualism and collectivism.

One of the basic structures underlying French agricultural history has been the conflict between individualism and collectivism. The nineteenth century has, in this respect, been described as a hiatus, a period in which collectivist traditions were suppressed while peasants struggled for individual ownership of land.[2] The cult of individualism which triumphed with the French Revolution considerably damaged pre-existing concepts of collectivism and acted as a brake on the emergence of new forms of collective action in agriculture, even when these were advocated as a means of preserving a class of individual owner-occupiers on their farms. Numerous contemporary observers and modern historians of French peasants during the nineteenth century have certainly portrayed them, but almost equally certainly caricatured them, as reactionary individualists wedded securely to their parcels of land and to their lives of routine.[3] Thus Marx contemptuously dismissed French peasants as 'rural idiots', describing their mode of production as 'a non-homogeneous and non-unified agglomeration of autonomous units of autarchic production. A small-holding, a peasant and his family; alongside them another small-holding, another peasant and another family. A certain number of these families form a village, and a certain number of villages a *département*. Thus the great mass of the French nation is made up of a simple addition of units bearing the same name, just as a sack filled with potatoes forms a sack of potatoes.'[4] Emile Zola, in his novel *La Terre*, has the exasperated schoolteacher castigating the peasantry: '. . . you don't know anything and you don't want to,

* The author thanks the British Academy, the Centre National de la Recherche Scientifique, the Social Science Research Council and the University of Cambridge for support grants for the general research project on fraternity in the French countryside during the nineteenth century upon which this particular paper is based.

[1] J Berger, 'A class of survivors', *New Society*, 42, 1977, pp 611–13; J Berger, *Pig Earth*, London, 1979; E Le Roy Ladurie, 'Peasants' in P Burke (Ed), *The New Cambridge Modern History XIII, Companion Volume*, Cambridge, 1979, pp 115–63; J Blum (Ed), *Our Forgotten Past: Seven Centuries of Life on the Land*, London, 1982.

[2] T Zeldin, *France 1848–1945: I: Ambition, Love and Politics*, Oxford, 1973, pp 131–97. See also G Wright, *Rural Revolution in France. The Peasantry in the Twentieth Century*, London, 1964, pp 1–39.

[3] M Bloch, 'Technical change as a problem of collective psychology', *Journal of Normal and Pathological Psychology*, 1948, pp 1014–115, reprinted in M Bloch, *Land and Work in Mediaeval Europe*, London, 1967, pp 124–35.

[4] *Karl Marx Friedrich Engels Werke*, VIII, Berlin, 1960, pp 198 and 201.

just stuck in your rut'.[5] Later, Hannah Lynch described the French peasant as 'being content to accommodate himself to circumstances' and as having 'a sturdy passion for independence'.[6] Early this century, Mary Duclaux wrote: 'the [French] peasant is, as a rule, intellectually idle, incapable of combination, suspicious and impatient of new-fangled ideas . . . The principle of solidarity has scarcely penetrated as yet into rustic parts.'[7]

None the less, there did gradually emerge within rural France during the second half of the nineteenth century a range of agricultural unions (*syndicats*) in the form, for example, of livestock insurance societies, threshing associations, anti-phylloxera syndicates and general purpose agricultural syndicates whose principal aim was to provide their members with supplies (especially of chemical fertilizers) of guaranteed quality and at reduced prices.[8] Agricultural *syndicats* in France may be interpreted as individual farmers socializing in order to overcome scarcity (to make the most effective use of limited resources) and in order to preserve their freedom (to ensure the survival of small, sometimes uneconomic, farms under pressure from competition from large and efficient farms not only elsewhere in France but also abroad, particularly in North America). The *syndicats*, groupings of peasants, mediated between the individual farmer and his social totality.[9] The function of these syndicates was by no means narrowly economic, for the lesson of solidarity was both taught by the State and preached by the Church in their struggle for the social control of the peasantry. The promotion of agricultural syndicates represented materialism in the service of idealism.[10] Recent major studies of the modernization of rural France have ignored the role of agricultural syndicates and have instead stressed the part which the coming of the railways played in that process;[11] but some thirty years ago Augé-Laribé claimed that the practice of association had brought to the social fabric of agriculture in western Europe a change almost as great as that engendered by the railway network in the economic sphere.[12] The purpose of this paper is to examine the development, diffusion and diversification of France's first general purpose agricultural syndicate: the Syndicat des Agriculteurs de Loir-et-Cher, which was founded in 1883 at Blois, in the middle Loire valley (Fig 1).

I

According to Roger Dion, no other locality in the entire Loire Valley had a more

[5] Zola's novel was first published in 1887; it has recently been republished in English as *The Earth*, Harmondsworth, 1980. For historical as well as literary assessments of Zola's depiction of the French peasantry, see: G Robert, *"La Terre" d'Emile Zola. Etude Historique et Littéraire*, Paris, 1952; C Marcilacy, 'Emile Zola: "historian" des paysans beaucerons', *Annales Economies Sociétés Civilisations*, 12, 1957, pp 573–86.

[6] H Lynch, *French Life in Town and Countryside*, London, 1901, 172–82.

[7] M Duclaux, *The Fields of France*, London, 1905, pp 79–131.

[8] P Barral, *Les Agrariens Français de Méline à Pisani*, Paris, 1968, pp 104–28; M Agulhon, G Desert and R Specklin, *Apogée et Crise de la Civilisation Paysanne 1789–1914*, Paris, 1976, pp 518–29 (being volume 3 of G Duby and A Wallan (Eds), *Histoire de la France Rurale*, Paris 1975–6). For two much earlier accounts written during the formative years of agricultural syndicalism in France, see: H W Wolff, 'The agricultural syndicates of France', *Journal of the Royal Agricultural Society of England*, Third Series, 11, 1900, pp 252–62 and A Souchon, *Agricultural Societies in France*, Paris, 1915.

[9] Some of the contextual ideas touched upon briefly here have been considered at greater length in A R H Baker, 'Reflections on the relations of historical geography and the *Annales* school of history' being pp 1–27 of A R H Baker and D Gregory (Eds), *Explorations in Historical Geography: Interpretative Essays*, Cambridge, 1984.

[10] For some case studies of agricultural syndicates in various regions of France before 1914, see: M C Cleary, 'The plough and the cross: peasant unions in south-western France', *Ag Hist Rev*, 30, 1982, pp 127–36; R Faucon, 'Les origines du syndicalisme agricole dans la région du Nord (1884–1914)', *Revue du Nord*, 48, 1966, pp 67–89; G Garrier, 'L'Union du Sud-Est des syndicats agricoles avant 1914', *Le Mouvement Social*, 67, 1969, pp 17–38; R H Hubscher, *L'Agriculture et la Société Rurale dans le Pas-de-Calais du Milieu du XIX^e siècle à 1914*, Arras, 1980, pp 614–35; C Mesland, 'Le syndicat agricole vauclusien (1887–1939)', *Le Mouvement Social*, 67, 1969, pp 39–60; E Lesueur, *L'Agriculture et les Syndicats Agricoles dans le Département du Pas-de-Calais*, Paris, 1905; R Leveau, 'Le syndicat de Chartres (1885–1914)', *Le Mouvement Social*, 67, 1969, pp 61–78; J Saillet and J Girault, 'Les mouvements vignerons de Champagne', *Le Mouvement Social*, 67, 1969, pp 79–109.

[11] E Weber, *Peasants into Frenchmen: the Modernization of Rural France 1870–1914*, London, 1977; R Price, *The Modernization of Rural France: Communications Networks and Agricultural Market Structures in Nineteenth-Century France*, London, 1983.

[12] M Augé-Laribé, *La Révolution Agricole*, Paris, 1955, p 258.

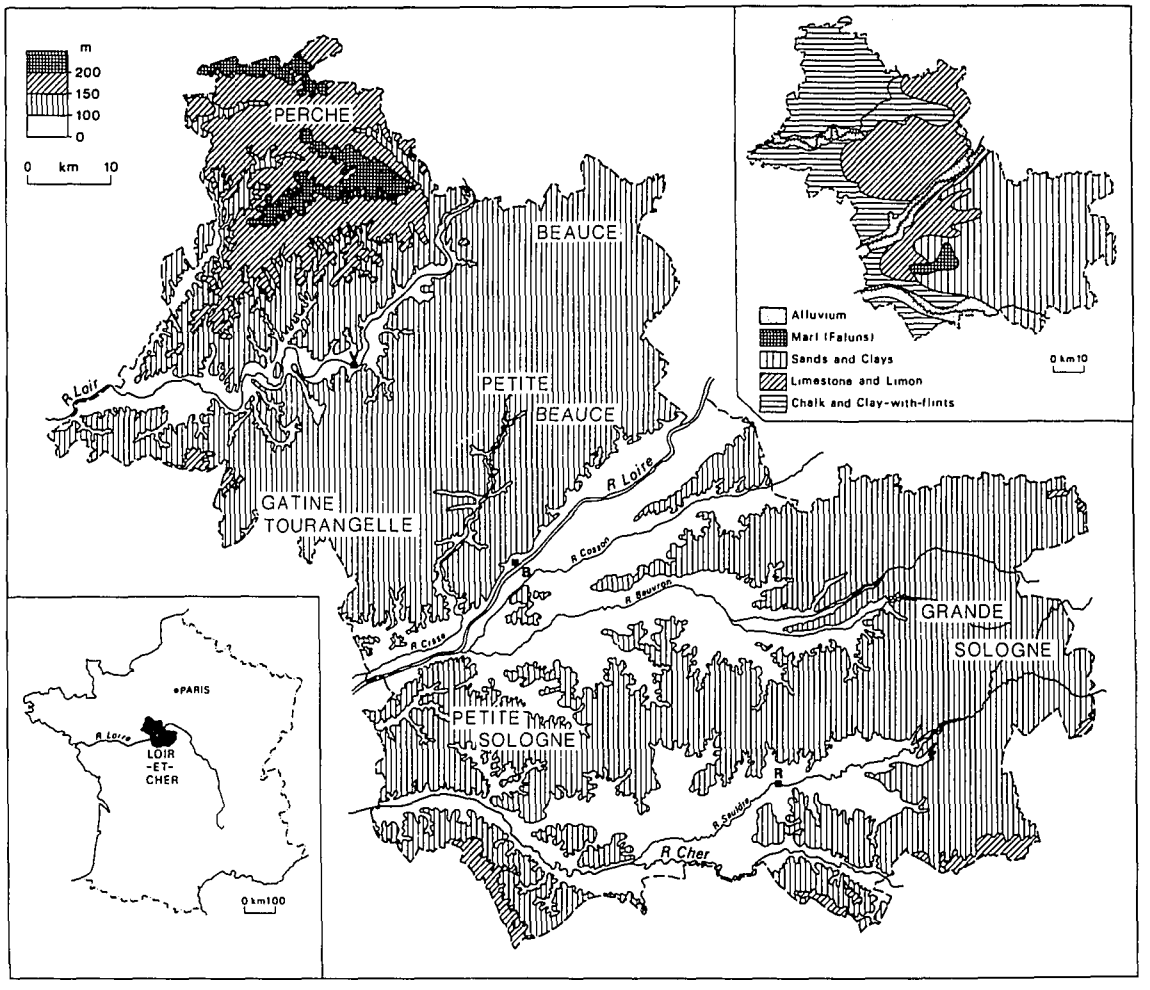


FIGURE 1
The *département* of Loir-et-Cher (B = Blois; R = Romorantin; V = Vendôme)

precocious awakening of the spirit of peasant association than the region around Blois: in support of his view he cited the creation in 1878 of a threshing association at Saint-Claude-de-Diray (a commune on the left bank of the Loire, opposite Blois) and the foundation in 1883 of the Syndicat des Agriculteurs de Loir-et-Cher at Blois (but whose members came from viticultural *pays* throughout the *département*).[13] Surprisingly, Georges Dupeux made scant reference to the development of peasant associations in his monograph on Loir-et-Cher during the nineteenth century, suggesting that this new emphasis appeared only at the beginning of the twentieth century. Progress in the nineteenth century was attributed by Dupeux to biological improvements (to crops, to livestock and to soils) and to technological developments (notably, mechanization). Although Dupeux acknowledged the creation in July 1883 of the Syndicat des Agriculteurs de Loir-et-Cher he did so merely when assessing the growing use of chemical fertilizers and he claimed that the principal, indeed only, role of this Syndicat was to become and to remain a fertilizer cooperative.[14] In fact, as will be

[13] R Dion, *Le Val de Loire. Etude de Géographie Rurale*, Tours, 1934, pp 705–11.

[14] G Dupeux, *Aspects de l'Histoire Sociale et Politique du Loir-et-Cher 1848–1914*, Paris, 1962, pp 211–13.

shown, peasant associations contributed to the agricultural development of Loir-et-Cher much sooner and in more diverse ways than envisaged by Dupeux. Furthermore, their emergence needs to be viewed not only in terms of their *general* historical *context* but also in terms of the *particular* individuals whose *charisma* provided the necessary link between *structure* and *action*.

The success of the Syndicat des Agriculteurs de Loir-et-Cher owed much to the enthusiasms and energies of its first two Presidents, Jules Tanviray and Alphonse Riverain, but their achievement must be set against its background. During the 1880s and 1890s many farmers in the *département* were feeling increasingly the impact of foreign competition while *vignerons* saw their livelihoods being undermined by the invasion of the phylloxera. But the State — in the form of central as well as local authorities — was keen to support the peasantry for political reasons and saw the promotion of agricultural syndicates in particular as one way of offering effective aid, channelled through its officially-appointed Professors of Agriculture.[15]

Jules Tanviray was Loir-et-Cher's first Professor of Agriculture, taking up his post on 1 April 1879. Coming from a farming family, Tanviray was one of the tiny minority of peasants who received a formal education in agricultural methods, first at the farm school of the *département* and subsequently at a national farm school. He then worked his own farm from 1871 until appointed, after an open competition, Professor of Agriculture in the *département*.[16] During his first four years Tanviray was principally concerned with encouraging *vignerons* to combat phylloxera and with educating peasants into applying more chemical fertilizers in order to increase crop yields.[17] Somewhat disappointed by the results of his numerous lectures throughout the communes of the *département*, Tanviray concluded by mid-1883 that the best means of fighting phylloxera was the creation of *local* anti-phylloxera syndicates (to administer chemical insecticides to afflicted vines) and that the best way of promoting the use of chemical fertilizers was the foundation of a *central* agricultural syndicate which would combat fraudulent commerce in fertilizers and also reduce their price. In March 1883 Tanviray called together a meeting of about fifteen people to consider the statutes which he had drafted for an agricultural syndicate; copies of the amended statutes were then sent to the more than 300 mayors of the *département*, seventy of whom replied, submitting the names of more than 200 people who had indicated their support for such a syndicate. The first formal meeting of the Syndicat approved its statutes on 7 July 1883; by the end of the year the association had 345 members.[18] Tanviray left Loir-et-Cher three years later, to direct a farm school elsewhere in France. During his seven years as Professor of Agriculture, he had worked energetically and effectively as a government official whose primary aim was agricultural improvement. Tanviray's example of close cooperation between the local authority and the farming community — and especially his promotion of their joint interests in the Syndicat — was followed both by M. Trouard-Riolle, who succeeded him as Professor of Agriculture in 1886 and by M. Vezin who moved into the post in 1897.

That the Syndicat and the local authority worked hand-in-hand was acknowledged by Alphonse Riverain, who in 1886

[15] Dupeux, *op cit*, pp 181–289; A R H Baker, 'Devastation of a landscape, doctrination of a society: the politics of the phylloxera crisis in Loir-et-Cher (France) 1866–1914', *Würzburger Geographische Arbeiten*, LX, 1963, pp 205–17.

[16] A Vezin, 'Jules Tanviray', *L'Agriculture Pratique du Centre*, 27 January 1901, p 28; Anon., *Syndicat des Agriculteurs de Loir-et-Cher: Fête du 25e Anniversaire (5 Juillet 1908)*, Blois, 1909, pp 11–12.

[17] Professors of Agriculture submitted to the Prefect annual reports on their work and on the condition of agriculture in the *département*. Reports for the period 1876–1914 have been consulted at Blois in the *Archives départementales de Loir-et-Cher* (hereafter A D): Série N Conseil Géneral-Rapport du Préfet et Procès-Verbaux des Délibérations.

[18] J Berthonneau, *Monographie du Syndicat des Agriculteurs et des Caisses de Crédit Mutuel Agricole de Loir-et-Cher*, Blois, 1905, pp 3–7.

succeeded Tanviray as President of the Syndicat. He held office until his death in 1929. Like Tanviray, Riverain was a practising farmer who had also been a pupil at la Charmoise, the farm school of the *département*, near Pontlevoy. On his large farm at Areines, near Vendôme, Riverain carried out agricultural improvement — draining, marling, cultivating artificial meadows, applying chemical fertilizers — and maintained a passionate interest in practical farming even though he became increasingly involved in the ramifying activities of the Syndicat.[19]

Both Riverain and Tanviray recognized that the advantages which the Syndicat offered to farmers were fundamentally material in character but both harboured republican views which embraced associations as practical manifestations of the concept of *fraternité*. Riverain especially conceived a moral and social role for the Syndicat but both he and Tanviray considered that in order not to prejudice its growth their own political opinions had to be suppressed or at least restrained. In public, the Syndicat made claims to 'complete neutrality politically'; in private the fact that it was led by Republicans was certainly known to the Police Commissioners of Blois in the 1890s and was very probably recognized by those joining the Syndicat.[20]

From its birth in mid-1883, the Syndicat steadily increased its membership to reach a total of almost 4000 by the end of 1892. It remained at about that level until 1901, when growth was renewed and continued uninterruptedly to reach a figure of almost 17,000 by 1914 (Fig 2). Growth in membership was almost exactly paralleled by an expansion of the volume of business conducted by the

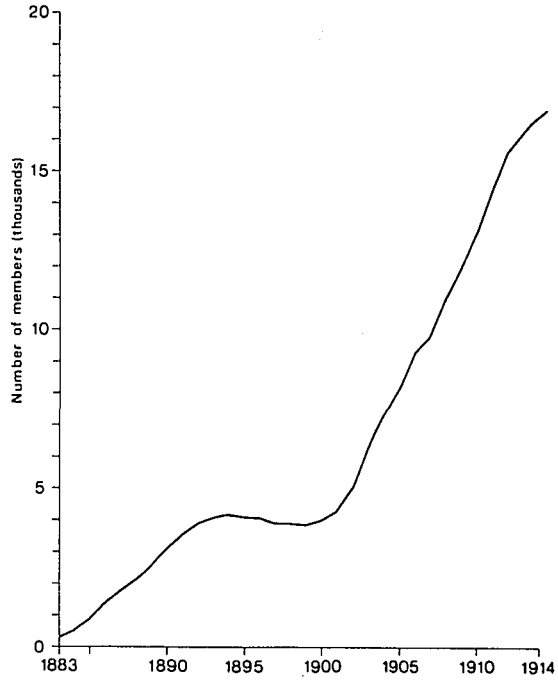


FIGURE 2
Membership of the Syndicat des Agriculteurs de Loir-et-Cher 1883–1914

Syndicat. During 1883 the Syndicat supplied 80,860 kg of fertilizers to its members; by the end of 1892 the annual volume of merchandise supplied had mushroomed to 5,760,225 kg. It remained at about that level

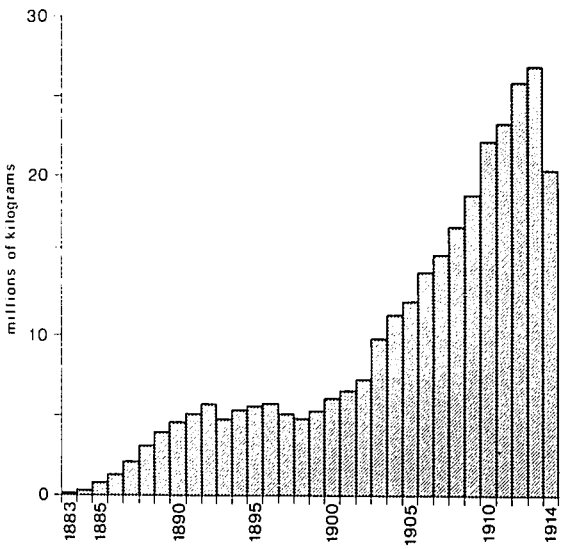


FIGURE 3
Trading of the Syndicat des Agriculteurs de Loir-et-Cher 1883–1914

[19] M H Hitier, 'A. Riverain', *Procès-verbaux de l'Académie d'Agriculture de France*, Séance du 26 Février 1930.

[20] Anon., *Monographie du Syndicat des Agriculteurs de Loir-et-Cher*, Vendôme, 1920, p 13. Manuscript reports of the Police Commissioner on the activities of agricultural syndicates were consulted in the following uncatalogued *liasse*, which also contained diverse correspondence and statistics relating to syndicates: A D Série M Syndicats professionnels et agricoles. Etat des syndicats existant 1887–1902.

until 1901, when it expanded again to reach 26,904,435 kg by the end of 1913 (Fig 3). The hiatus in the development of the Syndicat during the 1890s has erroneously been explained by its leaders as being a consequence of the competition which the Syndicat felt from the creation of 'numerous communal or cantonal syndicates' in the *département*.[21] By the end of 1892 there were indeed twenty-five other general purpose agricultural syndicates operating in Loir-et-Cher but by 1901 that number had only increased by two. By comparison with the Syndicat des Agriculteurs de Loir-et-Cher, the other syndicates were small: their memberships at the end of 1892, ranging between 25 and 490, averaged 205; and by January 1900 they averaged only 193, ranging between 19 and 463. The total membership of these syndicates grew hardly at all during the 1890s, from about 5125 in 1892 to about 5211 in 1900.[22] The check to the growth of the Syndicat des Agriculteurs de Loir-et-Cher during the 1890s cannot be attributed to the competition for new members constituted by other agricultural syndicates. Indeed, many of these were right-wing associations — established, according to the Commissioners of Police at Blois, by reactionaries — and might not have appealed to those who preferred to join a syndicate which was ostensibly neutral politically but which was known to be run by left-wing republican sympathizers.[23] The fact remains that all agricultural syndicates, whatever their political leanings, suffered arrested development during the 1890s. Two reasons for this may be tentatively suggested. Cereal prices in Loir-et-Cher had been on a generally downward trend since about 1870 but they fell dramatically during the early 1890s; wine prices had been on a broadly upward trend from about 1870 until 1890 but then began a steady decline.[24] Moreover, the failure of anti-phylloxera syndicates to achieve their aims became increasingly obvious from the late 1880s and throughout the 1890s.[25] Falling prices for Loir-et-Cher's principal agricultural products and the demise of anti-phylloxera syndicates might have combined to undermine confidence in farming generally and in agricultural syndicates specifically. More remarkable than the Syndicat's irregular development through time, however, was its uneven distribution through space.

II

From the outset, leaders of the Syndicat appreciated that the principle of association would be optimally practised if its activities were to encompass farmers throughout the *département*: the larger the real membership, the greater the potential economies of scale which could be passed on to them, provided that the administrative and distributional costs could be kept as low as possible by establishing a network of local, commissioned, agents. Tanviray's initiative during the spring of 1883 included alerting the mayors throughout the *département* about his proposal but both the immediate and the long-term responses to his campaign to recruit members for the Syndicat varied from one *pays* to another.

The geographical pattern of membership which had emerged by 1887 was not only one of uneven spatial distribution but also one which was remarkably enduring. By the

[21] Berthonneau, *op cit*, p 5.

[22] Data on the number and size of agricultural syndicates have been obtained from uncatalogued documents in Série M of the *Archives départementales*, consulted in *liasses* with the following titles:
Syndicats professionnels et agricoles. Etat des syndicats existant 1887–1902
Travail. Syndicats professionnels. Enquêtes, statistiques. 1910–1930
Industrie. Syndicats professionnels. Enquêtes sur les syndicats professionnels 1919–1926
Travail. Syndicats professionnels. Enquêtes et statistiques. 1929–41
Industrie. Syndicats industriels, commerciaux, agricoles, 1908–12
Industrie. Syndicats professionnels. Dossiers de syndicats
Industrie. Syndicats professionnels. Dossiers de syndicats dissous 1889–1930

[23] The Commissioner's reports of 15 January 1891 and 5 March 1892 both refer to certain agricultural syndicates which had been established by reactionaries: A D Série M Syndicats professionnels et agricoles. Etat des syndicats existant 1887–1902.

[24] Dupeau, *op cit*, pp 183–8.

[25] Baker, *op cit*, pp 213–15.

end of 1887, the Syndicat's members were located mainly in the Val de Loire and the Petite Sologne, and in the valley of the Loir and in Perche: there were relatively few in Beauce and very few in the Grande Sologne (Fig 4). By 1892, this overall pattern of membership had intensified rather than altered in outline (Fig 5). Even the massive numerical expansion of the Syndicat from 1901 onwards did not significantly change the basic distributional pattern of its members: by 1910 most were concentrated in the Val de Loire and the Petite Sologne and in the valley of the Loir (Fig 6). From its inception, the Syndicat relied to a considerable extent upon local agents to recruit and provision members, and from the early 1910s it additionally established local depots for supplying and servicing agricultural machinery.[26] The networks of local agents and of machinery depots which the Syndicat had established by 1910 broadly reflected but did not mirror exactly, the distribution of its members in that year (Figs 7 and 8). Explanations of that distribution have to be

[26] Lists of local agents and of machinery *dépôts* appeared frequently in the syndicat's publications, which are discussed later in this paper.

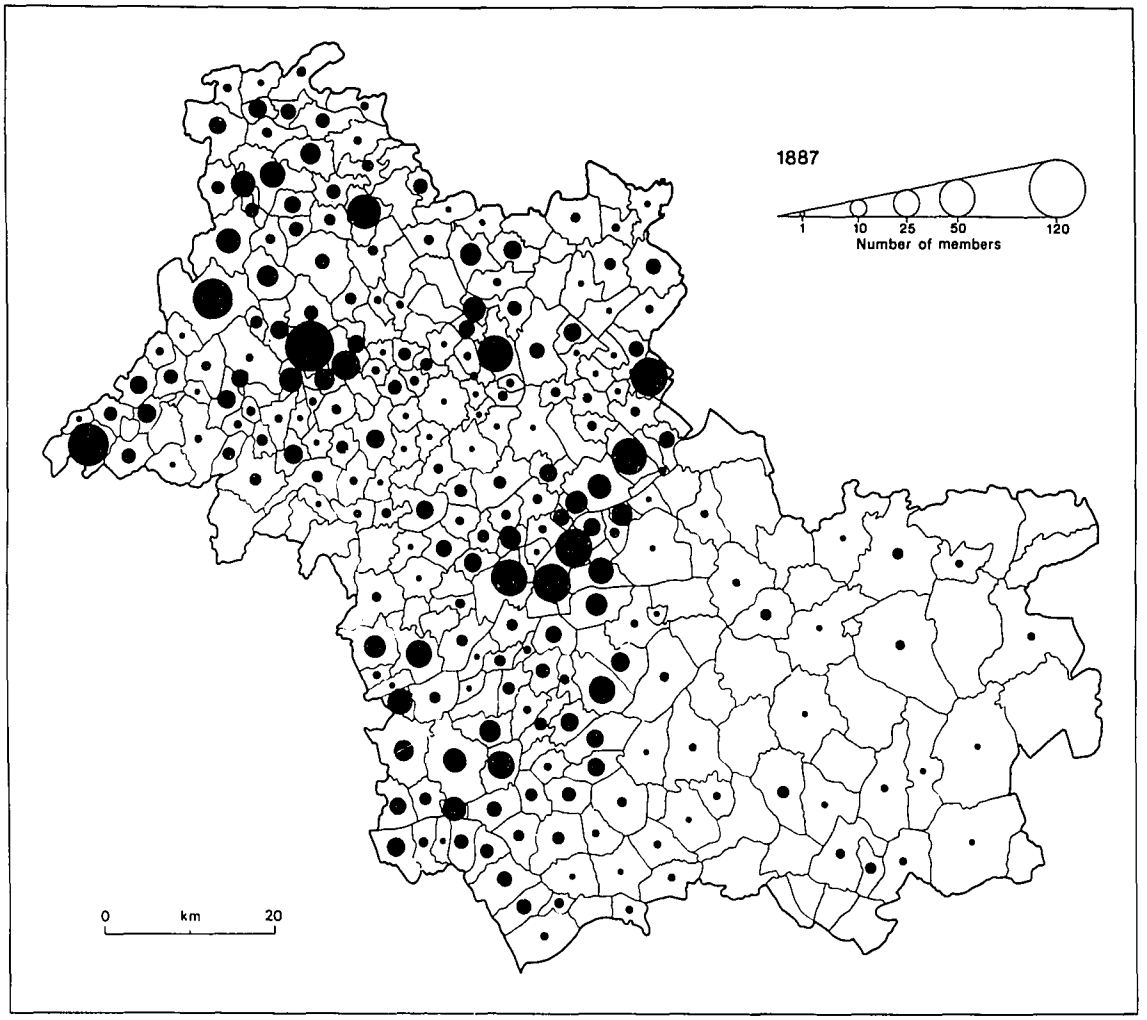


FIGURE 4
The geographical distribution of members of the Syndicat des Agriculteurs de Loir-et-Cher in 1887

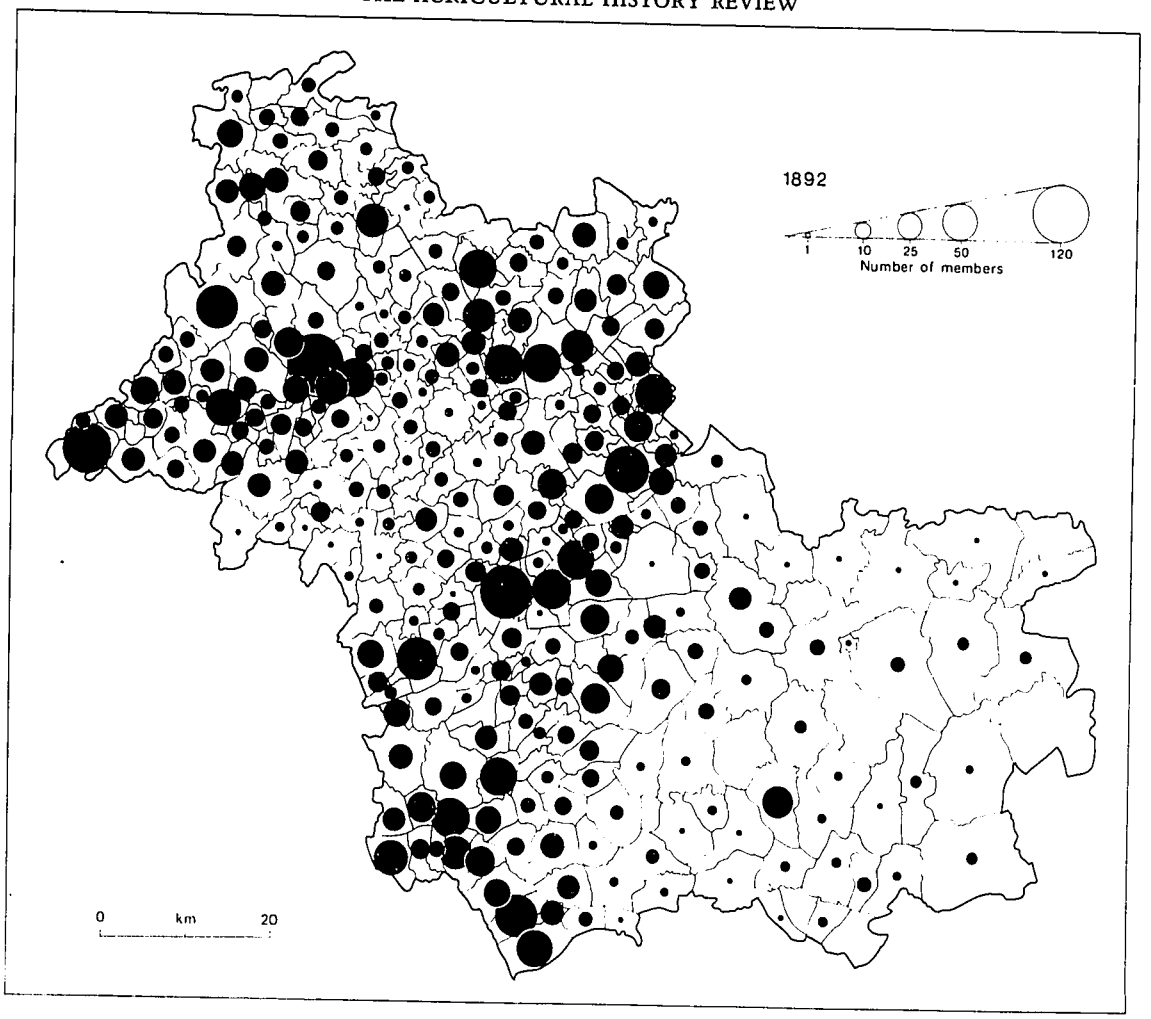


FIGURE 5
The geographical distribution of members of the Syndicat des Agriculteurs de Loir-et-Cher in 1892

sought which, in part, are external to the organization of the Syndicat itself.

The development and spread of membership of the Syndicat during the late nineteenth century was part of a wider process involving the transformation of rural communities engulfed in the ever-widening spheres of influence of urban centres: the colonization of the French countryside by the town was an integral component of the spatial extension of capitalism. Detailed analysis of the geographical distribution of membership of the Syndicat des Agriculteurs de Loir-et-Cher in 1892 has revealed that it was negatively related to physical distances from Blois and positively related to literacy levels: a clear tendency has been demonstrated for peasants in cantons closer to Blois to join the Syndicat in significantly larger numbers than those in more remote cantons, and also for peasants in cantons with higher male literacy levels to join the Syndicat in significantly larger numbers than those in less literate cantons (it being inferred that the more literate cantons included the better educated and more adaptable sections of the peasantry).[27]

[27] A R H Baker, 'Ideological change and settlement continuity in the French countryside: the development of agricultural syndicalism in Loir-et-Cher during the late-nineteenth century', *Journal of Historical Geography*, 6, 1980, pp 163–77.

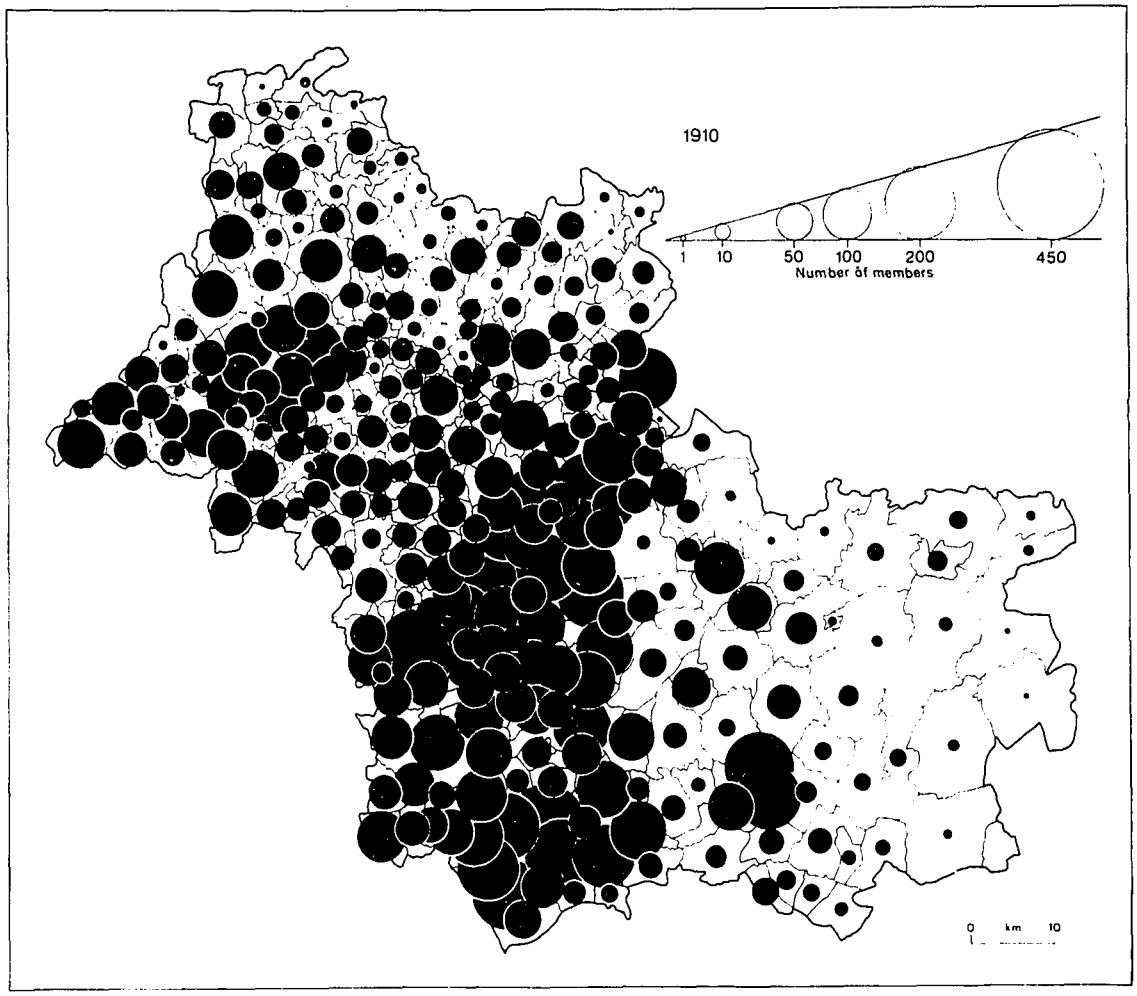


FIGURE 6
The geographical distribution of members of the Syndicat des Agriculteurs de Loir-et-Cher in 1910

But the spatial diffusion of the Syndicat needs also to be set within an appropriate agrarian context, taking particularly into account factors of farm size and type. The Syndicat acquired members most readily in those *pays* characterized by small farms (often but not exclusively owner-occupiers) and especially by *vignerons*.[28] In his report to the Minister of Commerce on 15 January 1891, the Police Commissioner for Blois said that *les petits agriculteurs* had flocked to the Syndicat: it had, he claimed, hardly any large landowners among its members and only a few owners of medium-sized farms, while three-quarters of its members were small farmers 'democratic in spirit and supporters of the institutions of our regime'. Small farmers of all kinds, it seems, joined the Syndicat in large numbers, presumably hoping thereby to improve their economic health and to protect their social independence. Additionally, the largest concentrations of members were to be found among the *vignerons* of the Val de Loire and the Petite Sologne and of the valley of the Loir.[29] Not usually possessing more than one or two cows, these *vignerons* had limited supplies of manure and therefore turned to the Syndicat

[28] Dupeux, *op cit*, pp 78–81 and 97–119; Baker, *op cit*, 1983, p 206.

[29] For confirmation of the importance of *vignerons* in the development and spread of the Syndicat, see: A R H Baker, 'Les syndicats agricoles de la vallée de la Cisse 1883–1914', *Vallée de la Cisse* (forthcoming).

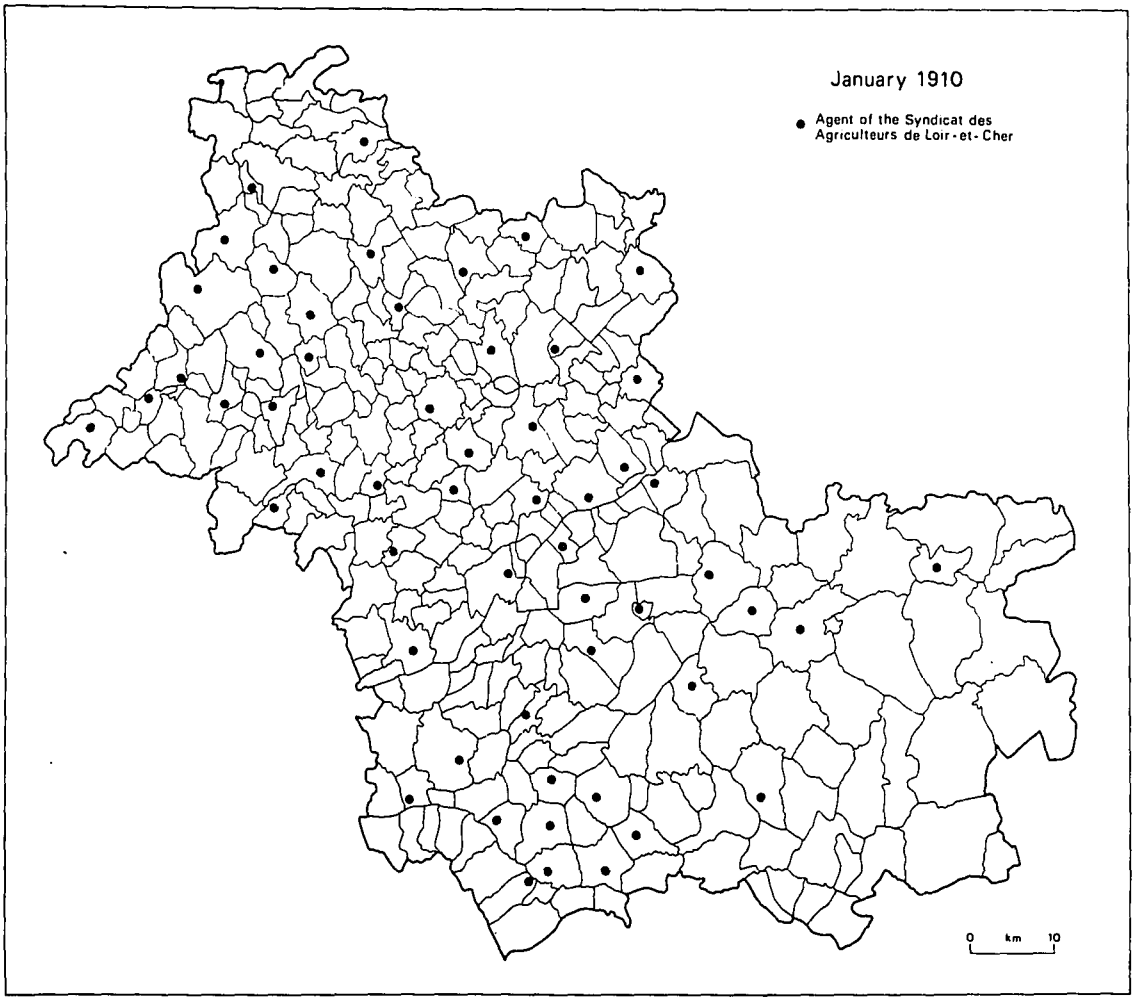


FIGURE 7
The geographical distribution of agents of the Syndicat des Agriculteurs de Loir-et-Cher in 1910

for fertilizers (as well as for other materials). Furthermore, Dion has linked the growth of agricultural syndicalism in the Loire valley with the decline of viticulture: when vineyards were devastated by phylloxera many *vignerons*, as an alternative to expensively reconstituting their vineyards with vines grafted onto American phylloxera-resistant root-stock, turned instead to cultivating other crops which dramatically increased their demand for fertilizers and considerably added to their production costs.[30] Membership of the Syndicat, as a source of good quality and reasonably priced fertilizer, came to be seen by many small farmers as an integral component of their survival algorithm. With a growing membership, the Syndicat in turn diversified its activities well beyond supplying chemical fertilizers.

[30] Dion, *op cit*, p 706.

III

The material rationale of the Syndicat was its power to purchase agricultural supplies in bulk and to pass on the economies of scale to its individual members.[31] During its formative years the Syndicat twice-yearly invited manufacturers and wholesale

[31] The following account of the functioning of the Syndicat is based upon Berthonneau, *op cit*, pp 10–26 and upon the monthly and weekly publications of the Syndicat, discussed later in this paper.

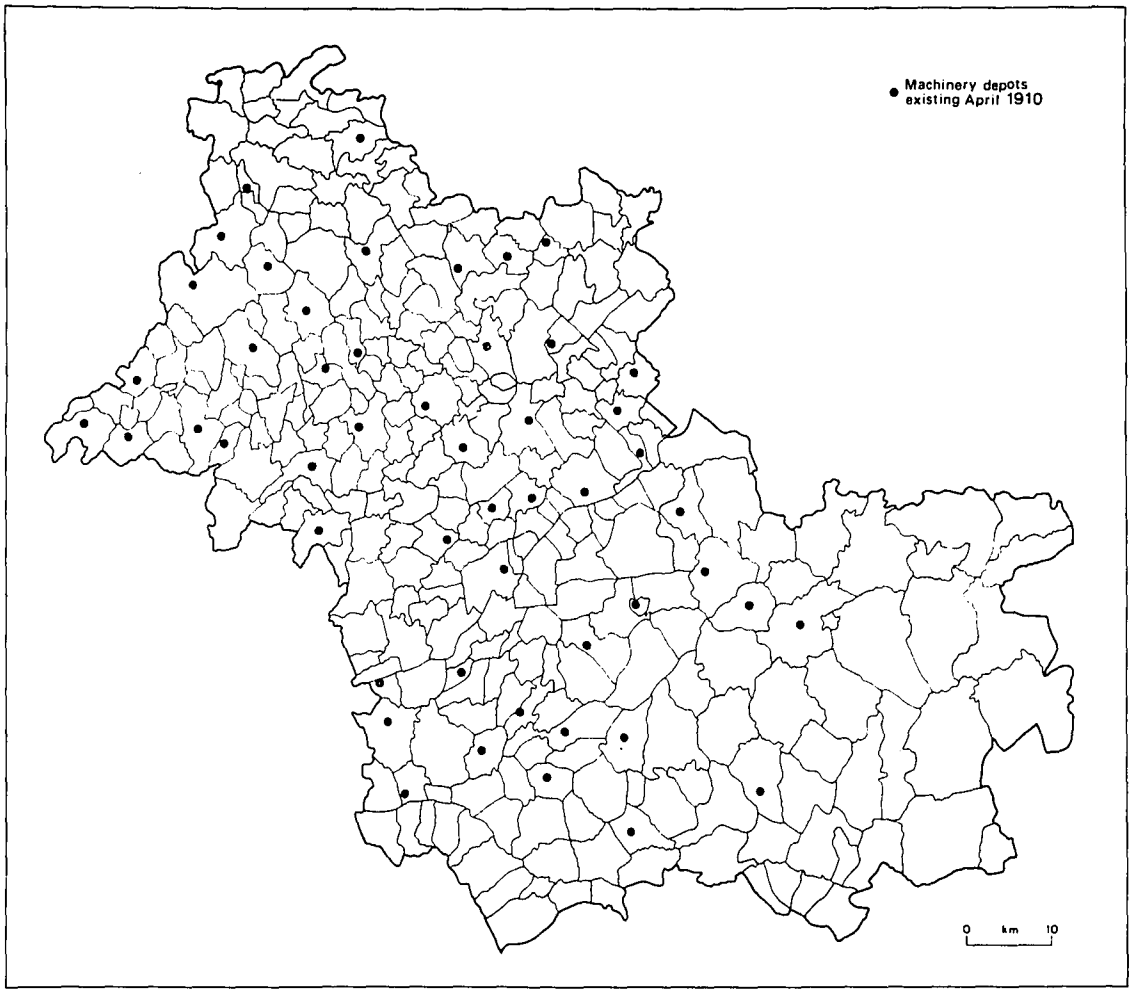


FIGURE 8
The geographical distribution of machinery depots of the Syndicat des Agriculteurs de Loir-et-Cher in 1910

merchants to submit price lists for their products; the six-man *Bureau d'administration* of the Syndicat then selected those with whom agreements would be made for meeting, at fixed prices for the following half-year, all of the orders placed by the Syndicat, whatever the quantities. Such fixed-price and unlimited quantity contracts, unsurprisingly, were not favoured by manufacturers and merchants of goods whose prices fluctuated considerably (such as superphosphate, soda nitrate, sulphate of ammonia and copper sulphate, as well as animal fodder such as Saigon rice, which was fed to calves, and cattle cake made from cotton seed, linseed, maize or copra) and soon the Syndicat was also entering into fixed-price and fixed-quantity agreements for such supplies. Similar bulk-purchasing deals were made by the Syndicat with major seed merchants and with manufacturers of agricultural tools and implements.

Its purchases agreed, the Syndicat then notified its members in their monthly *Bulletin* the prices at which fertilizers and other goods could be ordered from the Syndicat and collected at any railway station in the *département*. The staff of the Syndicat at its headquarters in Blois grouped together the diverse orders to be despatched to each

station, addressing the railway *wagon* to one named member to whom were also sent details about the consignment so that it could be appropriately divided up and distributed. Such an exclusively informal arrangement was adequate for a few years but from 1888 onwards, with the increasing volume of business, the Syndicat came also to establish a formal network of local *dépôts* run by agents whose task it was to collate the orders of the Syndicat's members in the district, to collect payments, and to store and distribute the materials supplied. While the Syndicat continued throughout the pre-War period to deal directly with individual members, the coordinating role of its local agents increased and their numbers grew from nine in April 1888 to twenty-eight by August 1892 and to sixty-one by August 1910. For their services and to meet their costs (which might include renting or providing a store for the goods supplied) the agents were allowed a small commission (which was initially at a flat rate but which was subsequently converted into a percentage figure).

During the 1880s, the Syndicat was mainly supplying chemical fertilizers (especially superphosphates, sulphate of ammonia, soda nitrate and compound fertilizers) but it was also dealing in small quantities of organic fertilizers (crushed bones and dried blood), chemicals (such as copper sulphate and salt) for controlling pests and diseases, cattle cake, sugar (for fermenting wine), seeds and agricultural tools and materials (such as hay-forks, weighing machines, wire for trailing vines, and *pulvérisateurs* for applying insecticides). Fertilizers (predominantly chemical fertilizers) remained in absolute terms the major product supplied by the Syndicat between 1883 and 1913 but they declined relatively as the Syndicat increasingly dealt also in animal feedstuffs, seeds, tools, equipment and machinery. Fertilizers comprised, by weight, 98 per cent of the goods supplied by the Syndicat in 1888; by 1913 the proportion had fallen to 83 per cent, although the annual volume of fertilizers supplied had increased seven-fold during those twenty-five years, from just over 3 million kg to more than 22 million kg. In terms of value rather than weight, fertilizers comprised 60 per cent of the Syndicat's turnover in 1910; seeds represented 4 per cent, animal feedstuffs 8 per cent, miscellaneous materials (chemicals for treating pests and diseases, sugar, string, etc) 14 per cent, and farming tools, equipment and machinery 15 per cent.[32] Growth of the Syndicat during the 1900s was paralleled by an expanding trade in implements and in 1909 the Syndicat decided to establish throughout the *département* a network of agricultural machinery *dépôts* where members could not only purchase equipment but also have it serviced and repaired. In April 1909 there were twenty-six such *dépôts* and the number had been increased to fifty-one by the spring of 1910. They were run mainly by farriers, cartwrights and ploughwrights. Having from its beginnings always supplied a range of small farming tools and equipment, from 1909 onwards the Syndicat widened its scope to include machinery, such as reapers, harvesters and threshing machines. In 1909 and 1910 together it supplied 234 reapers, 149 harvesters and two threshing machines.[33] As well as contributing to the diffusion and widespread adoption of the use of chemical fertilizers by the farmers of Loir-et-Cher, the Syndicat now both encouraged and facilitated the mechanization of agriculture.

In addition to providing members with material supplies, the Syndicat offered other agricultural services, notably in the field of information and of credit. Having within four years of its creation acquired almost 2000 members, the Syndicat soon recognized the importance of maintaining close links between its central officers and its

[32] These statistics are calculated from data drawn from the Syndicat's *Compte-Rendu Annuel* for 1888, and *L'Agriculture Pratique du Centre* dates 23 April 1911 (for 1910 data) and 19 April 1914 (for 1913 data).

[33] *L'Agriculture Pratique du Centre*, 10 April 1910 (for 1909 data) and 23 April 1911 (for 1910 data).

peripheral members. Since its foundation the Syndicat had published at the end of each year an *Annuaire* which summarized the operations of the Syndicat for that year and listed in full, by communes, the names of all of its members. It was assumed that such a publication promoted interest in the work of the Syndicat in general and that in particular it encouraged those not already members to have their names added to the lists, emulating friends and neighbours who had already joined. But the *Annuaire*'s educational role was greatly enhanced from 1887 onwards by the additional publication each month of a *Bulletin* which served both to instruct members of the Syndicat about its activities and operations, and also to provide them with informative articles about agricultural practices and policies. The *Bulletin* was frequently contributed to by Trouard-Riolle, the Professor of Agriculture of Loir-et-Cher: recognizing the potentially powerful influence of the press among a farming population from which illiteracy had virtually been eliminated, Trouard-Riolle persuaded the Syndicat to replace the monthly *Bulletin* by a weekly journal, *L'Agriculture Pratique de Loir-et-Cher*. The first issue, published on 13 March 1894 with a print run of 5000 (at a time when the Syndicat itself had just over 4000 members), contained an editorial by Trouard-Riolle which stressed the importance of diffusing among the farmers of Loir-et-Cher new information about innovations in agriculture. Within a year the journal had become so successful that it was decided to extend its circulation and sphere of influence into adjacent *départements*: although the journal remained the official publication of the Syndicat des Agriculteurs de Loir-et-Cher, from April 1895 it became *L'Agriculture Pratique du Centre*, edited by Trouard-Riolle in association with the Professors of Agriculture of Indre-et-Loire, Loiret, Cher and Indre.[34]

Articles in the journals of the Syndicat gave prominence, inevitably, to the action it was taking on behalf of its members. But they also frequently discussed, and hardly less frequently encouraged, the promotion of other ways in which local groups of farmers might cooperate in furtherance of their mutual interests. In addition, therefore, to articles on the role of general purpose agricultural syndicates, the journals also included discussion of livestock insurance societies, threshing associations, and processing and marketing cooperatives. Although not venturing directly into these fields itself, the Syndicat did indirectly encourage the extension of the principle of association into the whole range of practices in agriculture: it did so both through information provided in its journals and by advice presented by its officers.[35] Its own most direct extension of its services was in the creation of credit facilities. During the 1890s the Ministry of Agriculture was actively encouraging the founding of agricultural cooperative banks; its circulars on the subject in the late 1890s sent to the Prefect of Loir-et-Cher were duly passed on to the Professor of Agriculture, Vezin, who in turn disseminated the idea among the officers and members of the Syndicat. Of the three agricultural credit societies established in Loir-et-Cher before 1902, when the Syndicat became seriously interested in arranging credit facilities for its members, one had lasted only three years (that at Chitenay, 1894–7) and the other two had few members (that at Pontlevoy, established in 1897, had forty members in 1901 and that at Saint-Laurent-des-Eaux, also established in 1897, had thirty-four).[36] The activities of these societies were soon to be eclipsed by those of the Syndicat.

To a General Assembly of the Syndicat at

[34] Issues of the *Annuaire*, the *Bulletin*, *l'Agriculture Pratique de Loir-et-Cher* and *l'Agriculture Pratique du Centre* have been consulted for the whole of the study period: sets (not complete in every case) are available in the *Archives départementales* and at the offices of the Syndicat's modern successor, the Groupe Françiade, at Blois. I am grateful to Monsier R Moreau of the Groupe Françiade for his advice and assistance.

[35] Berthonneau, *op cit*, pp 27–33.

[36] A D Série M Sociétés de Crédit Agricoles. Enquêtes, Instructions, Correspondence 1898–1922 (an uncatalogued *liasse*).

Blois on 26 January 1902 Alphonse Riverain, its President, explained that the provision of credit facilities to members would enable them to obtain the best prices for their products, because they would be able to decide when was the most opportune time to sell rather than having selling determined by the need to raise funds in order to purchase fertilizers, seeds and equipment at certain periods of the year. During 1902 the Syndicat established at Blois a local branch of the *Caisse Régionale de Crédit Agricole de la Beauce et du Perche*, based at Chartres. Immediate success for this venture led the Syndicat to set up a *Caisse Régionale* at Blois in 1903. Its share capital of 100,000 francs enabled it to obtain an interest-free advance from the State of 400,000 francs; each share of 50 francs enabled its holder to call upon a loan of 500 francs, to be repaid within six months with an interest of 3½ per cent. The *Caisse Régionale* was inaugurated and based at Blois but, as a result of an intensive campaign led by Vezin, the Professor of Agriculture, local branches were soon opened in cantons throughout the *département*. In addition to making short-term loans available to its share-holders, the *Crédit Agricole* made funds available to the Syndicat which in turn enabled it to authorize its local agents in the *dépôts* to allow reputable individual members to defer settling their bills for supplies for three months at a time, at an interest of 1 per cent per quarter or 4 per cent per annum (such deferrals could not be extended beyond one year).[37]

One of the purposes of creating credit facilities was, of course, to enable small farmers to cope immediately with the increasingly capitalistic nature of their enterprises. Another was to ensure the long-term survival of the farming community: the urgent aim, according to Jules Berthonneau — Director of the Syndicat since 1899 — was to make money available for investment in agriculture and especially to make it accessible to those 'petits cultivateurs pour lesquels un billet de 1,000 francs peut être la source d'une prospérité capable de s'étendre dans l'avenir à toute une lignée de bons travailleurs du sol'. Always material and practical in its emphasis, the Syndicat's economic superstructure was erected on a social foundation which gave priority to the retention on the land of a large and preferably prosperous farming community. While the political and social purposes of the Syndicat were not often explicit, indeed they were usually suppressed, they did come to the fore in 1913. Anxiety about the declining birth rate and the threat this posed to traditional rural society led the Syndicat in that year to initiate annual competitions for mothers of large families. In 1914 the competition held in the *arrondissement* of Blois brought together 74 competitors who together had given birth to 738 children. Such events, during which prizes, medals and certificates were distributed to those judged to be winners, were explicitly intended to convey a social message, to portray the charms and fecundity of the rural way of life, to fortify family traditions and to reinforce respect for one's forebears.[38]

IV

The development, diffusion and diversification between 1883 and 1914 of France's first general purpose agricultural syndicate contained a number of internal contradictions, resolved to differing degrees during this period of its infancy. The success of the Syndicat, measured in terms of its growth in membership and activity, was based on its ability to engage effectively in the process of agricultural improvement which was under way in Loir-et-Cher before the birth of the Syndicat itself. Its activities resulted in — and were intended to produce — economic *changes* which themselves undermined the rural social fabric whose *continuity* the Syndicat was designed to ensure. The

[37] Berthonneau, *op cit*, pp 39–52.

[38] Anon., *op cit*, 1920, pp 13 and 17–18.

progressive policies and practices of the Syndicat promoted agricultural improvement but simultaneously and paradoxically conflicted with its *conservative* conception of a traditional farming society whose interests should be defended. Not until after the First World War — indeed, not significantly until after the Second World War — would this contradiction between economic change and social stability be fully acknowledged.

Nonetheless, the Syndicat during its early years offered what was perceived by many farmers as an acceptable compromise between *collectivism* and *individualism*. By 1914 perhaps one-third of the farmers of Loir-et-Cher were members of the Syndicat: they had collectivized to the extent considered necessary to preserve their freedom as individual farmers. Most, it may be inferred, had done so as *materialists* rather than as *idealists* for the collectivism of the Syndicat left individuals as owners of the means of production. The Syndicat was a collective, but of individuals. But its material and collective character stemmed from ideals held by a few individuals. Although the organization and activity of the Syndicat has to be set within the *context* of the *general* process of agrarian change in France, it is to the *charisma* of its leaders that one has to turn for a fuller understanding of the *particularity* of its development.

(continued from page 44)

ANNUAL GENERAL MEETING, 1986

The 34th Annual General Meeting of the Society will be held at 9.15 am on Tuesday 7 April 1986 at Seale-Hayne College, Newton Abbot, Devon. Nomination forms for officers and members of the Executive Committee should be inserted in this issue of the *Review*. Nominations should reach the Secretary *no later than* Tuesday 1 April 1986.

NINTH INTERNATIONAL ECONOMIC HISTORY CONGRESS, 1986

The congress will take place in Berne, Switzerland from 24 to 29 August 1986. Several sessions will include papers with an agricultural content including the 'A' Theme on 'Mountain Economies and Societies' and the 'B' Themes on 'International Comparisons of Productivity 1750–1939', 'Long-Term Changes in Nutrition and the Standard of Living', 'The Structure of Internal Trade, 15th–19th Centuries', and 'Pastoral Economies in Classical Antiquity'. Professor F M L Thompson and Dr E J T Collins are organizing a 'C' Theme on 'Agriculture in the Industrial State since 1870' which will include sections on international trade, agriculture and economic progress, and government policy. The papers from this theme will be published and further details will be available in a subsequent issue of the *Review*. Information on the Conference may be obtained from Neuvième Congrès International d'Histoire Économique, Neubrückstrasse 10, CH-3012 Berne, Switzerland.

THE HISTORIC FARM BUILDINGS GROUP

This Group was formally established during its first conference on 12 October 1985. Its objects are the advancement of the study of the history of farm buildings in the British Isles, including their related equipment and the agrarian and economic systems of which they formed a part, and the promotion, where appropriate, of their conservation. Membership is open to all interested in the past, present and future of old farm buildings and the annual subscription to the Group is £5. Further information may be obtained from the Group's Secretary, Mr Roy Brigden, Museum of English Rural Life, University of Reading, Whiteknights, PO Box 229, Reading RG6 2AG.

Agricultural Change and Population Movements in France 1892–1929*

By HILARY P M WINCHESTER

AGRICULTURAL development and population growth were both relatively stagnant in France during the late nineteenth and early twentieth centuries. Despite this stagnation, it is the contention of this paper that selective advances in agricultural change, combined with spatial variations in population growth, provided a spur to population migration. At a national level, significant differences in agricultural developments were evident between *départements* and regions; it is argued that the areas of more intensive agricultural production were better able to absorb labour, whereas areas of subsistence agriculture were more likely to shed labour.

The stagnation of agriculture at this time has been well documented and summarized.[1] The recovery of agricultural production after the French Revolution is traditionally dated from 1815 to 1870.[2] Data compiled from many sources indicate a steady increase in production from 1840 onwards.[3] These increases may be associated with improved marketing networks, greater ease of transport and the growth of regional agricultural specialization.[4] Livestock productivity was raised as a result of improvements to grass lands, and the production of cereals was increased by the introduction of heavy ploughs.[5] Chevalier[6] has argued that scientific improvements in agriculture and changes in the social status of the peasantry were other factors contributing to the general increases in agricultural production.

Improvement during the second half of the nineteenth century was intermittent, cyclical and inequitably distributed throughout the country.[7] Improvements spread from the core areas of the *grande culture* of the Paris basin and Alsace-Lorraine to reach most parts of the country by the 1890s. Pautard[8] views the 1890s as a major turning point in French agricultural history; as the climax of the 'first agricultural revolution', which saw the decline of fallow land and the successful introduction of mixed farming.

I

The major data sources used are the agricultural enquiries of 1892 and 1929, which were the last of the so-called 'decennial' enquiries, held at irregular intervals from 1840. These enquiries

*The author is grateful for the helpful comments made on an earlier draft of this paper by two anonymous referees, and by Dr H D Clout, University College, London; Dr G M Robinson, University of Edinburgh; and Dr S J Gale, Cambridgeshire College of Arts and Technology.

[1] G M C Duby and A Wallon (eds), *Histoire de la France Rurale*, Paris, 1976, vols 3 and 4.

[2] G Léonce de Lavergne, *Economie Rurale de la France*, Paris, 1860; W H Newell, *Population Change and Agricultural Development in Nineteenth Century France*, unpub PhD thesis, University of Pennsylvania, 1971; J Pautard, *Les Disparités Régionales dans la Croissance de l'Agriculture Française*, Paris, 1965; E Weber, *Peasants into Frenchmen: the Modernisation of Rural France 1870–1914*, 1977.

[3] J C Toutain, *Le Produit de l'Agriculture Française de 1700 à 1958: II — La Croissance*, Paris, 1961; Pautard, *op. cit.*

[4] M Augé-Laribé, *La Politique Agricole de la France de 1880 à 1940*, Paris, 1950; R Price, *The Modernisation of Rural France*, 1983.

[5] M Bloch, *Les Caractères Originaux de l'Histoire Rurale Française*, Oslo, 1931.

[6] A Chevalier, *Révolution en Agriculture*, Paris, 1946.

[7] J Chombart de Lauwe, *Bretagne et Pays de la Garonne; Evolution Agricole Comparée depuis un Siècle*, Paris, 1946; E Labrousse and F P Braudel (eds), *Histoire Economique et Sociale de la France*, Paris, 1970, vol 3.

[8] Pautard, *op cit.*

recorded successively greater amounts of information on crops, livestock and land use, as well as the rural economy, farm holdings, and a variety of agricultural improvements and machinery. The enquiries took the form of detailed questionnaires to mayors of *communes*, supervised by the prefect of the *département*. The aggregated data have been utilized by Toutain in his major analysis of national patterns of agricultural change from 1700.[9] However, the departmental data have been relatively less used, because of their possible unreliability.[10] Newell argues that they are internally consistent in, for example, the numbers of farm animals, applications of manure, crop yields and farm machinery in any given *département*.[11] Clout considers the quality of information to have improved gradually as measurements became standardized, and officials became adept at completing the questionnaires.[12] These data must nonetheless be treated as approximations, and only general conclusions can be drawn from them. For this reason, relatively simple statistical tests are preferred to more sophisticated techniques.

The classification of agricultural regions uses aggregations of the departmental statistics. Two basic measures of agricultural specialization are used; the area of cereal cultivation as a percentage of the total cultivated area, and a general livestock indicator. Cereals, which include wheat, oats, rye, and barley, account for most of the national vegetal production, the major exceptions being vines and potatoes. Vines are significant in specialized regions of France and are included in the second stage of the classification, as is market gardening. Vegetal production accounts for about three-quarters of agricultural production; the rest is accounted for by livestock. A generalized livestock indicator is preferred in order to include all major livestock types; this indicator is the ratio of total livestock units to land. The cereals and livestock indicators are chosen for their importance and comprehensiveness; there are no problems of data comparability over the time-period 1892–1929. Indicators of agricultural improvement and agricultural machinery are not, however, consistently available in 1892 and 1929. The collection of statistics on these matters reflects their importance at the time. For example, in 1892, no data are available on the use of artificial fertilizers nor on the availability of tractors, as these were not yet in use. However, because of their importance in 1929 these are considered for the later period. The year 1892 is the last date when other types of machinery are recorded, for example waterwheels and windmills; these, however, are not considered in this paper.

Agricultural type areas and agricultural improvements are related to measures of population growth, and to population migration from rural areas. The demographic indicators are taken from the population censuses of 1891 and 1931, which are approximately contemporaneous with the agricultural censuses. The rate of natural population growth by *département* is used as an indicator of labour availability, and hence of possible pressure on resources. The rate of net migration is used as an indicator of labour loss, the assumption being that population pressure is felt first on levels of consumption and then on levels of employment. Outmigration is therefore a key indicator of this pressure. Net migration data are used, as gross migration data are not available for 1931. The measure of migration is refined by using migration from rural *communes* rather than migration from the whole *département*. Rural *communes* are defined by the census as those containing less than 2000 people in the *chef-lieu* of the *commune*; they were at this time predominantly agricultural in character. A general migration rate calculated for a whole *département* conceals

[9] Toutain, *op cit.*
[10] B Gille, *Les Sources Statistiques de l'Histoire de France*, Paris, 1964.
[11] Newell, *op cit.*
[12] H D Clout, *The Land of France, 1815–1914*, 1983.

in-migration to towns and out-migration from rural areas; out-migration from rural areas is therefore seen as a more representative measure of the loss of agricultural population.

II

The period 1892–1929 is generally regarded as an era of agricultural depression with minimal improvements in agricultural production (Fig 1). It is, however, a long and

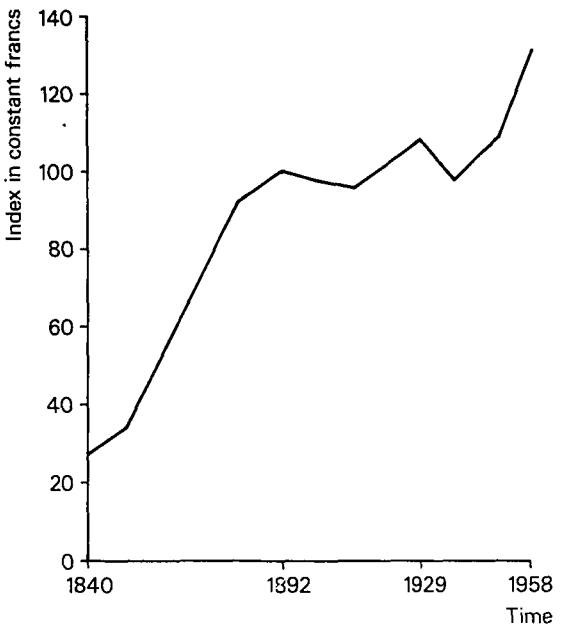


FIGURE 1
Agricultural production: France, 1840–1958

complex period, which shows some evidence of agricultural improvement as well as stagnation, despite the severe disruptions of the Great War.[13] Three major problems may be clearly identified: the phylloxera crisis which was still affecting areas of viticulture; the impact of protectionist policies and the competition from foreign grain producers; and the effects of the Great War, especially in northern France.

The phylloxera crisis affected vineyards of southern France as early as 1862.[14] Marginal production was severely affected but the great vineyards remained in operation. By the 1920s, however, a multiplicity of small vineyards had been re-established, and the opportunity to restructure viticulture was rapidly vanishing.[15] The second problem, that of foreign corn imports, became evident before the Great War. This competition from abroad caused a substantial drop in corn prices. Labrousse *et al* have quoted average corn prices in 1880, at 22.85 francs per hectolitre; in 1900, 14.63 francs; in 1912, 20.23 francs.[16] As with viticulture, those producers most severely affected by the fall in prices were the marginal farmers.[17] The Méline tariffs of 1892, and subsequent protectionist policies, erected tariff barriers which fostered stagnation rather than stimulating increases in output. The stagnation was undoubtedly exacerbated by inadequate internal marketing structures.[18] Thirdly, the Great War caused huge losses of life, property, livestock, production, and the devastation of vast areas of agricultural land.[19] In the short term, foreign imports became necessary to offset the national shortfall in production, while in the long term a much-needed restructuring of some aspects of agriculture was stimulated.

Despite the major problems of agriculture at this time, there were notable indications of progress in four areas of agriculture: first, the spread of mechanization; secondly, the introduction of artificial fertilizers; thirdly, improvements in livestock breeding; and finally, changing patterns of land tenure and rural organization. However, these improvements were barely sufficient to maintain agricultural production at the level

[13] Augé-Laribé, *op cit*; Duby and Wallon, *op cit*.

[14] I Stevenson, 'The diffusion of disaster: the phylloxera outbreak in the *département* of Hérault, 1862–80', *Journal of Historical Geography*, 6, 1980, pp 47–63.

[15] J Lafforgue, *Gironde*, Departmental monograph of 1929 agricultural census, Bordeaux, 1937.

[16] E Labrousse, R Romano and F G Dreyfus, *Le Prix du Froment en France au Temps de la Monnaie Stable (1726–1913)*, Paris, 1970.

[17] E Rey, *L'Agriculture Progressive dans le Lot*, Cahors, 1908.

[18] Augé-Laribé, *op cit*.

[19] A Demangeon, *Le Déclin de l'Europe*, Paris, 1920.

of 1892 (Fig 1) and they were both sporadic and localized in their occurrence.[20] The major development in agriculture was undoubtedly mechanization.[21] The development of wheeled and heavy ploughs occurred in the more open spaces of the north, while simple wooden ploughs persisted in the uplands.[22] Most specialized machinery, with the exception of threshing machines, did not become generally available until after 1918, when their adoption was facilitated by the development of tractors for draught purposes. By 1918, the adoption of specialized machinery, such as potato harvesters, reapers, and binders, had proceeded apace in areas of intensive agriculture. In areas of subsistence agriculture, however, adoption was slower, and where it did occur could co-exist with agricultural stagnation.[23]

The second major development of the period was the spread of artificial fertilizers. Until the end of the nineteenth century, and in some cases later, fertilizers were in chronically short supply, and consisted mainly of animal manure, with locally important sources such as seaweed in coastal areas and night soil around large towns.[24] In the Seine-et-Marne, an area devoted to cereal monoculture, fertilizers were applied scientifically to maintain yields at commercial levels.[25] Elsewhere, however, chemical fertilizers became more widely available by the 1920s but were not always wisely applied; in particular sodium nitrate and other superphosphates were a popular choice with small farmers for their impressive but short-term results. Slight increases in cereal yields nationally are evident during this period. Yields of wheat rose from 15.7 hectolitres per hectare in 1892, to 22.1 hectolitres per hectare in 1929, while yields of rye rose from 15.3 to 17.1 hectolitres per hectare over the same period. This increase in yields may be attributed in large part to the increased use of artificial fertilizers, although other factors, such as better preparation of the soil by machinery, must also be taken into account.

A third major advance was the improvement of livestock breeding, facilitated by the introduction of artificial grasses for pasture and fodder in the nineteenth century. The 1880s saw the first introduction of herd-books for improved strains of cattle. Beef breeds of world quality emerged in the Charolais and Limousin districts as the result of careful selection, better feeding and pastures, and improved care and hygiene. Similarly, specialist dairy breeds were developed, such as the Normandy, and the Montbéliard of Savoie. In the poorer upland areas, however, the number of animals fell only slightly as peasant farmers still preferred a numerous herd to a quality one. In these areas, even by 1929, there had been almost no improvement in fodder, stabling or breeding. The main problem was that the native strains of cattle were expected to serve all purposes; for milk, manure, calves, meat, and as draught animals.

One final area of agricultural improvement was the gradual change which occurred in methods of land-holding, particularly the decrease in *métayage* or share-cropping, and a consequent increase in the number of tenant farmers. At the turn of the century, the proportion of farms held under share-cropping agreements nationally was only 7 per cent, but in areas of the south and west, about 25 per cent of farms were held under this form of tenure. *Métayage* had barely altered since the pre-Revolution era and was a system which usually militated against innovation and improvement.[26] The reduction of share-cropping agreements

[20] H Prince, 'Regional contrasts in agrarian structure', in H Clout (ed), *Themes in the Historical Geography of France*.

[21] G Garrier, *Paysans du Beaujolais et du Lyonnais 1800–1970*, Grenoble, 1973, 2 vols; Clout, *op cit*.

[22] Anon, *Haute-Loire*, Departmental monograph of 1929 agricultural census, Le Puy, 1937.

[23] Garrier, *op cit*.

[24] Lafforgue, *op cit*, quotes the use of both these sources around Bordeaux.

[25] Anon, *Seine-et-Marne*, Departmental monograph of 1929 agricultural census, Paris, 1938.

[26] J Renard, *Les Evolutions Contemporaines de la Vie Rurale dans la Région Nantaise*, Les Sables-d'Olonne, 1975.

continued gradually until 1946 when *métayage* was formally replaced by a *statut de fermage*. Other improvements in rural organization included the development of co-operatives, and a greater availability of credit facilities from the *Crédit Agricole*.[27] The *Service des Améliorations Agricoles*, established in 1903, helped to provide rural infrastructure, notably the introduction of mains electricity and the improvement of soils.

Therefore, the period 1892–1929 saw significant improvements in agriculture, but these were not always nationally widespread, nor consistent throughout the period. Agricultural production suffered severe setbacks, such that by 1929 agriculture was a lagging sector in the French economy. Disparities in regional structure and development indicated a clear socio-economic distinction between the commercially-orientated cereal growing of the north and the peasant polyculture of much of the rest of France.

III

Population growth in France is distinctive because of the very early decline in fertility. The peak rate of population growth occurred no later than the 1820s, and rural populations reached their peak of absolute numbers between 1851 and 1911. Nationally, population growth in the late nineteenth century was slow and steady, as birth and death rates closely paralleled each other and there was little immigration from abroad. Regionally, however, variations in the birth rate were very marked with very high rates observable in the Massif Central and in the west of France, especially Brittany.[28]

Population movement was also regionally differentiated, the main flows occurring from rural areas towards Paris, and to other large cities. Permanent population movements from rural areas were preceded by a long tradition of temporary migrations for a variety of purposes including transhumance, harvest work, winter trading, artisanal employment and wet-nursing. The rural exodus affected women more than men, possibly because they bore the brunt of domestic discomfort.[29] Many of the causes which have been suggested for the rural exodus relate to the difficulties of rural and agricultural life. Caziot has suggested that small farmers were more susceptible to migration because of difficulties of inheritance; while Brunet and Vallarché have argued that *métayage* accelerates depopulation.[30] Goreux sees the movement as an economically-motivated migration towards areas of higher agricultural wages, although it is a slow response to rapid economic change.[31] Other factors which facilitated this movement included improvements in transport, education and communications and the enforced mobility caused by military activity, conscription and war.[32] The reasons for migration are not all negative and urban and industrial areas may exert a positive attraction, because of the wider employment opportunities and higher income levels attainable in industry and service employment, and the greater amenities and facilities available in the city. This paper, however, is primarily concerned with the relationships between rural out-migration on the one hand and agricultural structure and change on the other. It is recognized that migration motivation is complex, and involves urban attractions as

[27] A R H Baker, 'Ideological change and settlement continuity in the French countryside: the development of agricultural syndicalism in Loir-et-Cher during the late nineteenth century', *Journal of Historical Geography*, 6, 1980, pp 163–77.

[28] P Merlin, *L'Exode Rural*, Paris, 1971; P Hohenberg, 'Migration et fluctuations démographiques dans la France rurale 1836–1901', *Annales Economies Sociétés Civilisations*, 29, 1974, pp 461–97.

[29] L M Goreux, 'Les migrations agricoles en France depuis un siècle', *Etudes et Conjoncture*, 4, 1956, pp 327–75.

[30] J Caziot, *Une Solution au Problème Agraire: La Terre à la Famille Paysanne*, Paris, 1919; R Brunet, *Les Campagnes Toulousaines, Etude Géographique*, Toulouse, 1965; J Vallarché, *La Mobilité Professionelle des Ruraux dans un Société Libre*, Fribourg, 1953.

[31] Goreux, *op cit.*

[32] Weber, *op cit.*

well as rural push factors; however, these are not the main focus of study.

The relationships between agricultural resources and population change have been the focus of many previous studies. In general terms, Sauvy *et al* see out-migration as a response to pressure on limited resources.[33] A preliminary response to pressure is the extension of the cultivated area, to provide food and employment; subsequent responses necessitate either changes in fertility, improvements in technology, or movements of population. It is this complex of responses which is the subject of this paper.

Newell considers that rural out-migration was a necessary response to population growth, as he believed there was very little scope for agricultural expansion by the mid-nineteenth century; out-migration was related to the number of new entrants into the labour force.[34] Hohenberg also recognized the relationship between population growth and out-migration and also established a positive relationship between agricultural density and out-migration. However, he considers a simple view of population pressure to be inadequate. In-migration is associated with low natural increase and also with areas of high agricultural productivity and high agricultural wages. In-migration to areas of low natural increase occurs because these areas have experienced parcellation of property, which acts as a check on fertility; in-migration in this case is a response by those wishing to acquire land. He therefore sees the decline in fertility as the motive force for rural migration. However, in-migration is also positively associated with advanced agricultural regions offering better salaries; migration here is seen as a response to wage differentials.[35] The situation is made even more complex as agricultural productivity is only poorly related to net out-migration, with exceptionally heavy losses from the Massif Central and lower losses than expected from the west of France.

This paper focuses particularly on two aspects of this complex web of relationships. First, agricultural types and structures are related to out-migration, by using an agricultural regionalization based on departmental data. It is hypothesized that out-migration will be significantly different from the different agricultural regions, with areas of more intensive agriculture better able to retain their rural populations. Secondly, the well-established relationship between natural growth and out-migration is accepted and therefore attention is paid to the relationship between population pressure and technical change in agriculture. The second hypothesis to be examined is that areas of population growth, given their limited natural resources, would attempt to create further agricultural employment, primarily by extending the agricultural area. The converse of this, that areas of natural decline should adopt labour-saving improvements and machinery, is examined in the final section of this paper.

IV

The purpose of classifying agricultural regions was to delimit a number of areas exhibiting major differences in their agricultural specializations, which therefore would be likely to have different labour requirements. Cereals and livestock were used as the two basic criteria for classification of agricultural regions, rather than land-holding and field systems which have been the basis of previous classifications.[36] A simple cartesian graph of the two basic indices of cereals and livestock produced an initial four-fold classification of all the

[33] A Sauvy, G C Chez, P George and L Chevalier, *Dépeuplement Rural et Peuplement National*, Paris, 1949.
[34] Newell, *op cit*.
[35] Hohenberg, *op cit*, p 478.
[36] Prince, *op cit*, contains a review of these classifications.

départements of France (Fig 2). The results of this classification for 1892 are shown in Fig 3a, b, c, d. The areas in Fig 3a were characterized by a high proportion of land under cereal production and low livestock stocking rates; these were the commercial cereal growing areas of the Paris basin and Centre regions, together with the Garonne valley and the Vaucluse. Group b (Fig 3b) consisted of the predominantly upland areas which specialized in cattle- and sheep-rearing; these were confined to parts of the Massif Central, the Pyrenees and Normandy.

In group c (Fig 3c) the areas with low scores on both cereals and livestock were categorized as areas of subsistence polyculture, where the terrain or the agricultural techniques employed were able to support only a low level of agricultural production. These *départements* were the highland areas of the Jura and the Alps, the poor soil regions of the Orne, the Nièvre (the Morvan) and the Landes. The areas of below-average agricultural production also included the coasts of Languedoc and Provence. On the other hand, the areas of group d (Fig 3d), which supported both a high proportion of land under cereals and a high livestock stocking rate, were designated as areas of intensive polyculture. These areas were those of the west coast from the Nord to the Vendée, and included all of Brittany, parts of the Loire Valley and the northern Massif Central.

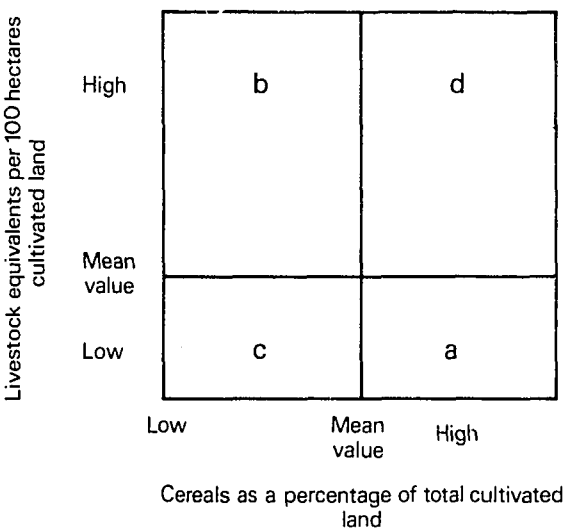


FIGURE 2
Method of classification of agricultural areas

The initial classification of agricultural regions on the basis of the relative importance of cereals and livestock in the farming system, of necessity had excluded other factors of possible significance to the overall level of agricultural production and to the regional requirements for an agricultural labour force. Three such indicators were considered further: the average size of farm unit; the relative importance of market gardening; and the relative importance of viticulture. The presence of large numbers of small farms, market gardens and vineyards may have indicated a higher requirement for labour than expected from the initial cereal/livestock classification. The agricultural labour force, that is the number of workers employed per 100 hectares of cultivated land, was also considered as the basis for further sub-division. In three of the four initial agricultural regions, sub-divisions have been proposed on the basis of these further characteristics, the validity of which were assessed using Mann-Whitney U-tests.

In group a, the cereal region, the proposed sub-division was between the contiguous northern *départements*, normally considered to be the area of *grande culture* on the one hand, and on the other the south-western *départements* which contained a greater proportion of vineyards and consisted of predominantly smaller farms; these areas were termed 'cereals with vines'. The livestock category, group b, showed no apparent anomalies. In the subsistence polyculture category, group c, the *départements* of the Mediterranean littoral could be distinguished by their small size of farm and also by the high proportion of the cultivated areas taken up by market gardens and vineyards. This suggested a distinctive

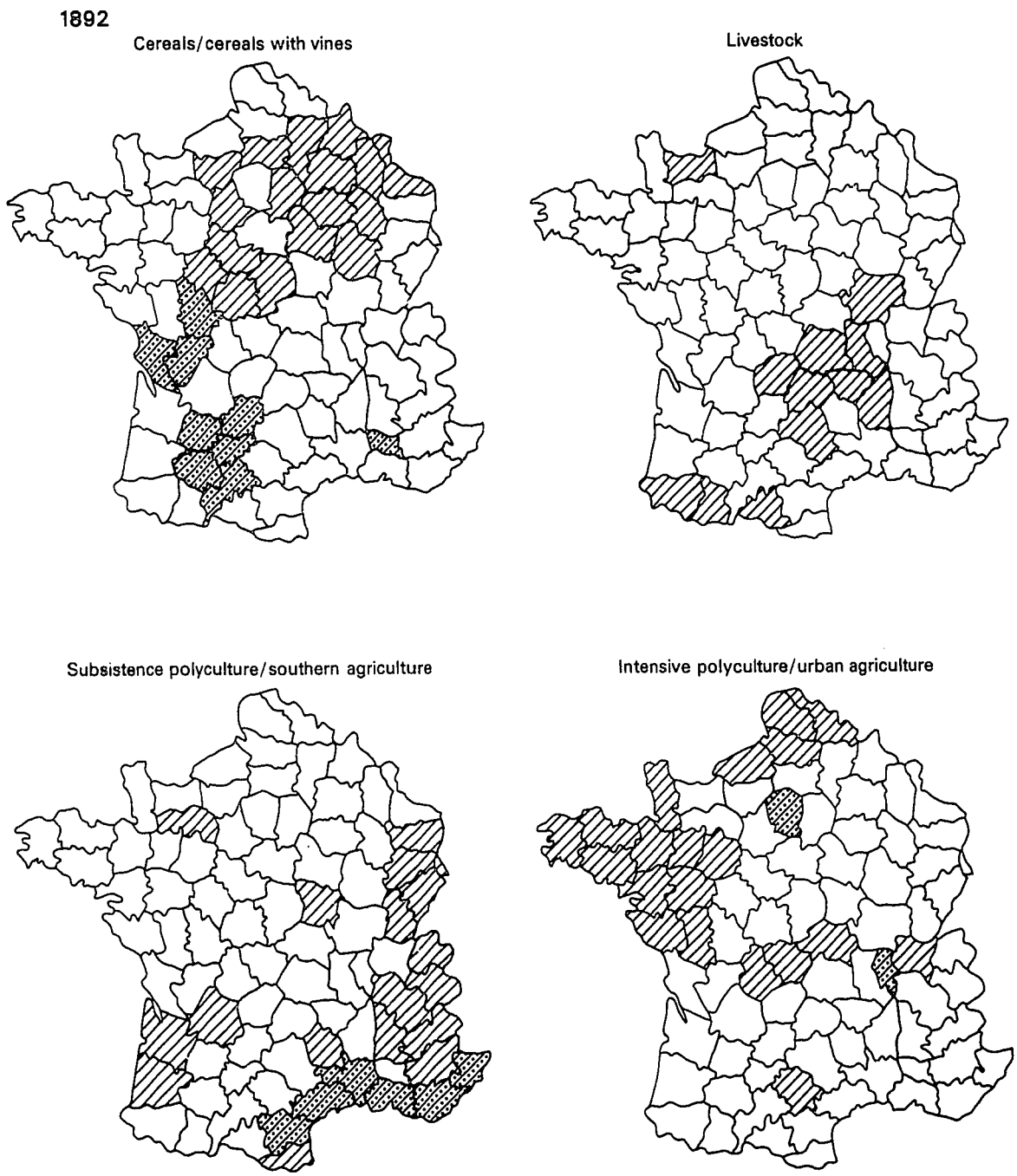


FIGURE 3
Agricultural regions 1892

and more intensive type of agriculture, which was essentially different in character from the subsistence farming of the higher mountain regions; this was termed 'southern agriculture'. The intensive polyculture category contained two *départements* of exceptionally small farms (an average 3.0 ha compared to a national average of 8.7 ha), which were also characterized by a very high preponderance of market gardening. These two *départements* of Seine and Rhône were also distinguished by their very low rates of employment in agriculture compared to other sectors of the economy. The agriculture of Seine and Rhône was relatively intensive, influenced by the proximity of the major cities of Paris and Lyon, and these *départements* were considered as areas of 'urban agriculture'.

The proposed sub-divisions were tested for internal homogeneity using Mann-Whitney U-tests between each major group and its sub-division, on the basis of size of farm, proportion of vineyards, proportion of market gardens and intensity of agricultural labour. The Mann-Whitney U-test is a non-parametric, 95 per cent power-efficient test which tests the significance of differences between groups. In each case the test applied was one-tailed, specifying that the expected difference was smaller in the case of farm size, but greater in the other three instances: thus separating from the initial division *départements* with smaller but more intensive and diverse type of holdings. These sub-divisions would therefore be expected to have a greater requirement for agricultural labour than their parent groupings.

The results of the tests are shown in Table 1. In most cases the results are highly significant, there being only one in a thousand chances that the differences could have occurred at random. For 1892, therefore, seven agricultural regions were delimited (Fig 3). The initial four-fold classification of livestock, cereals, subsistence polyculture and intensive polyculture was maintained, together with sub-divisions of the latter three categories, that is, cereals with vines, southern agriculture and urban agriculture.

The same classification procedure was followed for 1929, to delimit areas on a consistent basis, rather than maintaining constant areas over time. The four main classes were established using the cereals and livestock indices, and the same sub-divisions using the same intensity measures. The validity of these groupings was again assessed using Mann-Whitney U-tests. The U-values were diminished in significance in some cases, particularly in the case of cereals/cereals with vines, but the significance levels were still acceptable (Table 1).

TABLE 1

Significance Levels for Agricultural Sub-divisions 1892 and 1929

Major group/Sub-division		*Indicators of Intensive Working*			
		Size of Farms	*Market Gardens*	*Vineyards*	*Labour*
Subsistence polyculture/	1892	0.10	0.001	0.001	0.001
Southern agriculture	1929	0.025	0.001	0.001	0.001
Intensive polyculture/	1892	0.001	0.001	NS	0.001
Urban agriculture	1929	0.001	0.001	NS	0.001
Cereals/	1892	0.001	NS	0.001	0.001
Cereals with vines	1929	0.025	0.01	0.001	0.025

NS = Not significant

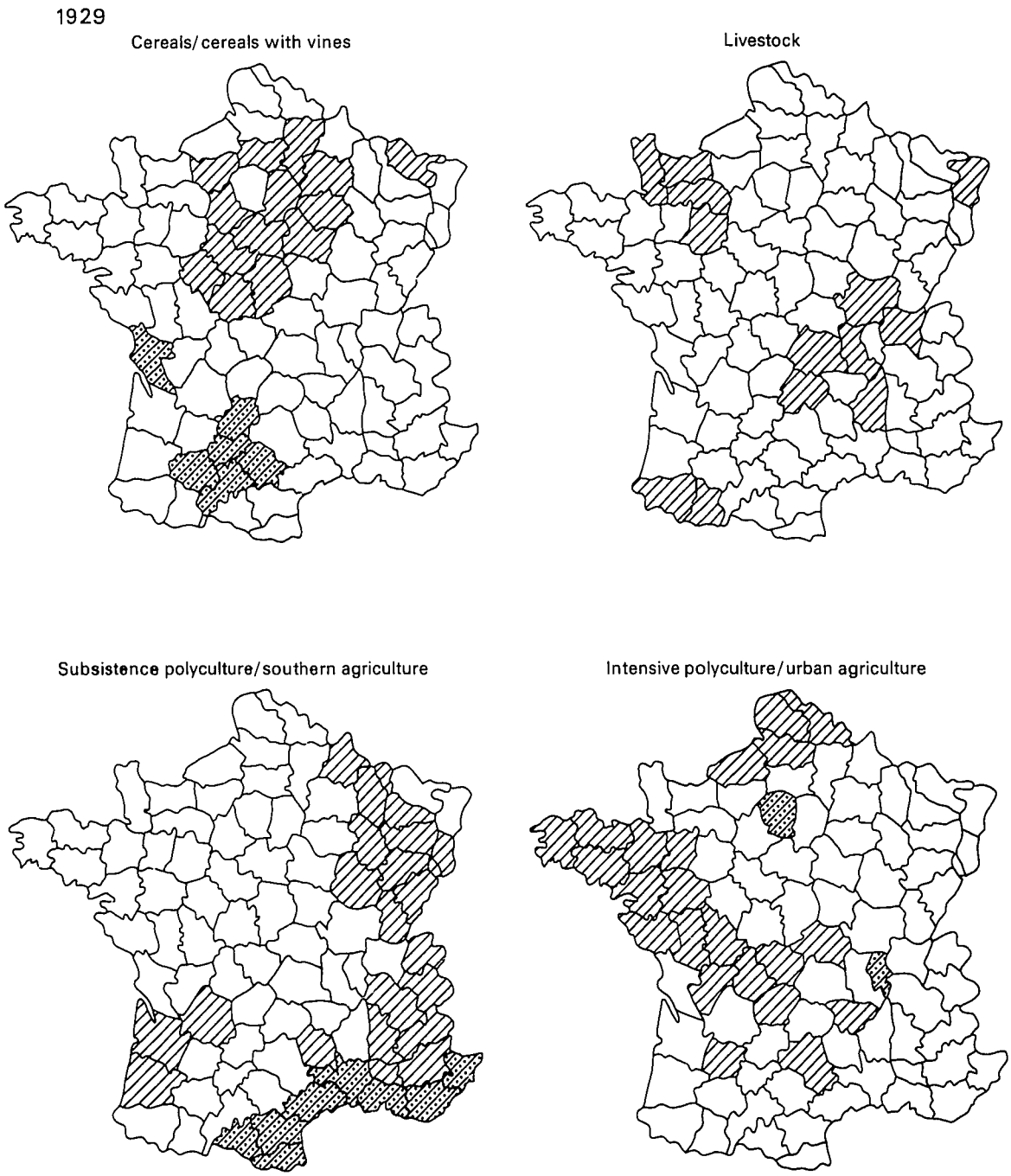


FIGURE 4
Agricultural regions 1929

The *départements* in each category altered slightly (Fig 4), which was to be expected given the regional variations in agricultural stagnation and intermittent improvement over the intervening period. The area of specialist cereal agriculture diminished in size, reflecting a national reduction in cereal cultivation since 1892. Particularly noticeable in this respect was the reduction in the relative importance of cereals in the Ardennes-Champagne-Lorraine area where five *départements* reverted to subsistence polyculture; it is suggested that the diminishing importance of cereals in this area was exacerbated both by economic depression and by the devastation of the Great War. Similarly, the cereals with vines category diminished with the exclusion of Vaucluse and Charente. The livestock category remained almost constant, but by 1929 there was a growing emphasis on livestock breeding in Normandy, which showed exceptional development; the major improvement was in the rearing of dairy cattle. While the specialist arable and pastoral areas contracted, intensive polyculture extended over a greater area of the Massif Central, and subsistence polyculture encompassed one-third of the country. This change is particularly indicative of the national depression in agriculture. Within the subsistence polyculture category, the zone of southern agriculture extended to include the Vaucluse and the eastern Pyrenees, both of which contained extensively replanted vineyards and market gardens.

V

In view of the varying labour requirements associated with the different agricultural regions, it was hypothesized that each area would be differentially susceptible to migration. It is suggested that the labour requirements of each area would have been ranked as in Table 2. The basis for this suggested ranking is the greater labour required by cereal cultivation, particularly at harvest-time, compared to livestock rearing. The polyculture areas would have been intermediate between the cereal and the livestock areas in their labour requirements. The three sub-divisions would have been more intensive than their parent groupings in their use of labour.

TABLE 2
Hypothesized Ranking of Agricultural Regions According to Their Labour Requirements

Most labour intensive	
↕	Urban agriculture
	Southern agriculture
	Cereals with vines
	Cereals
	Intensive polyculture
	Subsistence polyculture
	Livestock
Least labour intensive	

The agricultural regions were tested for significant differences in their rates of rural out-migration, using two-tailed Mann-Whitney U-tests. The mean rates for each region in 1892 are shown in Table 3 and the significance levels of the results of the Mann-Whitney U-tests in Table 4. Out-migration from rural *communes* only was used as the dependent variable, because agricultural specializations and agricultural labour requirements were being used to account for migration rates. The net migration rates for rural and urban areas combined for each region are also shown in Table 3 for purposes of comparison; these total rates were greatly influenced by in-migration to urban areas, a phenomenon which had become increasingly prevalent by 1929. The use of migration data for rural *communes*, that is, *communes* with less than 2000 people in the *chef-lieu*, is obviously most appropriate for this analysis, except in the use and interpretation of migration rates for the urban agriculture category. This difficulty arose because the urban agriculture category contains only two *départements*, one of which, Seine, contained no rural

communes, so no data were available to assess rural out-migration. However, population movements around the major cities of Paris and Lyon were at best tenuously linked to agriculture and were much more greatly influenced by industrial, commercial, urban and suburban development.

A comparison of total migration rates with those from rural *communes* reveals a very wide discrepancy, which was particularly marked in the urban agriculture category. The only other grouping to show a positive total migration rate (as well as some increase in rural population) was the southern agriculture category. This migration was an in-movement to the growing urban centres and tertiary employment opportunities of the Mediterranean coast, which at this time provided a migration focus second only to Paris.[37] The migration rates for the areas of southern agriculture were significantly different from almost every other category (Table 4), but as

[37] H P M Winchester, *Changing Patterns of French Internal Migration, 1891–1968*, University of Oxford School of Geography Research Papers, 17, 1977.

TABLE 3
Rural Out-migration Rates: Agricultural Regions 1892

	Agricultural Regions						
	Cereals	*Cereals and Vines*	*Livestock*	*Urban Agriculture*	*Intensive Polyculture*	*Subsistence Polyculture*	*Southern Agriculture*
Number of *départements*	19	8	12	2	21	18	6
Mean *rural* out-migration rate per 1000	−13.68	−26.36	−30.82	−79.6	−26.67	−35.94	+15.93
Coefficient of variation	150.29	70.59	60.64		45.33	68.36	314.69
Total net migration rate per 1000 (urban and rural *communes*)	−1.74	−13.41	−21.91	+52.5	−12.02	−20.87	+35.10

TABLE 4
Significance of Differences in Rural Migration Rates from Agricultural Regions 1892

	Cereals	*Cereals with Vines*	*Livestock*	*Intensive Polyculture*	*Subsistence Polyculture*	*Southern Agriculture*
Cereals		NS	0.02	0.02	0.05	NS
Cereals with vines			NS	NS	NS	0.05
Livestock				0.10	NS	0.05
Intensive polyculture					0.05	0.05
Subsistence polyculture						0.02
Southern agriculture						

NS = Not significant

with the areas of urban agriculture, explanation for these rates cannot be derived from agricultural structures alone.

In 1892, at the other end of the migration spectrum, were the areas of livestock farming and subsistence polyculture, both of which exhibited massive rates of rural population loss and high overall losses. The rural out-migration rates from these two areas were not significantly different from each other. In both cases this massive haemorrhage of labour was indicative of the diffficulties of earning a living on predominantly poor upland terrain, with inadequate resources, machinery, or even land. The areas of intensive polyculture were, however; more successful at stemming the outflow of migrants and although the rate of out-movement was still high, it was significantly different at the 0.10 level from the areas of livestock farming and subsistence polyculture. This significance level is not high, but may be used as an indicator to suggest that the more intensive form of polyculture was more successful in retaining its labour force than subsistence-level polyculture.

The cereals with vines category exhibited a high rate of rural migration loss, not significantly different from the livestock or polyculture areas, despite the high labour requirements of viticulture. In fact at this time these areas were unimproved, with a poverty of farming environment rather similar to the areas of polyculture, conducive to out-migration.[38] In 1892, the major cereal producing category of northern France was the most successful region in retaining its rural labour force, and in this respect was significantly different from every other group except for southern agriculture. The cereal growing area was the most advanced area of intensive agriculture in the country at this time, which required and absorbed a large labour force. The cereal region, as with southern agriculture, did, however, contain areas of great attraction for migrants and it is not altogether clear to what extent these areas may have influenced the apparent stability of the rural labour force. Furthermore, the differences in wage-rates examined by Goreux and Hohenberg will also have served to stabilize and attract labour.[39]

VI

By 1929 the pattern of agricultural regions had altered; war damage and economic depression had continued to reduce the cereal growing area and as a consequence, the area of subsistence polyculture had become extended. The rural migration rates for each area in 1929 are shown in Table 5, and the significance of the migration differences in Table 6. As in 1892, the urban areas showed high total in-migration and high rural in-migration, attributable at least in part to suburban expansion. The areas of southern agriculture exhibited remarkable variability; rural migration rates ranged from −50 per 1000 to +50 per 1000 from *département* to *département*. These two categories of urban agriculture and southern agriculture are not considered further, because of the major significance of non-agricultural factors influencing migration rates.

The other agricultural areas continued to show substantial rural out-migration despite marked urban growth in most areas. The rate of rural migration from the cereals with vines area altered dramatically from 1892. In 1892, the area had shown substantial rural out-migration, but by 1929 this area exhibited a very low rate of rural out-migration. This rate became significantly different from areas of polyculture, whereas in 1892 the differences had not been significant. This decrease in the rate of net out-migration may be attributed to substantial in-movements of foreign workers,

[38] Chombart de Lauwe, *op cit.*

[39] Goreux, *op cit*; Hohenberg, *op cit.*

TABLE 5

Rural Out-migration Rates: Agricultural Regions 1929

	Agricultural regions						
	Cereals	*Cereals and Vines*	*Livestock*	*Urban Agriculture*	*Intensive Polyculture*	*Subsistence Polyculture*	*Southern Agriculture*
Number of *départements*	14	6	13	2	22	24	8
Mean *rural* out-migration rate per 1000	−20.39	−9.50	−21.86	+64.40	−35.19	−30.94	−6.93
Coefficient of variation	123.49	235.89	94.24		66.55	67.81	489.03
Total net migration rate per 1000 (urban and rural *communes*)	+4.52	+13.08	−4.69	+64.40	−18.17	+7.61	+67.53

TABLE 6

Significance of Differences in Rural Migration Rates from Agricultural Regions 1929

	Cereals	*Cereals with Vines*	*Livestock*	*Intensive Polyculture*	*Subsistence Polyculture*	*Southern Agriculture*
Cereals		NS	NS	0.02	NS	NS
Cereals with vines			NS	0.02	0.02	NS
Livestock				NS	NS	NS
Intensive polyculture					NS	0.10
Subsistence polyculture						0.10
Southern agriculture						

NS = Not significant

which also contributed to the relative agricultural advancement of this area in the 1920s.[40] On the other hand, the northern cereal areas became more similar to other areas in their migration characteristics, with much more substantial rural losses than formerly, heavily influenced by war damage and restructuring.

In both periods, the areas of heavy migration loss were the areas of subsistence and intensive polyculture, which showed significantly greater out-movement than most other areas. However, the greatest out-movement in 1929 occurred from areas of intensive polyculture, whereas in 1892 rates of loss at this very high level (about 30 per 1000) were characteristic of the livestock and subsistence polyculture categories. This changing pattern of migration is further examined in the next section.

On a general level it is quite clear from the foregoing analysis that migration rates varied significantly between agricultural type regions; the areas of *petite culture* were less capable of supporting their rural populations, whereas areas of more special-

[40] A Demangeon and G Marco, *Documents pour Servir à l'Etude des Etrangers dans l'Agriculture Française*, Paris, 1939.

ized and intensive agriculture were relatively more successful in doing so. The high level of rural to urban migration from the polyculture and livestock categories is symptomatic of both the difficulties of agriculture in marginal areas at this time, and of the greater attraction of wider employment opportunities and a higher living standard in the growing cities.

VII

The pattern of observed out-migration from agricultural regions may be compared with the hypothesized ranking set out in Table 2. Table 7 shows the actual rankings for both 1892 and 1929. If the urban category is ignored, it is clear that there is a greater loss from the polyculture and livestock areas than from the cereals and other more intensive categories. However, the rankings within those broad divisions were not always exactly as expected. In 1892, the cereals with vines category lost more population than expected because of the unimproved nature of agriculture at that time. Otherwise, the relatively intensive agricultural regions of cereal growing, cereals with vines and southern agriculture were, as expected, comparatively successful in maintaining rural population levels. However, the polyculture and livestock areas, although all exhibiting great losses, were not ranked as expected. In particular, the areas of intensive polyculture became markedly less successful in retaining population from 1892 to 1929, whilst the livestock rearing areas lost progressively fewer people than had been anticipated from the labour requirements of this type of agriculture.

Some explanation for this mismatch of agricultural labour requirements and rural out-migration may be derived from examination of the variation in the availability of labour. The rate of natural population growth is used as a surrogate for the rate of increase in the local labour force. Over the period 1892–1929, correlation between migration and natural growth remained virtually constant at −0.23 (significant at the 0.01 level); this negative relationship indicated that areas of natural growth were associated with out-migration in a population pressure phenomenon. Fig 5 shows areas of out-migration in relation to natural growth or decline for both periods.

In the 1890s, there were very few areas of in-migration and only seven *départements* exhibited in-migration with natural growth. In all other areas of in-migration, crude death

TABLE 7

Comparison of Actual with Hypothesized Rankings of Rural Out-migration Rates from Agricultural Areas, 1892 and 1929

	1892	*Hypothesized*	*1929*
Most labour intensive: low out-migration	—	Urban	—
	Southern	Southern	Southern
	Cereals	Cereals with vines	Cereals with vines
	Cereals with vines	Cereals	Cereals
	Intensive polyculture	Intensive polyculture	Livestock
	Livestock	Subsistence polyculture	Subsistence polyculture
Least labour intensive: high out-migration	Subsistence polyculture	Livestock	Intensive polyculture

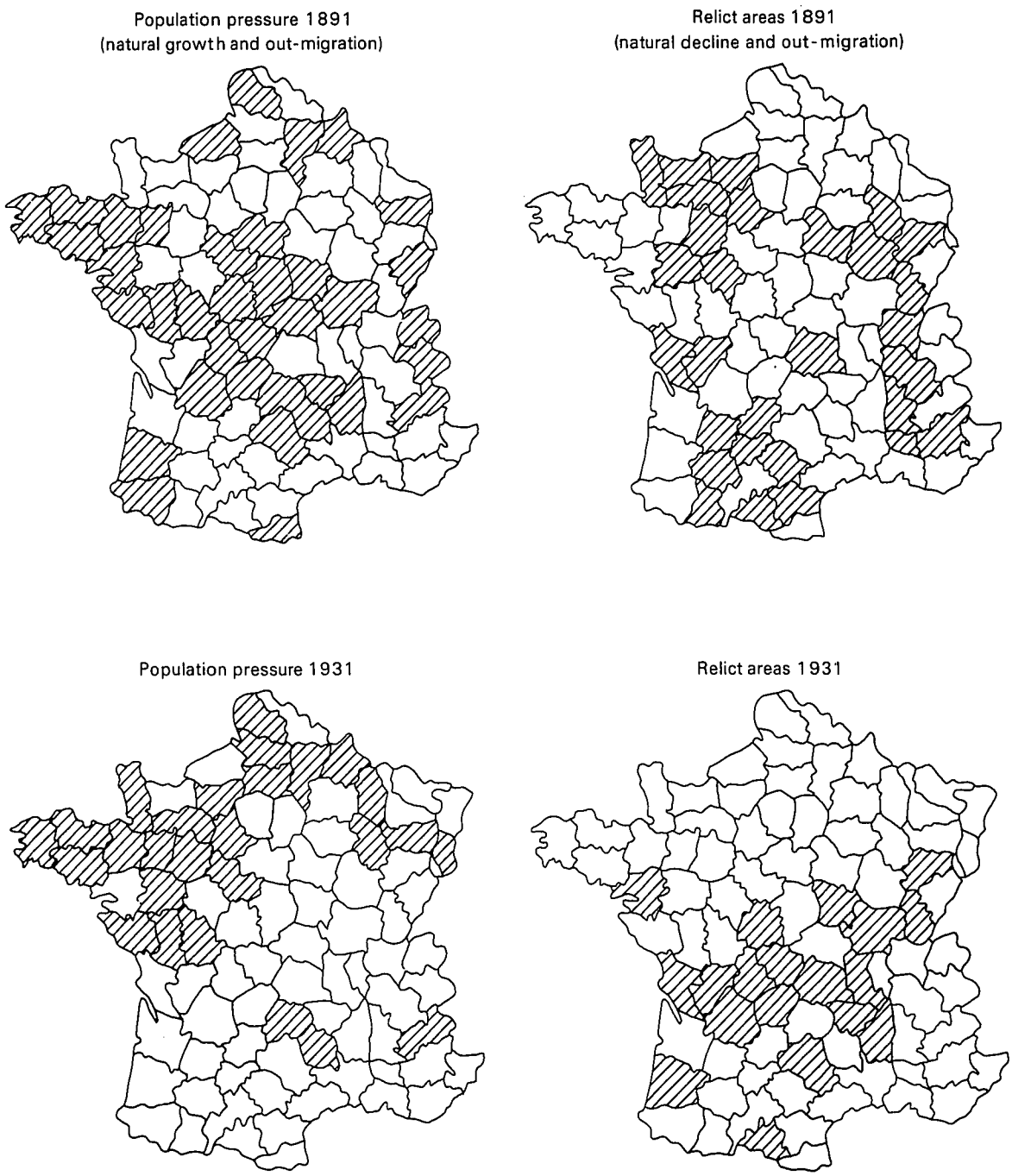


FIGURE 5
Out-migration and natural population change,
1891 and 1931

rates exceeded crude birth rates; these conditions of natural decline may be explained by poor environmental conditions in the urban reception areas, by the migration of single persons rather than families, and by the seasonal or temporary nature of much migration at this time.

In 1891, the areas of natural growth and out-migration (areas of population pressure) consisted of Brittany, the Massif Central and much of the highland perimeter; these were therefore predominantly areas of livestock breeding and polyculture. On the other hand, areas of natural decline and out-migration (relict areas) consisted of parts of Normandy, the Midi and the Rhône-Saône corridor. In these *départements* labour was being reduced in two ways; by rapid out-movement and by a fall in fertility. In the areas of population pressure, on the other hand, the early decline in fertility so peculiar to France had not yet occurred. In Brittany and the Limousin rates of growth were at 'under-developed' levels with annual increases of 2.5 per cent or more. Out-migration was high but not excessively so, and in no case did it adequately export this growing population. In the absence of heavy out-migration, in areas of limited natural resources, the only other major possibility for the support of such a rapidly growing labour force would have been in the provision of further employment at home. Given the steady decline of employment in local crafts and industries, further employment in a predominantly agricultural society would have necessitated the improvement or extension of agriculture. In the Nord, similarly high levels of natural growth occurred in a rather different context; high fertility levels were particularly associated with groups of miners and other workers who were often resident in 'rural' *communes*. In this region, some expansion of employment opportunities did occur in the home areas, in mining, textiles and metallurgy, as well as opportunities for market gardening and commercial agriculture.

By 1931, the spatial relationships between migration and natural growth had been altered by the violent fluctuations in the rate of natural growth, which had fallen dramatically in the years of the depression.[41] The areas of in-migration had become more extensive, with steady growth occurring in parts of Burgundy, the Rhône-Alpes, Alsace and the Midi, as well as continued rapid growth in existing urban concentrations. The population pressure phenomenon had become confined to Brittany and some of the war-disrupted areas of the Ardennes and Picardy; on the other hand, the Massif Central had become a relict area by this time, experiencing natural decline and out-migration.

Areas of population pressure needing to create employment were thought likely to show evidence of agricultural intensification. The improvements and innovations in agriculture which were recorded in the agricultural censuses of 1892 and 1929 may be classified according to whether they created employment, or whether they replaced labour by other factors of production. Creation of employment was most obvious in the extension of the cultivated area, while substitution of labour occurred with the adoption of most machinery. Intensive improvements, such as application of fertilizers, may also be viewed as substitutes for labour although they do not fall directly into this category. However, they increased productivity for the same labour input, thereby indirectly releasing more labour to work in sectors other than agriculture. Similarly, reafforestation was classified as substituting labour, because the land use had been altered for what was usually a less productive and less labour-consuming activity.

The extensive (labour-using) and the intensive (labour-losing) improvements in farm structure, and the use of machinery, are therefore each considered separately. It is

[41] C Dyer, *Population and Society in Twentieth Century France*, 1978.

hypothesized that areas of natural growth would undertake more extensive improvements in agriculture than areas of natural decline, in order to absorb the surplus labour force. This hypothesis is tested by the use of a simple one-way measure of association, percentage difference. The example of percentage difference in land clearance in 1892 between the areas of natural growth and natural decline is shown in Table 8.

TABLE 8
Percentage Difference: Land Clearance 1892

Départements with:	*Land Clearance*		*No Land Clearance*	
	Number	%	Number	%
Natural growth	19	49	20	51
Natural decline	4	8	44	92
Difference		41		41

The percentage differences in adoption of improvements between areas of natural growth and those of natural decline are shown for 1892 and 1929 in Table 9. In 1892, it was clear that the extensive improvements which provided land by clearance of unproductive and marginal areas, and thereby utilized labour, were much more widely employed in areas of natural growth. This suggested that the pressure of population on resources had found an outlet other than migration, which was the creation of intervening opportunities in agriculture in the home area. The pattern was reversed for much of the agricultural machinery which replaced labour, the adoption of which predominated in areas of natural decline. This was particularly noticeable in the case of mowing machines, which significantly reduced the number of itinerant harvest labourers, *moissonneurs*, required for both the hay and grain harvest. Other implements similarly reducing harvest labour requirements were binders, and rakes and tedders. It is noticeable that the great seasonal movements of labour began to decline about this time in favour of more permanent out-migration.

TABLE 9
Percentage Difference: Agricultural Improvements and Natural Growth or Decline

	1892	*1929*
Extensive Improvements (labour-utilizing)		
Land clearance	41	7
Woodland clearance	32	3
Marsh clearance	32	21
Intensive Improvements (labour-losing)		
	1892	*1929*
Reafforestation	10	15*
Drainage	5	6
Irrigation of arable	11	7*
Irrigation of pasture	16	5
Agricultural Machinery		
Mechanical mowers	21*	2*
Binders	14*	3
Rakes and tedders	11*	9
Fertilizer spreaders	5*	21
Ploughs	4*	12
Mechanical drills	8	24
Tractors	No data	35*
Fertilizers		
Nitrates	No data	10
Phosphates	No data	33
Potash	No data	14

*Associated with natural decline

Other types of machinery were more generally widespread, although ploughs and fertilizer spreaders were more often found in areas of decline, while mechanical drills were more often associated with natural growth.

By 1929, the pattern of improvement adoption was already less clear. The labour market and the agricultural sector had been disrupted by economic depression and foreign competition, as indicated earlier. The rate of land improvement had declined considerably with the exceptions of space-covering reafforestation, and the continuing progress of irrigation, particularly in the areas of southern agriculture. On the whole,

these improvements showed no clear pattern of association with natural growth or decline, although reafforestation and irrigation were both more predominant in areas of population loss. Land clearance had passed its peak, as the rural population continued to decline, and as competition rendered agriculture less profitable. Some clearance of marshland was still occurring in areas of natural growth, notably in Brittany, a remnant of the first agricultural revolution which had ended a century earlier in the Paris basin.

Of the agricultural improvements which replaced labour, tractors, the major innovation of the period, were most significantly associated with areas of natural decline and potential labour shortage. These, unlike the specialized implements or the use of chemical fertilizers, were to be found in the initial stages of adoption where their impact on labour needs was greatest. As with the innovations of the 1890s, however, such as mechanical mowers, the tractors quickly became more widespread, especially into the areas of specialist arable agriculture.

VIII

In 1892 the relationships between population growth, agricultural specialization and the outlets for labour were complex but relatively clear. Areas of high natural growth had two main outlets for surplus labour; one was out-migration, the other was land clearance, and thereby the provision of more labour opportunities in agriculture. Thus areas such as Brittany and parts of the Limousin and Picardy in 1892 were able to absorb some labour by extensification of agriculture.

However, by 1929, more out-migration than expected according to labour requirements was originating from those agricultural areas engaged in intensive polyculture. By this time, agricultural development had been pushed to the limits of its physical resources, and land clearance and improvement had been extended to marginal areas. As opportunities in agriculture dried up, so out-migration increased. It appears therefore that agricultural improvement in the period 1892–1929 may be viewed as an intervening factor between natural growth and out-migration. On the other hand, at this time the areas of natural decline were unable, because of limitations of either physical or labour resources, to extend the agricultural area and so, in the early stages especially, exhibited substantial rural out-migration. The declining labour force then acted as an added stimulus to the adoption of labour-saving machinery.

The Extent of Farm Underdrainage in England and Wales, prior to 1939

By M ROBINSON

FIELD drainage in Britain probably dates from Roman times, but it is only in the last 200 years that significant amounts have been carried out. Enclosure of the common lands beginning in the seventeenth century was a necessary precursor to agricultural improvement and from about 1750 there was an increase in the amount of drainage carried out. The drains at this time were mainly made of stones or brush wood, and it was only from the beginning of the nineteenth century with the invention of clay drainage pipes that drainage became more widespread. After 1826 drainage tiles were exempted from tax, and in 1845 Thomas Scragg invented a machine for extruding drainage tiles, which brought their price down by about 70 per cent. This began a period of intensive drainage which continued for about half a century, helped by loans from government and private sources. However in the period of agricultural depression which began about 1890 and continued until the 1930s very little drainage was carried out.[1] In more recent years with grant-aid and advice available from the Ministry of Agriculture, Fisheries and Food (MAFF), and with high food prices, there has been considerable renewed interest in farm drainage.[2] Whilst records are available of grant-aided drainage for the period after 1939, and these are thought by the MAFF to represent almost all the recent drainage that has taken place, there is in contrast, little information on the amount of drainage in the nineteenth century. And what historical records do exist, are conflicting and inconclusive.

I

The most frequently quoted source of information is the evidence that Bailey Denton submitted to the Agricultural Commission in 1880.[3] He estimated that one million acres (approx 4,000 km^2) in England and Wales had been drained with government loans, and that in addition perhaps double that amount had been drained with private finance. Only seven years earlier he had also estimated the total area drained as 3 million acres (12,000 km^2) but based it on equal amounts of privately and publicly funded drainage.[4] The area drained by government loans can be approximated from records of the sums loaned, but estimates of the amount of privately funded drainage are very uncertain and have often been assumed to be a given multiple of the government drainage. Denton changed his estimate of the ratio of public to private finance from 1:1 to 1:2, whilst his contemporary Caird[5] used the ratio of 1:3. Thus with only minor changes in the numbers used, the estimates of the total area drained could vary between 2 and 4.5 million acres. In a review of the historical sources of evidence, Phillips[6] stated that 'It is unwise to put any confidence in estimates which are so variable and unreliable,' and concluded 'The

[1] H H Nicholson, 'Modern Field Drainage', *Journal of the Royal Agricultural Society of England*, 104 (1943), pp 118–35; B D Trafford, 'Field Drainage', *JRAS*, 131 (1970), pp 129–52.

[2] A C Armstrong, 'A digest of drainage statistics', Field Drainage Experimental Unit (1978), MAFF, 68 pp.

[3] J Bailey Denton, 'Submission to the Royal Commission on the Depressed Condition of the Agricultural Interests 1880–2', *British Parliamentary Papers*, XV (1881).

[4] J Bailey Denton, 'Submission to the Select Committee of the House of Lords on the Improvement of Land', *BPP*, XVI (1873).

[5] J Caird, 'Submission to the Select Committee of the House of Lords on the Improvement of Land', *BPP*, XVI (1873).

[6] A D M Phillips, 'Underdraining and the English Claylands, 1850–80: a Review', *Ag Hist Rev*, 17 (1969), pp 44–55.

acreage drained during the period 1850–80 is unknown.' More precise evidence is available for individual local areas from the records of estates.[7] However it would be dangerous to extrapolate their drainage figures to larger areas since the estates often had the money and labour available to carry out this work, and so were not necessarily typical of countryside as a whole.

Trafford[8] examined Denton's records and considered that a more reliable calculation of the area underdrained in the nineteenth century could be obtained from estimates of the number of clay pipes manufactured each year. Assuming an average of 1250 pipes needed to drain each acre and after an allowance for sales outside England and Wales, he concluded that probably about 12 million acres (about 50,000 km^2) were underdrained. This is considerably higher than the earlier estimates of Caird and Denton. In support of this figure Trafford quoted the frequent occurrence of old clay pipes when a field is drained[9] and the findings of a survey of drainage need carried out by the MAFF.[10] The MAFF selected a random sample of 5 per cent of England and Wales and asked the local field drainage advisers for their 'opinions' of the percentage of land which fell into the following categories: (i) drained since 1939, (ii) naturally freely draining (eg chalk soils), (iii) adequate drainage by old (pre-1939) drains, (iv) in need of drainage (either undrained or where existing drainage was inadequate or had failed), (v) uneconomic to drain. This indicated that about 5.3 million acres (21,000 km^2) relied on old drains, and since there was so little drainage in the early part of this century, Trafford argued these might reasonably represent the remnant of up to 12 million acres drained in the nineteenth century. Thus, far from identifying which nineteenth-century estimate was the more accurate, modern agriculturists have cast doubt on all the estimates by computing an area which is greater by a factor of 3 to 6. It is to provide an independent estimate from a new source of evidence that this paper is directed.

II

Clearly, a definitive assessment could be provided by a field to field survey looking for the occurrence of old drains feeding into watercourses. This would be prohibitively expensive and time-consuming, but Green[11] showed that very similar information, however, can be obtained from records that have been routinely collected by the MAFF since 1971. Up to the early 1980s all applications by farmers for government grant-aid for drainage required a visit to the site by a MAFF drainage adviser. The drainage officer advised on the layout of the new drainage scheme and noted a number of features of the site, including the existence of pre-1939 drains. This information was based on site inspection and discussion with the farmer. Since grant-aid for drainage became available in 1939 few farmers have carried out the work privately, and the MAFF statistics provide a very complete record of drainage.[12] Over the decade 1971–80 there were nearly 125,000 grant applications, requiring visits to about 8500 km^2 of farmland, with an average area inspected of under 7 hectares (17 acres). This provides a great deal of information on the extent of old drains, both the total area of land drained, and its regional distribution. These and other statistics were collated by the MAFF for each parish for the period 1971–80, and the data have been made available to the author.

The area with old underdrainage in a parish may be estimated from these data if it

[7] A D M Phillips, 'The development of underdraining on a Yorkshire estate during the nineteenth century', *Yorkshire Archaeological Journal*, 44 (1972), pp 195–206.

[8] Trafford, *op cit.*

[9] H H Nicholson, *The Principles of Field Drainage*, Cambridge, 1953.

[10] E T Belding, 'Drainage Survey in England and Wales', *Agriculture*, 78 (1971), pp 250–4.

[11] F H W Green, 'Field underdrainage before and after 1940', *Ag Hist Rev*, 28 (1980), pp 120–3.

[12] Trafford, *op cit.*

is assumed that the land inspected was a random sample, typical of that parish. Then the percentage of the land found to have old drains would be representative of the parish as a whole. This assumption is not unreasonable for parishes that are homogeneous in soils and topography, but will result in inaccuracies for those in which only a part of the land was suitable for drainage. For example where significant areas had adequate natural drainage, then the area in the parish with old drains would be overestimated. On the other hand, underestimates would result for parishes in which many old drainage systems still function satisfactorily, since those fields would not be inspected, and so would not be included in the data collection. These and other sources of potential uncertainties in the data used in this paper are summarized in Table 1. As with the other estimates of nineteenth century drainage described earlier it is difficult or impossible to quantify the likely magnitude of the inaccuracies, but some qualitative guidance can be given. The possibility that the inspected areas in a parish were an unrepresentative sample is probably the most important source of error. However, it should be noted that the heterogeneity of a parish would be limited by its small size (average area under 10 km^2), and that any error could be positive or negative. Similarly, whilst the drainage adviser's report does not identify cases where only a part of the land contained old drains, there would undoubtedly have been many instances in which old drainage systems were not detected. Some short-lived twentieth-century drainage schemes might have been counted in error, but this is unlikely to have been a serious source of error. Grant aid was only available to replace drains installed before 1939; any later schemes would have been noted in the MAFF's records and not been eligible. Nineteenth-century drainage pipes are very different in appearance to modern pipes, being of different sizes and shapes, often poorly extruded, and many stamped 'DRAIN' to be exempted from tax. The significance (or otherwise) of these sources of error, and the extent to which they cancel out, cannot be determined. What is, however, beyond dispute is that the figures are based on site visits to a much larger sample than is ever likely to be studied again. These visits were discontinued by the MAFF in 1981 due to the enormous amount of work involved. The nineteenth-century estimates have been shown to be unreliable and conflicting,[13] and the present method provides an entirely independent approach to the problem.

TABLE 1
Potential Sources of Uncertainties in Estimating Nineteenth-Century Drainage from the Parish Data

Overestimates

1 Unrepresentative sample of land inspected within parish — other areas might have fewer or no old drains.

2 Only a small part of the site inspected might contain old drains.

3 Short-lived schemes installed earlier in this century might be included in error.

Underestimates

1 Unrepresentative sample — other areas might have adequately functioning old drains.

2 Old drains at a site might be unknown to the farmer, and not found when the site was inspected.

Summing the values for all the parishes produces a figure of 57,000 km^2 (14 million acres) with old drains, which represents 52 per cent of the agricultural land in England and Wales. Given the uncertainties and assumptions of the two approaches this is remarkably similar to the estimate of 50,000 km^2 (12 million acres) obtained by Trafford[14] from figures for clay pipe production. These two independent estimates, taken with the Belding[15] figure of over 5 million acres having nineteenth-

[13] Phillips, *Ag Hist Rev*, 17 (1969).
[14] Trafford, *op cit.*
[15] Belding, *op cit.*

century drains still functioning, indicate that the extent of underdrainage in the mid- to late-nineteenth-century period of 'High Farming' was very much greater than contemporaries such as Denton and Caird realized. Even if the lower figure of 50,000 km² is assumed, due to the sources of overestimation outlined above and on the basis of the regional analysis described in the next section, this represents an enormous achievement by the agricultural community and one which must have been largely financed by private loans or from farmers' own resources (and so largely unrecorded in historical sources). The extent of this effort may be judged by comparison with the amount of drainage in the present century. In the period 1940–81, just under 20,000 km² were drained with government assistance. Although many of these schemes would be expected to be of a much higher standard than those of the nineteenth century they amount to under one half of the land area improved then. Figures for drainage pipe production confirm the difference between the two centuries.[16] Annual production in the mid-nineteenth century was about four times that at present (partly due to closer spacing in old schemes).

Additional, although indirect, evidence of the large extent of drainage in the last century comes from the concern that was expressed about the effect this work was having on the flows in rivers. As early as 1861 a special meeting was convened in London by the Institution of Civil Engineers to discuss whether drainage increased the discharge of water from farmland into the rivers in storm periods, and so resulted in an increase in the incidence of flooding of areas downstream.[17] No conclusions could be reached, however, due to the lack of measurements of river discharges.

[16] Trafford, *op cit.*

[17] J Bailey Denton, 'On the discharge from underdrainage and its effects on the arterial channels and outfalls of the country', *Proceedings of the Institution of Civil Engineers*, 21 (1862), pp 48–130.

III

The parish drainage data described above can also be used to study the regional variations in drainage activity in England and Wales, although it must be recognized that the figures will be less reliable as smaller areas are considered. Grid references of all the parishes were obtained from the Ordnance Survey. To produce an intelligible map based on nearly 12,000 (parish) data points, it was necessary to contour the data, and for convenience and consistency a computer plotting package was adopted.[18] This provides a range of options to control the contouring and the degree of smoothing needed, depending on the amount of variation in the data. A number of trial maps were produced until one was selected as representing the best balance between spatial detail and clarity. This map has been redrawn with shading as Figure 1.

The pattern of drainage shows a good overall agreement with the spatial pattern of soils based on their hydrological properties.[19] Areas of low drainage activity can be readily identified with areas of permeable soils having good natural drainage (eg the Downs, Cotswolds and Chilterns in southern England and the Yorkshire Wolds in northern England). Higher rates of drainage occur in areas with more impermeable soils such as the clay soils of Essex, Suffolk and Lincolnshire, and the Weald in Surrey and Sussex. The highest rates lie in the north and west; these are high rainfall areas associated with low permeability peaty or heavy clay soils. The high frequency of occurrence of old drains in soils with poor natural drainage confirms the observation that 'In those parts of England and Wales where artificial drainage is necessary it is rare to find a field which has not been drained at some time or another; and much of the work

[18] R J Sampson, *SURFACE II Graphics System*, Kansas Geological Survey, 1978.

[19] F A K Farquharson, D Mackney, M D Newson, and A J Thomasson, 'Estimation of runoff potential of river catchments from soils surveys', *Special Survey No 11*, Soil Survey of England and Wales, Harpenden, 1978.

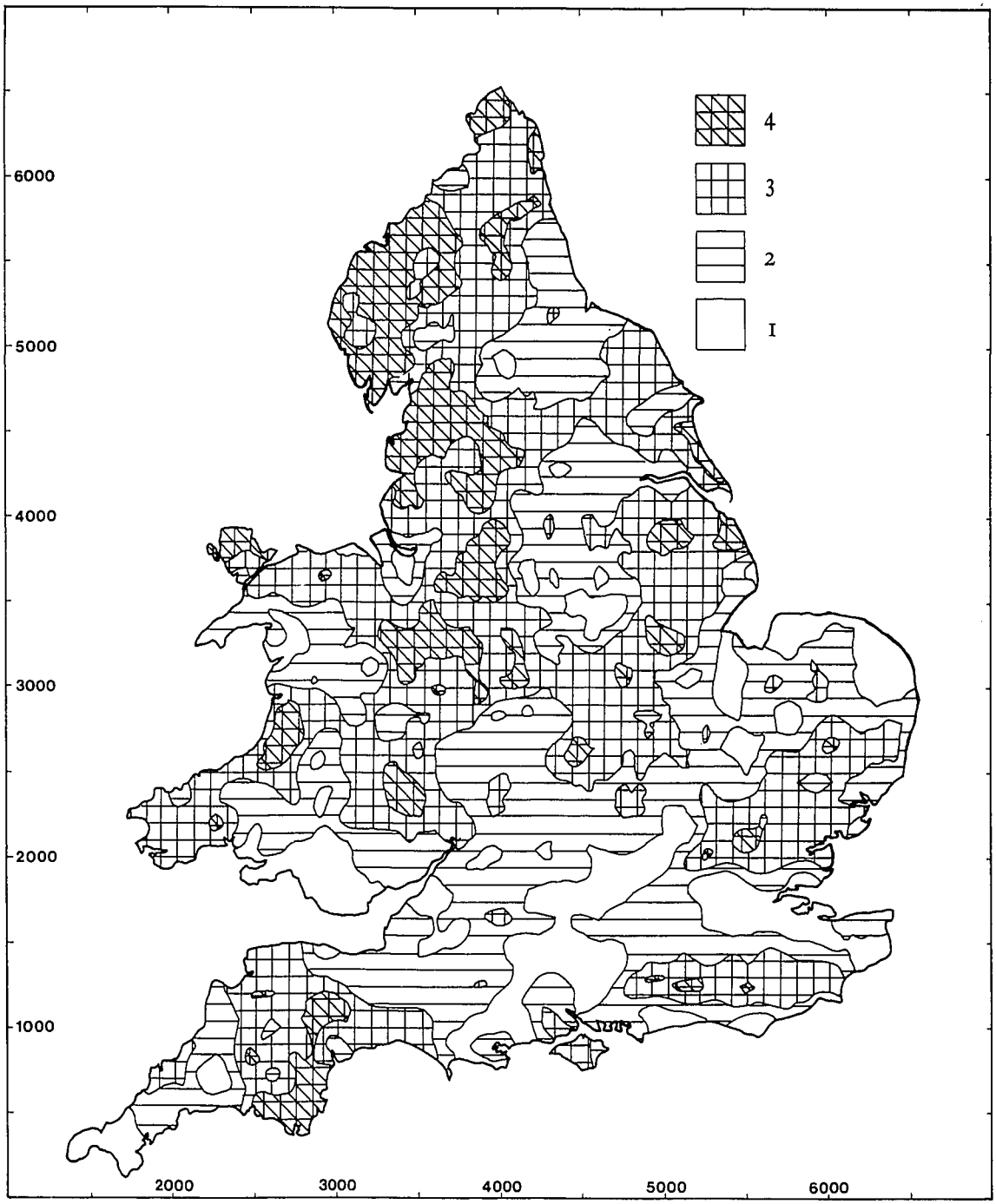


FIGURE I

Percentage of agricultural land found to contain field drains that had been installed prior to 1939. (1 = under 25 per cent, 2 = 25 to 50 per cent, 3 = 50 to 75 per cent and 4 = over 75 per cent)

being carried out today consists of reconditioning or replacing old system.'[20] However, whilst the overall pattern appears reasonable it is questionable that such high percentages were drained in upland areas such as Cumbria and northern Lancashire where the economic return on drainage would be poor. Further investigation indicates that in such areas underdrainage was likely to be concentrated on the enclosed 'in-bye' fields in the valleys with the intervening hill land remaining undrained (both now and in the nineteenth century). The percentage of the land in a parish found to have old drains would thus be biased towards these more fertile valley bottom lands. It is difficult to determine the magnitude of the resulting overestimation but the survey of Belding[21] described earlier and based on a random sample of land provides *minimum* estimates of the area with old drains, since the schemes that had failed would be on land included in other categories. Summing the land in all drainage categories except that with naturally freely draining soil provides a rough estimate of the potential *maximum* area with old drains. These minimum and maximum values yield ranges of about 35–80 per cent of the land in northern England compared with only about 10–40 per cent in southern England and Wales. This confirms that higher rates of drainage occurred in the north and west, but suggests, as indicated above, that the parish data result in a systematic overestimation for hill areas. Taking these figures into consideration it seems reasonable to revise the national estimate of 57,000 km² underdrained in the nineteenth century to a lower figure of about 50,000 km².

The conclusion that drainage rates were higher in the north and west than in the rest of the country has also been made by some agricultural historians, and the role of large estates has been cited. Sturgess[22] argued that nineteenth-century drainage was concentrated on the clay soils of the north and west of the country since only with drainage to prevent waterlogging of crops in winter could agricultural production in those regions be increased. This change took place at a time of depressed corn prices (the traditional clayland crop) and was often associated with a change to grass, mostly for cattle production. On the lighter soils, increased production was achieved by the introduction of turnip husbandry. On the lowland clays in eastern England, the smaller rainfall limited the growth of grass in summer and made the investment of drainage a less economic prospect than in the wetter and more productive grass growing areas of the west and north. It is interesting to contrast this pattern with drainage in the present century which is concentrated on the arable land in eastern England.[23] This is a reflection of economic factors since this land is used to grow cash crops such as corn, sugar beet and potatoes. There is a high investment in equipment, and the need to maximize economic returns. Artificial drainage both improves crop yields and increases the time during the year that heavy machinery can be used on the land.

IV

The site visit records completed by MAFF drainage officers provide a unique source of information from which to estimate the proportion of land with old drains. Due to the agricultural depression in the early part of this century, these will be mostly nineteenth-century drains. This gives an estimate that about 50,000 km² of farmland was drained, and is consistent with an

[20] MAFF, 'Land Drainage in England and Wales', Report of the Land Drainage Legislation Sub-Committee of the Central Advisory Water Committee, 1951.

[21] Belding, *op cit.*

[22] R W Sturgess, 'The Agricultural Revolution on the English Clays', *Ag Hist Rev*, 14 (1966), pp 104–21; *idem*, 'The Agricultural Revolution on the English Clays: a Rejoinder', *Ag Hist Rev*, 15 (1967).

[23] F H W Green, 'Recent changes in land use and treatment', *Geographical Journal*, 142 (1976), pp 12–26.

independent estimate based on drainage pipe production. This suggests that contemporaries greatly underestimated the amount of draining taking place in the last century, although as early as the 1860s fears were voiced of the effects farm drainage might be having on river flows. The area of land drained was considerably in excess of that drained in the present century, much of which is replacing old drains that have reached the end of their useful life. Drainage in the nineteenth century extended to most parts of the country, but was greatest in the north and west. These are areas with high rainfall and soils having poor natural drainage.

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DR RAINE MORGAN is Bibliographer at the Institute of Agricultural History, University of Reading, where she completed her doctorate in 1979 on farming techniques in England between the seventeenth and nineteenth centuries. Recent publications include *Dissertations on British Agrarian History: a Select List of Theses Awarded Higher Degrees in British and Foreign Universities between 1876 and 1978* (Reading, 1981) and *Farm Tools, Implements and Machines in Britain: Pre-history to 1945* (Reading, 1984). She is currently working on an historiographical survey and bibliography of the literature on policies on British agriculture and food supply, 1880–1945.

Annual List and Brief Review of Articles on Agrarian History, 1984*

By RAINE MORGAN

For prehistorians research into the neolithic has once again produced the most exciting insights. The long accepted association between the earliest arable activity and elm decline is questioned by Edwards and Hirons (56). They have found five separate sites in Britain and Ireland where there is evidence of cereal cultivation occurring well before the elm decline levels of their pollen profiles, and the authors caution against ascribing all pre-elm decline vegetation change to Mesolithic disturbance. Smith (193) reconstructs the chalk landscape near Avebury and shows how early farmers adapted to the degeneration of land which followed cropping. As well as using pigs to destroy invasive bracken they resorted to a type of infield-outfield system so that production could be maintained upon difficult terrain. On the major linear earthworks of southern uplands Ford (67) uses field-walking, survey and excavation to distinguish those which divided valley-based territories from others which separated arable from pasture. The landscape archaeology of a self contained topographical unit on Dartmoor is summarized by Collis *et al* (39). Here the piecemeal layout of prehistoric fields contrasts with the systematic reave system on other parts of the moor which are helpfully described and interpreted by Fleming (64). The usefulness of soil-phosphate concentrations as a guide to early field remains is indicated by Edwards (57) who has used them successfully to locate areas of prehistoric settlement and agriculture in Scotland. More evidence has come to light of neolithic woodland management and exploitation and Gilbertson (77) reports on the carved objects associated with wooden trackways and platforms from Skipsea in Yorkshire which resemble structures from the Somerset Levels. The sheer bulk and complexity of artefactual evidence that has accumulated on Roman and Anglo-Saxon England has rendered its mapping and interpretation highly problematic. However Faull (63) demonstrates how the computer can throw light on settlement patterns by the rapid sifting and analysis of information. It was thought that pre-Saxon settlement was restricted to favourable free-draining soils but recent research questions this view and Williamson (227) has used systematic field-work accurately to assess the high level of Roman clearance and colonization upon Essex clayland. It is his belief that the distribution of chance finds, aerial photography or place names can be highly misleading unless used in conjunction with careful ground work. The impressive range of techniques and expertise available for enquiry into historic habitats and human activity in upland Britain is described by Cowell (43). He stresses that once documentary sources become available they assume new significance when ecological processes are understood. An investigation into the origins of woodland by Jones (112) shows the usefulness, even necessity of adopting the multi-disciplinary approach, while a study of hedgerow evolution by Amer and Dalton (3) illustrates our continued lack of a reliable methodology for dating. They found no simple relationship between age and species content and the point is made that a number of factors, particularly variations in manage-

*Publications are dated 1984 unless otherwise noted. References to articles or off-prints should be sent to the Bibliographical Unit, Institute of Agricultural History, University of Reading.

ment technique, can influence the form of hedges. Reece however (168) affirms his confidence in hedge surveys as a most useful device for determining continuity in land organization since Roman times. There is little on early farm products but Chambers and Jones (29) reconsider the question of when rye was first cultivated, and on livestock Ryder (180) compares hair remains from an aurocks with those from domesticated cattle. He concludes that contrary to earlier beliefs the primitive coat type persisted until as late as medieval times.

On the medieval period itself computer manipulation of historical data is making progress and Kordecki (118) describes how in a current project improved technology is being usefully applied to information on property transfers in deeds. The value of the Cymer Abbey charter is highlighted by Gresham (82). This document is one of very few which reveal details of land division and settlement in Gwynedd at a time of significant change. There is continued strong interest in the medieval agrarian economy. Using data from the Winchester manors Dury (53) applies magnitude-frequency analysis and other statistical jugglings to identify the years between 1232 and 1349 when cereals cropped badly. Problems were largely weather-related but progressive soil exhaustion is also cited as an underlying cause. Hallam (86) charts East Anglian weather conditions, harvests and agrarian crises over roughly the same period from bailiffs' accounts and finds many discrepancies with chroniclers' reports. Rainfall and crop yields not only varied greatly between localities but their impact depended upon dietary habits as well as the particular grain that failed, and he also doubts whether the Great Famine was as severe as the chroniclers implied. Austin (4) focuses upon castles. He rejects the blinkered approach which sees them merely as romantic objects or 'sterile lumps of architectural history' and sets them firmly in the context of the estate and regional economy. A number of articles challenge the assumption of general failure in medieval England. Langdon (120) for example argues that the rise of horse hauling in the twelfth and thirteenth centuries and economic expansion were not coincidental. Although population increase and advance in the money supply made important contributions to growth, horse hauling, he maintains, was a critical technical element which reduced bottlenecks and vitalized communications and marketing. Continuing her enquiry into the administration of Canterbury Cathedral Priory, Mate (131, 132) focuses on property investments and finds that although the statute of Mortmain may have caused a setback in land purchase after 1300, large scale accumulation resumed in the 1320s and continued to be profitable even after the Black Death. She also shows that the monks quickly restored revenues following the catastrophe despite harvest failure, livestock disease, floods and purveyance. This was due partly to astute management and price inflation, but it also supports the view that the Black Death was more purgative than toxic and by removing excess numbers allowed greater efficiency. The extraordinary regularity of layout and landholding in the open fields of eastern Yorkshire which argues a planned origin is again described by Harvey (90), demonstrating the value of detailed local investigation. Hayfield (93) compares archaeological finds with air photographs and cartographic evidence to reconstruct the medieval East Yorkshire village of Wayne. Part underwent a deliberate clearance and rebuilding in the fourteenth century and the question is raised of a possible chronological link with the village's own regular open-field layout which also may have resulted from a wholesale restructuring. Assarting was a high-cost, long-term investment and in her regional study of West Yorkshire Stinson (200) shows that although those with small holdings were able to participate, only those with large interests in land could

afford to assart extensively. Consequently assarting did more to perpetuate existing landholding structures than relieve poverty. Witney (231) tests R V Lennard's research methods and hypotheses on medieval prosperity and argues that in Kent unusually high affluence was related less to size of arable holdings than the nature of agrarian economies. He also cautions against over-reliance on Domesday Book for insights into the economic well-being of the English peasantry. It is assumed that the Statute of Labourers was a device of the magnates and gentry to secure a cheap and tractable supply of labour during the time of shortage following the Plague. However Poos (160) finds this interpretation is at odds with evidence in the peace session rolls. These show that villagers were themselves often heavily involved in the enforcement of labour laws in order to sustain their own economic positions during times of difficulty. Again farm products are neglected although Ryder (179) summarizes the results of his painstaking research into the origin of modern sheep breeds and the evolution of wool types since the neolithic.

The early modern period has yielded a heavier crop of articles. Zell (235) explores the coverage of probate records by measuring them against evidence in other sources from a sample parish, and warns users that they do not record a representative cross-section of population. Only about half of adult males and 10 per cent of women of the parish who died between 1566 and 1601 were noticed by the probate courts. In an important comparative study Post (161) questions the assumed link between bad weather, poor harvests and epidemic disease in Europe. He rejects the view that lowered resistance due to malnourishment explains the mortality peaks of the eighteenth century and points instead to the social upheavals which followed dearth and reduced employment. Thus increased vagrancy, unrest, crowding and personal neglect fostered disease, and he concludes that welfare programmes which neutralized hardship influenced the demographic outcome more decisively than the actual level of food prices. Irish harvests of the seventeenth century have received only passing attention but Gillespie (78) has pieced together fragmentary literary evidence supplemented with some English and Scottish material to discover when, and with what effect, failures occurred. The interest in nutrition continues and Shammas (185) analyses the eighteenth-century diet of English rural poor using the Davies-Eden data and institutional menus. Northerners always fared best but even their calorific intake was barely adequate, while southerners were clearly underfed. Further, the shift from animal proteins to tea, sugar and bread caused deterioration. A number of articles challenge the Wrigley-Schofield thesis, in particular the idea that the modern increase in population arose from earlier marriage due to economic growth. Matossian (133) for example postulates that climatic change and advance in potato and wheat consumption at the expense of rye were responsible. This was because acute mould poisoning associated with rye had, she argues, previously caused death and infertility to a significant degree. Gutmann and Leboutte (85) also question the link between economic opportunity and fertility: their research reveals that high ages of marriage were sustained in some early industrial settings. Mobility has become a leading issue. Souden (196) describes his new technique using family reconstitution based on parish registers to chart changing migration patterns over long periods. The pitfalls of this approach are discussed by Schofield, Pain and Smith (153, 184) who note that a significant proportion of parish registered births, marriages and deaths actually related to outsiders. Whyte and Whyte (221, 222) explore the potential of Scottish sources in their study of a seventeenth-century rural community. The low level of movement here is related to farm structures and holding

size which worked against effects of the short-term lease. Landowners are enjoying a good press. Sixteenth-century bills of complaint against them have been used in the past to demonstrate oppression of a defenceless tenantry. Zell (234) however, explores the background to one such bill and offers a very different interpretation. Quite prosperous men were in fact using the bill to fix existing and beneficial customs in perpetuity and to obtain private pasture out of formerly unrestricted common. Hoyle (108) compares landlord-tenant relationships on four northern manors and concludes that although some lords did resort to oppression, most recognized the moral constraints, risks of failure and high cost of confrontation and therefore sought alternative means of raising income, such as by land sales or enclosure. In another study of a northern manor, however, Spence (197) shows that where claims were legitimate lords could successfully pursue them to the detriment of the farmers' finances and the local economy. Bonfield (17) scrutinizes the nature of marriage settlements between 1500 and the eighteenth century and argues that changes he detects in the transmission and distribution of property are consistent with the trends in family relationships hypothesized by E L Stone for the same period. The debate over trends in land ownership after 1660 is reviewed by Beckett (9) who stresses the importance of regional variations, the resilience of small owners in many areas and the gradual nature of change. After the demographic destruction of Glamorgan's élite in the first half of the eighteenth century a new gentry class emerged and Jenkins (111) investigates its own very different origins. He finds that heiresses were considerably more influential than industry in establishing the new élite. The experiences of successive generations of a seventeenth-century gentry family are documented by Larminie (122) to illustrate how crucial for success in property matters were personality and the level of inherited debt. The importance of pre-parliamentary enclosure, particularly by agreement, is emphasized by Reed (169) in a detailed survey of north Buckinghamshire. Here so much took place quietly and without formal record that actual acreages involved defy enumeration. A lack of opposition to eighteenth-century enclosure has been variously interpreted in the past. However Neeson (143) argues that the rural poor were far more active in their defence than historians have allowed. As well as the more usual forms of protest, stubborn non-compliance and mischief were common among landless commoners, artisan-farmers and small occupiers. On a related theme Martin (130) probes the links between enclosure and landlessness. It was the petty traders and craft families with a small, unofficial stake in the land who were disadvantaged most by the reordering of fields, and it was their disappearance rather than the small landowner as such which was the most dramatic change wrought by enclosure according to Martin. The current interest in the role of women is apparent in several articles. Okin (149) challenges the claim that during the seventeenth century they obtained significant independence both in matters to do with their estates and within the family, and Thwaites (204) documents the declining role of women in the marketing of agricultural produce after 1700. Their position suffered by competition with aggressive businessmen as trade became more organized, less casual and more private.

For the modern period a variety of new data sources are discussed. English (60) draws our attention to the death duty registers which are virtually unexplored but will provide valuable insights into the family finances of the very rich. An Irish livestock census dating from 1803 is made available by Turner (209) who compares evidence for Down with data from north west Antrim and certain English counties. Evidence is also set against the published Irish figures for

the 1840s, to determine trends in the density and distribution of animals. The value of the Forestry Commission censuses of 1924 and the 1940s for the study of woodlands is assessed by Watkins (214) while Essex (61) compares the data on woodlands in the annual agricultural returns with information on the Ordnance Survey and finds serious discrepancies. He concludes that the agricultural statistics are too poor in quality to provide an accurate picture of change. For the period prior to the introduction of the agricultural returns there is serious lack of time-series data on land use. Cropping books could make up this deficiency however and Phillips (158) describes the insights provided by material relating to a Northamptonshire estate. There are a number of important articles on the Irish agrarian economy. In an econometric study Hoffman and Mokyr (102) show why the potato imposed severe constraints on development. Despite real gains in land productivity it also raised levels of risk, vulnerability and impoverishment in the long term largely because of problems in storing and marketing the crop. Ó Gráda (148) has compiled a new index of agricultural production for Ireland in the eve of the Famine and for 1854. This shows that output fell by 15 per cent while labour productivity rose by almost as much over this period. Mokyr and Ó Gráda (137) also consider research on population history and re-assess the influence of fertility, mortality and emigration on growth trends after 1700. In another valuable computer-assisted analysis of Irish census data Morgan and Macafee (140) conclude that early marriage was not a major factor in population growth in the half century before the Famine, at least not in north east Ulster. Instead patterns conformed with those in Britain and Europe where late marriage and differences between social groups were usual. Ulster farmers married later than either linen workers or labourers for example. On Britain Dewey (50) investigates agricultural profit levels and considers why they were so high during the early part of the First World War. Static rents were helpful but Dewey also highlights forces which kept the real cost and uses of production factors at a low level. Raybould (167) looks into the economic role of great landowners and counters the claim that they merely squandered the nation's wealth. In the Black Country enclosure was closely linked to mineral extraction and many aristocrats took positive initiatives in the advancement of industry and of the transport network. Sill (188) explores the nature of landowner involvement in Durham coal. Although capital flowed in from landowners outside the county, local men preferred simply to rent out their property while maintaining a strict control over siting of mines and use of land. The finances of great Edwardian landowners are examined by Spring (198) who explains their rising political anger at the measures of the Liberal government. The unrecognized importance of firms of land agents from London or the provinces is highlighted in English's study (59) of estate management in East Yorkshire. Here there was no movement to greater professionalism in the nineteenth century. Instead the main change was the substitution of individuals by firms of agents whose greater efficiency owed more to corporate experience than formal qualification. The different meanings of the term 'peasantry' are considered by Beckett (10) who argues that it is incorrectly used when treated as a catch-all for rural society. In Reed's view (171) it is sufficient to define the group as producers relying mainly on family labour and he points out that these farmers were far more numerous in late nineteenth-century England than is generally realized since over half of holdings were under 20 acres, and he calls for research into their economic roles. It has become a commonplace that living-in farm servants declined with the advance of capitalist farming. However Short's detailed local investigation (187) shows that as late as the

1860s there were still large numbers, nor was there a simplistic change from farm servant to day labourer. Another view widely held is that the decline in numbers of women in agriculture during the second half of the nineteenth century was dramatic and substantial. This view has been based upon census data, yet Miller's scrutiny (135) of farm labour accounts and ancillary material raises serious doubts about the accuracy of these returns. In Gloucestershire day women were often omitted from the occupational record although they undertook a large proportion of day work on arable and mixed farms. The role of domestic service in strengthening bonds between the Big House and the local community is considered by Gerard (76) who also raises the question of the mansion's impact upon local employment and living standards. On innovation Sullivan (201) believes that the flow of patents and output of books on farming are useful measures of technological change and charts trends from the sixteenth century. The introduction and rapid spread of the horse-powered threshing machine to Ulster farms is discussed by Gailey (71) while Walton (211) uses information in Coates's Herd Book to trace the diffusion of the improved Shorthorn. This made slow but coherent progress from its point of origin under the influence of an élite of specialist breeders. In a separate article (212) he focuses upon the auctioneering trade and suggests that it contributed as much to the spread of information as agricultural societies or the printed word. The neglected demand-side of agriculture is the subject of an article by Weir (217) who explores the uneasy relationship between whisky distillers, barley growers and the Government from 1870 up to the Second World War. Discontent continues to attract scholarly interest. Knott (117) argues that agitation in Ireland was firmly grounded in notions of legitimacy and directed against threats to traditional rights, while Richter's study (173) of Welsh agitation in the 1880s stresses the deep sense of injustice and the well organized, restrained and effective use of violence over tithes. Williams (225) takes issue with current views on revolting crowds in England and maintains it was the market economy and not the moral economy which lay behind eighteenth-century food protests. In a consideration of the socio-economic backgrounds of protesters in 1816, 1822 and 1830 Charlesworth (32) concludes that the 1830 revolt was not the culmination of increased proletarianization and pauperization. Rather it was the political tensions nationwide over Parliamentary reform which explain the scale of disturbances at this time.

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Book Reviews

A W R WHITTLE, *Neolithic Europe: A Survey*, CUP, 1985. xiv + 363 pp. £27.50 (hardcover); £9.95 (paperback).

This book fills a very substantial gap on the shelf. It is the first detailed survey of Neolithic Europe in English for many years; Whittle has obviously made great efforts to give uniform coverage to all parts of Europe. This makes a valuable contrast to most European archaeology books written in Britain, which tend to give undue bias towards Britain and the nearer parts of Europe; and we must be grateful to Whittle for the obviously very extensive reading in a large variety of languages, including various Eastern European ones, that he must have undertaken in order to write it. As a work of synthesis of vast quantities of material previously not easily accessible the book must be seen as a success.

The book begins with a brief introduction discussing the different and changing approaches to the way archaeological evidence is interpreted; Whittle takes a fairly traditional view of the limits of archaeological inference, and throughout the book points out, but is mainly rather hesitant in accepting, the more theoretical arguments which are increasingly becoming important in our interpretation of the past.

The second chapter sets the scene of pre-agricultural Europe, discussing both the natural environment and the archaeology of Mesolithic Europe. Chapters Three and Four deal with the period 6000–4000 bc, considering first the evidence of material culture, settlements and economy of the earliest farmers in south-east Europe at this period, and then deals with the same topics for the expansion of farming into central and western Europe from 4600–4000 bc, especially as evidenced by the Linear Pottery Culture, and thirdly looks at the earliest phases of agriculture in the Mediterranean area. Chapter Four considers the evidence for the same period in areas of Europe where farming was not a full part of the economy. Moving on to the period 4000–2000 bc, we return to south-east Europe in Chapter Five to consider further developments in settlement patterns and artefacts including the earliest use of copper. Chapter Six deals with the same period in central and western Europe, sub-divided into periods 4000–3400 bc, 3400–2600 bc, and 2600–2000 bc. Within each period material culture, settlement and subsistence, and ritual and exchange are discussed, and within each of these sections each part of central and western Europe is covered. References to any one area are therefore well-dispersed thoughout the chapter! In Chapter Seven we return to the Mediterranean region, now in the period 4000–2000 bc. The rigid structure of these chapters inevitably works better for some areas than others; certainly in the period 6000–4000, the contrast between the Mediterranean and south-east Europe on the one hand, and north-west Europe on the other clearly emerges. However, to follow the development of any one particular topic, such as megalithic tombs, would be difficult, and threads of uniformity, and the significance of minor regional differences lost. This is further aggravated by the small number of headings for the sub-divisions which would have made finding such information much easier.

The final chapter very briefly summarizes the main trends in developments and change in the history of the Neolithic in contrasting areas, and in Europe as a whole.

It would be difficult to recommend this book to the agricultural historian intent upon discovering what light recent archaeological studies have shed upon the earliest origins of agriculture in Neolithic Europe. For a period in which most prehistorians would agree that one of, if not the, major development was in the domestication of plants and animals, disappointingly little of the book is devoted to detailed discussion of the evidence and theories relating to agriculture. Lists of crops and animals are buried amongst even more extensive lists of sites and descriptions of pottery, all of which would give the unsuspecting reader the impression that the only changes in archaeology in the last three decades have been in the number of sites known, a few radio-carbon dates, and a handful of words such as 'prestige', 'elite' and 'social' used as mainly unexplained jargon. In his introduction Whittle suggests that he will concentrate on social issues, at the forefront of current archaeological thinking. In practice, this seems to mean that he uses a few terms very frequently, without differentiation of the context. For example, every rare artefact found in a grave is thought to be a 'prestige-good', and 'symbolic of high-status and elite groups', although on each occasion *caveats* are included. It seems that Whittle lacks confidence in the application of theory to his period, but at the same time feels compelled to attempt to use it.

The very comprehensiveness of the book causes problems. Of necessity the amount of space devoted to some of the more interesting and better researched aspects, such as, for example, the Swiss Lake Dwellings is proportionately small. This is particularly frustrating when important social and economic

arguments are skimmed over, and not properly explained, especially where Whittle mentions, without real explanation, another author's theory (the identity of whom is rarely made explicit except as a numbered reference) and then in one or two sentences dismisses it. As an example we may take Andrew Sherratt's theory of a Secondary Products Revolution. The theory is mentioned, but not clearly explained; if Whittle has grounds for criticizing it, it requires more thorough treatment than he is able to give in less than half a page.

The index is not very comprehensive, and in the text several terms are used without being explained, while other phenomena are described without being named (for example, causewayed enclosures (p 219), though subsequently (p 261) they are named without reference back to the earlier description). Although this book is difficult to read from cover to cover, it will nevertheless provide a useful reference book to the latest evidence from Neolithic Europe.

MARGARET R EHRENBERG

G BARKER, *Prehistoric Farming in Europe*, CUP, 1985. xviii + 327 pp. 100 figs, 19 tables. £27.50 (hardcover); £9.95 (paperback).

Mr Barker will doubtless now share the recent experience of this reviewer, also the author of a book on prehistoric farming: to receive critiques from some agrarian historians who doubt the validity of his work because it is not based on documentary evidence. This will not be one such review, for archaeological evidence can be used to witness farming irrespective of the written word, but it is worth pondering in the light of this major piece of scholarship whether indeed the study of past material culture can or does produce agrarian *history*.

To be fair to the author, he makes no claim to write history. 'My concern in this book has been to attempt to describe and analyse (if only partially to explain) the development of European farming from its origins until the close of the prehistoric era.' The subject is extensive in space and time; description and analysis are executed thoroughly and with insight and both pursue a moving target, the *development* of a defined human activity. Though the organization of the material is basically geographical, within each area the treatment is chronological and the areas themselves generally march from south-east to north-west, the core of the book therefore developing a narrative momentum through time. Furthermore, the whole is top and tailed in a manner appropriate to histories. That Mr Barker has given us a signal work in agrarian history cannot seriously be doubted; but of course such a judgement assumes the evidential validity of his particular sources, by definition pre-documentary.

What are they? Pp 11–27 specify them, distinguishing six categories: '(1) agricultural tools; (2) settlement archaeology (occupation sites, constructional features within them, and off-site remains such as field systems); (3) pictorial evidence, in particular the "rock art" of Scandinavia and the alpine region; (4) environmental archaeology — studies of data primarily recording ancient ecologies but sometimes also reflecting ancient land use (pollen, molluscs, microfauna, sediments); (5) food refuse, the primary data for diet — particularly fragments of animal bone and collections of seeds and other botanical residues, but also . . . coprolites and fecal remains; and (6) site location studies'. This is a neat categorization, unexceptional to the prehistorian who could then explain the exploitation of such sources by references to methods such as micro-wear studies, crop-mark digitization, flotation, and catchment analysis. As Barker remarks (p 26) with regard to the last, 'Examples of such work make a fundamental contribution to this book.' The quotation could be extended to embrace other techniques too, for the ingenuity of students of the prehistoric past seems to be boundless. Is it just because the absence of documentary evidence presents not only such an obstacle but also such an intellectual challenge to a breed motivated by an excess of 'curiositie'? In part, probably 'yes', but of course the fact is that many an agrarian study, both local and based in our own documented era, could benefit from such methods; for another of the uncomfortable facts for the purist documentarian is that material and allied non-verbal evidence opens up aspects of farming which were never recorded in writing even on the best-ordered estates. Mr Barker's book is throughout a testimony to this truism almost because he is forced to look and gather, like his prehistoric foragers, where and what he can.

Indeed, within his considerable canvas, the archaeological evidence is by no means evenly spread: 'in some cases, although the rest of the archaeological record left by these societies may be both prolific and spectacular, virtually nothing can be said of the agricultural system beyond the fact that the people grew crops and herded animals' (p xiii). Other authors will have experienced the sinking feeling that goes with that observation. Here the author makes a virtue of necessity by stating positively that he has selected his material for the regional studies of the Mediterranean basin, the Balkans/Ukraine area, the Alpine region, the continental lowlands, Atlantic Europe, Britain/Ireland, and Scandinavia, and indeed has concentrated on those societies 'for whom the archaeological record is adequate for profitable analysis'. Such bias, openly declared, involves no more limitation to an overall view in practice than does the agrarian historian's understandable but often implicit tendency to work on well-documented estates and in areas and periods with good cartography.

Seven chapters (195 pp) embrace the regional

studies; three other chapters provide rather more than a gloss of academic titivation. 'Approaches to prehistoric farming' (chap 1) outlines the development of interest in the subject, a theme inextricably part of the history of ideas about prehistory itself. The simplistic sequence of savage-herdsman-agriculturalist is aptly illustrated by three Figuier figures of 1876. Fig. 4 here in particular is a graphic masterpiece of conceptual schizophrenia: it romanticizes Bronze Age gardening in a Classical arcadia jarred only slightly by the gentle effort of the tiller — obviously a country gentleman appropriately dressed for the masque-like occasion — in placing his unspecific mattock upon the smooth bosom of an implicit but manifestly bountiful Ceres. The current debate about the origin and nature of prehistoric farming in the Near East and Europe is then sketched in verbally and also pointed up graphically, this time with a 1973 *Punch* cartoon — one of a number of nice touches of humour throughout the book.

Chapter 2 briefly discusses the resources of and constraints on prehistoric farming in Europe. Cattle, dog, horse, pig, red deer, sheep and goat are first dealt with in terms of some historical evidence, recent experimental work and modern archaeozoological research. Then plants are covered under sub-headings of cereals, legumes, fodder crops, pasture and fallow, and Mediterranean tree crops. A final section, the 'agricultural circle: crops, manure and fodder', draws on statistics from Rothamsted and Woburn as well as from Butser Ancient Farm in discussing such practical matters as crop yields, fallow periodicity and fodder requirements. Despite the reality, at one level, of opportunities for change being very limited in ancient farming, Barker justifiably stresses the fact that 'the history of European farming is one of a succession of major changes in technology, productivity and organization' (p 54). Overall, as he says, at one end of the sequence are 'self-sufficient farmers or farmer/foragers' and at the other, in late prehistory (or proto-historic societies, to use another frame of reference), 'state or quasi-state systems of agricultural organization'. His final chapter 'attempts to assess the relative importance of the various stimuli (technological, social, demographic, ecological) which could have precipitated such a change'.

Chapter 10, 'Prehistoric farming in Europe: its origins and development', is, then, both a logical *finale* to this internationally-significant book and an important essay in its own right. This is how Barker sees it — and how welcome is his own magisterial, interpretive overview of a huge area, a long time scale, a major theme in human history, and a mass of variously-acquired, diverse and often apparently inchoate evidence. Crucial components of his agrarian pan-Europeanism include, for example, acceptance of substantial indigenous mesolithic populations (p 251) and the spread of farming as 'a series of major expansions or explosions followed by substantial pauses (which) correlate very closely with major climatic changes' (p 253). The author concludes by expressing a belief, shared by this reviewer and doubtless by the many others who will, and certainly ought to, find this book indispensable, that 'the preservation of today's rare breeds (is) the sensible husbandry of precious genetic resources rather than the sentimental protection of the casualties of progress' (p 263). It is a good exit-line, and as 'true', though undocumentable, as the rest of this pioneer history of farming throughout a Europe indisputably existing largely on an agrarian economy before its various parts came to enjoy, at different times, a written past.

P J FOWLER

JOSIAH OBER, *Fortress Attica: Defense of the Athenian Land Frontier 404-322 B.C.*, Mnemosyne supplement 84, Brill, 1985. xii + 243 pp. 8 maps; 8 plates. 76 guilders.

At first sight an unusual work for review in this journal; but this challenging and well-argued thesis deserves recognition for taking full account of the fact that at all times in classical antiquity the majority of the population lived in the countryside. It is only recently that historians and archaeologists have turned their attention from the cities of Italy and Greece to the systematic study of the pattern of land use and settlement in the areas around the major civic centres.

Thucydides claimed that the majority of Athenian citizens lived in the *demes*, villages, of Attika down to the outbreak of the Peloponnesian war in 431 BC. In his survey of the economic resources of Attika Ober is right to dismiss the idea that the area did not have the soil or climate to sustain a rich agrarian economy. Its three large plains and many fertile valleys produced oil and wine aplenty and, on Ober's calculations, may have grown the grain to feed well over half of the Athenian population. Ober's discussion is not particularly original; for a thorough study of the rural settlement in Attika we have to wait for the publication of Robin Osborne's work. Attic agriculture, however, was disrupted in the Peloponnesian war by the yearly invasions of the Spartan army and later by the establishment by the Spartans of a permanent base at Dekeleia from which they could ravage the countryside. In the face of this Perikles' strategy was to bring the rural population into Athens, where they could be protected by the walls and supplied from the sea. There was little chance of a successful Spartan seige because much seige-warfare was ineffective at this date; the invention of the torsion catapult was still fifty years off. Sparta's policy of ravaging was the standard way of putting economic and psychological pressure on the enemy. Its effects were vividly described by Thucydides. Following Athens' defeat in 404 BC, as Ober demonstrates so well, a determination soon appeared that never again must Attika suffer as it had

done. As early as 403 BC the orator Lysias stated: 'since we have lost everything else in battle, our homeland is all that is left to us'. In the next century writers repeatedly stressed the importance of the resources of Attika and the need for their protection. Xenophon reflected current discussion when he suggested that the best way to defend the territory of the Athenians was to plant advance units in the hills to guard the approach roads to Attika. The primary evidence for this new defensive mentality may be the numerous remains of forts and defensive walls to found in the hills of NW and NE Attika. These form the subject of the second half of Ober's book. Given the inadequate archaeological investigation of these sites, Ober is over-ambitious in ascribing them all to the Fourth century, and some of them, it has been suggested recently, may not even be Athenian. In any case Ober misses the final irony of the fact that this defensive system did not work. Two land leases of the period, which laid down the terms of sharing the cost of damage done to property ravaged by enemy action, are testimony to the continuing insecurity of the countryside. Even though there was only one raid in the century, on the three occasions when Attika was threatened with serious invasion in 338, 335 and 322 BC, the Athenians hurriedly came to terms with the enemy to avoid damage and disruption to their agriculture. Ober's detailed study of one area is a most useful supplement to V D Hanson's *Warfare and Agriculture in Classical Greece* (1983).

JEREMY J PATERSON

H C M KEELEY (ed), *Environmental Archaeology: a regional review*, Directorate of Ancient Monuments and Historic Buildings, Occasional Paper, no. 6, London, 1984. 181 pp. 20 figs, 15 tables, 3 plates. No price stated.

This is not a single unified work on environmental archaeology such as those of John G. Evans (1975, 1978) with its emphasis on mammal, bird and mollusc remains or that of Myra Shackley (1980) with its emphasis on palaeosoils and sediments. Instead it is composed of four unequal sections reporting on the work of the government-sponsored Environmental Units in the service of archaeology at the universities of Bristol, Durham, Norwich and York. The four reports survey research between 1961 and 1981, and identify future problem areas. The common theme is the inadequacy of environmental provision.

As archaeologists are increasingly made aware of the potential provided by palaeo-ecological evidence, so they continually seek to recover the material and to present it for analysis. However, only 24 specialists funded by the Department of the Environment are available (e.g. 8 on mammal bones, 5 on pollen analysis and palaeo-botany, 3 on insects). At York it is estimated that there is now a back-log of 50 man-years of work.

The four reports are variable in quality and quantity. Understandably they vary also in the emphasis placed on the contributions of particular environmental disciplines to the past. The report from York discusses urban evidence almost exclusively. It highlights the problems of the vegetation history of York before the Romans arrived, the variations in intensity of Roman occupation both spatially and temporally, the evidence for lower river levels in the Ouse and the virtual absence of evidence for the Anglian period. Climatic change in the post-Roman period with an accompanying change in floral habitats caused by human and animal agency is noted. Only from urban Exeter is there comparable detailed ecological work.

The remaining three reports are predominantly rural and one can only offer a selection of themes for comment. In East Anglia there has been an emphasis on the identification of palaeosoils and in assessing the period of marshland formation. The importance of fen-edge settlements for our understanding of specialized pastoral exploitation is stressed though the Bronze Age evidence is conflicting. In the four northern counties the emphasis has been on obtaining radio-carbon dated pollen diagrams so that the vegetational changes can be plotted both locally and regionally. In south-western England Martin Bell reviews a considerable range and body of work. From the Neolithic period the Somerset Levels have yielded important botanical evidence. From the Bronze Age on Dartmoor and Bodmin Moor the process of land clearance and exploitation can be traced. In coastal Somerset the evidence for Roman colonization of the alluvium has been established while in the Isles of Scilly the marine transgression gathers momentum from the 7th century A.D. onwards to submerge the previously single island.

This review statement serves to show the very detailed work being conducted in four localities and the virtual absence of provision for environmental approaches to man's past in the remainder of England. The whole question of a national policy for the preservation of relict landscapes such as Dartmoor can only be imperfectly argued. Until there is adequate provision for environmental studies in England, vegetational history and the exploitation of animal and plant resources by man will be unevenly understood. This review report has served to identify the gaps in coverage and knowledge. It remains to be seen if any action follows.

LAWRENCE BUTLER

A FENTON, *The Shape of the Past*, John Donald, Edinburgh, 1985. viii + 191 pp. £12.

Research and writing within the field of folk life studies can sometimes appear to be so highly specialized in its

concern with, for example, the minutiae of implement design or peasant customs that it may seem to have little relevance to the broader social and economic issues of past cultures. More than with most other branches of historical study the objectives, philosophy and approaches inherent in folk life studies, and the nature of the subject's links with cognate disciplines, are rarely made explicit in general discussions. The reader is usually left to pick up impressions from ideas implicit in detailed papers and monographs. This isolation of work on material culture from other subjects is particularly evident in Britain where teaching, research and writing tends to be the concern of museum specialists rather than of people within institutions of higher education. It is then especially refreshing when someone with the breadth of experience of Sandy Fenton steps back from the detail of his research to provide an overview of a field in which he has made such a notable contribution.

Having said this, the book is neither new nor tailor-made for its purpose. Its chapters have all appeared elsewhere as articles and essays. Most of them were, however, published in European and American folk life periodicals which are not readily available to the British reader. While some of the material may well be familiar to those in the museum world much of it will probably be fresh to historians. Despite their varied origins the eleven chapters have, with some revision, been organized into a framework which is reasonably convincing and coherent.

The book is divided into three sections beginning with a broad perspective and progressively narrowing its focus to specific studies which illustrate the general themes. From the historian's viewpoint the first section is likely to be of greatest interest. In it the author explores some of the links between the study of past material culture and other branches of history, examining approaches within the realms of folk life in the process. His reminder of how modest our progress has been compared with achievements in some other European countries is a salutary one.

The second section takes the theme of 'region, community and home' illustrating the role of folk life research at a middle scale through explorations of the personality of North East Scotland, continuity and change in the crofting townships of Lewis, the long house in Northern Scotland, and the use of animal manure for fuel in north west Europe. The third section consists of two chapters on the sickle, scythe and flail in the more general context of innovation diffusion.

Although the focus of the book is principally on Scotland the author interprets his material by stressing frequent parallels and contrasts with other areas of Europe. The earlier chapters in particular should be of interest beyond their Scottish context in demonstrating something of the variety of approaches within folk life studies. This is one of John Donald's first ventures into paperback and they have produced an attractive and well-illustrated book. The publishers have a second volume by the same author in preparation.

IAN D WHYTE

S A KNOX, *The Making of the Shetland Landscape*, John Donald, Edinburgh, 1985. x + 255 pp. £18.

Despite the physical peripherality of Shetland, its recent history is surprisingly well-documented. Just how well documented is demonstrated by this study of its nineteenth-century landscape by a geographer, Susan Knox. The question of whether the changes conventionally packaged as the Scottish Improving Movement should be seen as long drawn out process or something whose compactness in time made it a more revolutionary process has been much debated of late. Knox takes the latter view, though the time which it took for the pressures of working for change to diffuse northwards made it a nineteenth- rather than eighteenth-century event.

Although it seeks to be broad in scope, the book's approach to landscape change is somewhat skewed. The opening chapters take a prolonged, in-depth view of how skattald — commonty land — was divided into severalty. These are meaty, well-researched chapters that draw extensively on material which the author has culled from Sheriff Court papers and the Court of Session and which she has conveniently summarized in lengthy appendices to the book. Her discussion ranges over all aspects from the different types of division to a biographical analysis of the land surveyors involved. Having spent six chapters on this theme, the author then steers her text towards the wider problems of farming change, transport improvement and so on. One is given the strong impression that the study originally began as a survey of skattald *per se* and was then broadened through the consequences of skattald division into a wider study. For some, this may seem a crab-like approach to the basic issues of landscape change, especially as her treatment of how change affected runrig or the arable sector of townships is less searching. To be fair, skattald did occupy the major part of Shetland landscape. Furthermore, Knox makes it abundantly clear that a central theme of nineteenth-century farming change was the switch from subsistence to stock farming. This was a complicated switch involving a shift from a domestic system of production in which fishing and farming were combined to a more commercialized economy in which fisherman and farmer, merchant and landowner, were more sharply distinguished and in which livestock production was more important. In these circumstances, the improvement and control of stock permitted by the clarification of property rights in the skattald was clearly crucial. At the same time, the conflict of interest between tenant and landowner which the division of skattald generated, a conflict

which Knox documents with some skill, serves as an introduction for other areas of conflict, such as that resulting from the forcible clearance of townships for sheep.

My overall impression of Knox's book is that its strength lies in the way it handles individual themes rather than in what it says about the broader themes of landscape change. On issues like skattald and the clearance of townships, her text offers significant insights. At the same time, the resourceful way in which she has exploited primary data sets like the Court of Session papers and her willingness to systematize her analysis of individual themes adds to the book's worth. However, her overall argument does have gaps or weaknesses in its coverage. One does not, for instance, find any comment on house types, whilst a theme like the abolition of runrig is dealt with almost *en passant* when compared with the division of skattald. More disappointing is the book's failure to develop a stronger overall thesis of change. The way the text is broken down into very short chapters emphasizes this lack of real synthesis and the author's unwillingness to build her argument upwards.

R A DODGSHON

KEITH A DAVIES, *Landowners in Colonial Peru*, Latin American Monographs, No. 61, University of Texas Press, 1985. x + 237 pp, 2 maps; £22.50.

The majority of recent studies of Spanish colonial landed society have dealt with regions which were linked to important colonial or international markets for agricultural surpluses. These studies have focused on the *hacienda*, the large landed estate, which is now seen as the characteristic institution in areas which enjoyed access to markets. In contrast, Davies has chosen for his study the province of Arequipa in the south-western corner of Peru, an area with limited access to extra-local markets, and where consequently the classical *hacienda* did not develop. Arequipa was colonized in the 1540s. In the early years the Spanish economy was based on the ubiquitous *encomienda* system, that is the distribution of groups of Indians to *encomenderos*, grantees who were entitled to draw labour and tribute from their dependants. In the 1560s the *encomendero* class began to develop commercial wine estates in the warm coastal lowlands, where land was made available by the rapid Indian population decline. Viticulture was financed from accumulated *encomienda* tributes, with the major markets being found both locally and in Lima and Potosi. The prosperity of the wine economy was ended by natural disasters in the early seventeenth century, and by the rise of competing production in Peru and Argentina, which forced the Arequipan producers back on local markets. This stagnation of the wine economy diverted Spanish attention to the development of livestock and arable farming in the temperate valleys of the highlands. Land was at first difficult to acquire, but the situation was gradually eased by the slow decline in the highland Indian population, and by the assistance of the Crown, which promoted the transfer of 'surplus' Indian lands to Spanish purchasers. The main strength of this study lies in the rounded portrait it provides of the Arequipan upper-class and its changing economic and social fortunes over a span of several generations. Despite the vicissitudes of the agricultural economy the major families established in the 1550s survived, and indeed continued to dominate land-ownership until well into the eighteenth century. But while the élite persisted it had to pay a price for the region's economic backwardness, namely a relative decline in its social status. By the mid-seventeenth century the leading families were failing to attract marriage partners from outside the region, and hence had to settle for an increasing degree of political and social isolation. The analysis of Arequipa's economic development *per se* is less successful. The study lacks a concentrated account of Indian population development and of Indian landholding. As regards labour, we learn little about the use of slaves on the coastal wine estates, and are only provided with an outline account of the stages by which Indian labour was absorbed into Spanish enterprises in the highland zone. But whilst the broadness of approach has inevitably led to an uneven coverage, it should be said that this is a fine book, and one that justifies the author's view that more attention needs to be given to those regions which lay outside the mainstream of Spanish colonial development. It will also provide specialists with a number of points of comparison with other Spanish colonial economies. In particular interest will be aroused by Davies's account of the aggressive role played by the Crown in securing land transfers in the mid-seventeenth century, and by his demonstration of the way in which the stability of the local élite was linked not to economic growth but to narrow commercial horizons and economic stagnation.

NORRIS NASH

G C BAUGH (ed), *Victoria History of Shropshire*, Vol XI, *Telford*. OUP for Institute of Historical Research, 1985, xix + 377 pp. Illus. Maps. £50.

This is the topographical volume of the portion of the county centred on the old market town of Wellington, and covers ten parishes. By the nineteenth century it had been joined by two other urban centres, Oakengates and Dawley. In the 1950s the last of these was developed as an overspill town to accommodate people from Birmingham. Then in 1968 at the decision of the Minister of Housing and Local Government, Anthony Greenwood, all three were subsumed under the new town of Telford, named after Thomas Telford the famous engineer who was also the first county surveyor. Readers who consult the abundant clearly

defined maps (34) and the generous amount of photographic illustrations (57) will realize that here we have agriculture carried out in the industrial context. Indeed, against the backdrop of the Darbys of Coalbrookdale (which, along with Coalport and Ironbridge come under the parish of Madeley), John Wilkinson at Wombridge (later named Oakengates), and also at Hadley and Horton, and the Leveson Gowers' Lilleshall Company, it is apparent that farming was the minor focus of new economic activity by the middle of the eighteenth century. Industrial development was rapid and by 1840 there were no less than seven mining concerns, fourteen furnaces, five forges and two foundries in the area. However, the early growth of modern industry was followed by decline leaving a landscape ravaged by quarry workings, slag and spoil heaps, and littered with decayed and derelict factories.

But although this is a history of that part of Shropshire renowned for its industry, it is nevertheless possible to follow the interaction of the two economic activities. As early as the fourteenth century the only extensive portion of open-field arable was at Wrockwardine, to the west of Wellington, a parish that was mainly agricultural even in the twentieth century. In the rest of the district there were only small patches of open field mostly surrounded by waste, woodland and park. The period between the sixteenth and nineteenth centuries saw the destruction of the remaining open fields, a process most noticeable in the seventeenth. Certainly the importance of pastoral farming was an aid to industrial settlement. In Dawley, as the numbers of miners and ironworkers grew, and where there were only three small portions of open field by the early seventeenth century, numerous cottages were built along the roadside and on pieces of waste. At Wrockwardine Wood, from the growth of the mining industry in the seventeenth century to the 1970s, most of the inhabitants worked in the local coal, iron and steel works, though here yeoman colliers and labourers engaged part-time in mixed farming in the early eighteenth century. And at Madeley, a collier who died in 1711, owning no cattle, but £10 worth of butter and cheese, probably traded in dairy products. But the spectacular damage to the agricultural infrastructure was in the nineteenth century when the much larger scale of industrial undertakings destroyed some farms and made serious inroads into others. This was a process most noticeable in the southern part of the area overlaying the coal and iron measures.

In the parishes to the north of Wellington the picture was rather different. Over much of Lilleshall, Preston Upon the Weald Moors, Eyton Upon the Weald Moors, and Wrockwardine, agriculture had a more enduring presence. In addition, by the eighteenth century the Leveson Gowers (later Dukes of Sutherland) were the major proprietors. The appointment of James Loch as their chief agent from 1812 to 1855, was followed by an energetic programme of estate improvements aimed at raising productivity of the holdings, incomes of the tenants, and rent of the landlord. Here we can see some of the features most readily identified with eighteenth- and nineteenth-century agriculture. At Eyton Upon the Weald Moors, a pattern of small farms was established by 1659 but in the nineteenth century they were concentrated into large holdings, with most of the inhabitants working in occupations associated with an agricultural community. The pressure towards larger farms was apparent in most parishes, including some of the more industrial ones, and reflected the county wide pattern of large estates.

Although the volume encompasses what is overall a reasonably coherent economic entity, it has to be stressed that the parish by parish format of the topographical volumes does mean that in those which contain important agricultural and industrial activities, like Lilleshall, the reader has to perform some disaggregation. However, this volume certainly provides a wealth of factual information, both for the local historian and also for the general historian searching for material to illustrate a broader canvas. Additionally, all the usual information on social activities, religion, local government, charities, education, place names, etc is included. There is also a general account of the Bradford Hundred, although only its southern parishes are treated in detail here. The high standard of production, the extensive documentation, the very valuable series of maps and well chosen photographs enhance this handsome and substantial reference work.

RICHARD PERREN

LINDSEY CHARLES and LORNA DUFFIN (eds), *Women and Work in Pre-Industrial England*, Croom Helm, 1985. 212 pp. £7.95.

This book is the eighth in the Oxford Women's Studies series, and consists of an introduction and five papers about women's paid work from the fourteenth to the eighteenth centuries. The subject is important, for women made up a significant, if hidden, proportion of the workforce in urban trades as well as in farming. It also requires considerable subtlety in its treatment, both because the evidence about women is limited and because some of the various conceptual frameworks in which studies of women's work are undertaken are not at all satisfactory.

The collection contains a great deal of interesting and new evidence in the best tradition of recent research in women's history. Three papers deal with women and work in London, Shrewsbury and Salisbury. Kay Lacy shows that various bodies of law imposed legal restraints on women in trades but she also suggests that they may have enjoyed more freedom in practice than they were ascribed in law.

Diana Hutton uses Shrewsbury court records to show that there were clear sexual divisions of labour there and that women were rarely found in the heavier crafts and in the profitable branches of the textile trades; their work was concentrated in retailing, brewing and provisioning. Sue Wright concentrates on Salisbury and argues that women were not as significant in the regulated guild hierarchy (about which there is some evidence) as in the less well documented casual and seasonal employments, including domestic services. She is also able to show that the work that women did was influenced by their stage in the life-cycle, and that the casual, often menial, work done by women was informally organized and thus often hidden from the perception of historians.

The two other contributions approach women's work in a different way, perhaps because they are by men. Chris Middleton presents an overview of the value of women's work from a male-orientated Marxist perspective. He questions assumptions about the nature and value of women's work and the development of capitalism, sometimes more usefully (whether domestic production was really convenient for women) than others (the account of capitalist agriculture). Michael Roberts presents a sophisticated exploration of ideas about the ways that work was seen in early modern England. There was no one image of work but several, with work seen as a vocation, an art, employment, occupation and pastoral escape from care. Roberts, in the most broad ranging contribution to this volume, places women's work, including household tasks, within each of these frameworks by using a wide variety of literary sources.

These, and the introduction, can all be taken as further pieces in a jigsaw puzzle about women's life and labour. These give the impression that there was more continuity in the kinds of work done by women, and the values placed on it, than some writers have suggested. It also left me wondering about the relationships, barely touched on here, between housework and women's roles in the workforce.

LORNA WEATHERILL

K D M SNELL, *Annals of the Labouring Poor: Social Change and Agrarian England 1660–1900*, CUP, 1985. x + 464 pp, £30.

The position of the labourer in English society has seldom been objectively tested. In the nineteenth century the tendency was to romanticize his position by stressing the concept of lost rights, while recent historical treatment has concentrated largely on real wage data in an urban context. Neither approach is particularly satisfactory, and in this important book K D M Snell has attempted to broaden debate on the quality of life in the eighteenth and nineteenth centuries for the rural labourer in what can be termed the southern half of England and Wales. It is the first part of what is planned as a two volume work, and such is the quality of the book that we can look forward eagerly to its companion volume which will consider northern England. Snell's book comes in a series emanating from the Cambridge Group, and not surprisingly it reflects the Group's interest in using a vast array of sometimes intractable material for an in-depth study of the community. In this case Snell has moved away from the pamphlet literature and the blue books used by early social historians such as Hasbach and the Hammonds, to analyse the rural settlement examinations compiled as a result of the 1662 Settlement Act. Snell's careful use of this much under-rated source enables him to abandon the real wage emphasis of the standard of living debate, with its crude emphasis on wages, food and shelter, in order to look for a more realistic range of priorities. By adding in literary evidence he is also able to test attitudinal changes. Considering the vast array of material he has consulted — the bibliography runs to thirty-six pages and mentions nearly thirty separate repositories — it is hardly surprising that Snell draws some important conclusions about many aspects of his subject.

The central argument of the book is that changes in the countryside during the eighteenth and nineteenth centuries were almost without exception detrimental to the labour force. As the eastern part of the country increasingly specialized in grain production during the eighteenth century the opportunities for women declined, partly due to the introduction of new technology which hastened the division between the sexes after 1750. Female wages fell as women came to be predominantly concerned with the less significant dairying and calving season, spring weeding and summer haymaking. What had been a family economy down to the mid-eighteenth century in which male and female roles were shared, now became increasingly a male dominated system, but with significant implications for the pattern of seasonal unemployment. Snell finds that the situation was particularly grim in the years 1815–34, and he suggests that nineteenth-century domestic service in the south-east may have represented a disguised form of under-employment. It also produced a division of the female role into economic and domestic functions, which preceded by up to half a century the attitudes towards women which characterized Victorian England.

In support of this hypothesis Snell examines service, the poor law, the effects of enclosure, and the position of apprenticeship. He builds on Ann Kussmaul's pioneer work on farm service in an attempt to present a precise chronology of its decline, and to assess its effect on social relationships. The survival of farm service depended on the ability of individuals to achieve a settlement, but this became increasingly difficult in the course of the eighteenth and nineteenth centuries. Farmers began to hire for short-term periods of less than one year to prevent a servant from obtaining a

settlement. Furthermore, the applicability of the system to the unmarried also began to decline, and by 1820 it had more or less broken down. The result was a decline in yearly hirings, a consequent reduction of settlements, and the growth of closed villages. Since the decline of service was also related to the disappearance of small farms, it was resented because of the way in which unmarried labourers were thrown on to the parish in the winter months when previously they had been kept by their employers. In turn this contributed to the deterioration of social relationships in the countryside. Such changes were likely to have been reflected in the poor rate, and Snell argues that down to 1780 the Old Poor Law was relatively generous, but that thereafter the system was tightened up in line with falling real wages, growing structural unemployment, and changing attitudes to settlement and to female labour. The desire to encourage self-help among the poor, while at the same time maintaining their dependence on society, produced the 1834 New Poor Law. Coming as it did in the midst of these other circumstances it is hardly surprising that the new legislation had severe repercussions for rural poverty and hardship.

These findings suggest that J D Chambers's optimistic view of the impact of enclosure in the countryside needs to be re-examined, and in one of the most impressive chapters of the book Snell attempts to do just this (chapter four). He takes issue with the post-Chambers consensus, and in particular with the castles built on the insubstantial sands of the Land Tax Assessments. Far from finding a fuller and more regular demand for labour in the post-enclosure period, Snell is struck by the more acute distribution of unemployment, which had a particularly severe impact on women. Overall, the rural labour force had a more precarious existence after enclosure than it had enjoyed previously, and much of the reason for this was the loss of rights in the commons — an issue made much of by the Hammonds, and reiterated with force by Snell. Previously these rights enabled labouring men to eke out a living, but their loss at enclosure, coupled with an increase of labour on the market, had a knock-on effect in terms of increasing poor relief. Snell also finds evidence to support N F R Crafts' contention — contrary to Chambers — of limited outmigration after enclosure, and for a link with the Swing riots. The conclusion is that whatever the productivity and efficiency gains, enclosure had a detrimental impact on the lifestyle of the rural labourer. Although Snell may underestimate the problems of generalizing about enclosure, and the limited impact of the Parliamentary movement, he nonetheless turns the comfortable complacency of the post-Chambers era on its head, to argue that the poor had good reason for their fear of enclosure.

Snell also fits into his picture the significance of the decline of apprenticeship. He finds strong evidence for a decline in the system during the eighteenth century, well before the apprenticeship clauses of the Statute of Artificers were repealed in 1814, a move of particular significance for women. During the eighteenth century many women were bound apprentice, but the relevant point is that they were often bound to trades which were later to become male preserves, and this naturally reinforces Snell's argument regarding the sexual division of labour in nineteenth-century England. The decline in apprenticeships, and the fall away in numbers of women using their trade skills in practice was a discontinuity from the past, and this in turn suggests a change in the notion of the husband as the supporter of his family. Whilst Snell admits that his source material may underplay the female role, he detects an alteration in the role of marriage from an economic partnership towards the purely social alliances of the present day. Not surprisingly this had a considerable impact on the family, and Snell looks briefly at questions such as the idea of the family, the ages at which children left home, the notion of adulthood, and at generational and occupational settlement patterns.

This book will undoubtedly cause historians to reconsider their views of the agricultural labourer during the industrialization period. To an extent it restores respect for what seemed to be some of the wilder ideas of the Hammonds and their ilk, at the expense of the revisionism of Chambers. Moreover, Snell's more sombre picture fits with what is known of later nineteenth-century rural poverty. Two questions, however, must be asked about the book. The first concerns its coverage. A glance at the county entries in the index shows the unevenness of Snell's data, with the south-west and the Welsh counties particularly neglected. Not enough is made of the survival of small farms and owner-occupiers in these areas, which were, of course, relatively unaffected by Parliamentary enclosure. The second question concerns the reliability of the settlement data which Snell handles in a highly innovative way. He discusses the material briefly (pp 17–19), and considers the possible discontinuity caused by the change in practice in 1795 whereby only those who became chargeable on the parish were subject to removal, and not — as previously — anyone thought likely to become so. Snell's view is that the change does not affect the quality of his source material, but this reviewer would have liked to have seen a fuller discussion of the issue together with fuller assessment of the likely administrative problems which must have arisen in taking examinations. Without such discussion doubts must remain as to how well the overall argument is supported by the source. These caveats apart, Snell has produced an important work of scholarship which will certainly have a profound and lasting impact on future approaches to the subject.

J V BECKETT

THOMAS C HUBKA, *Big house, little house, back house, barn*, University Press of New England, Hanover, New Hampshire, USA, 1984. 225 pp with 134 figures. £35.

The unusual title of this book, based on a children's rhyme known on both sides of the Atlantic, introduces a thorough study of a farmstead type, well expressed, beautifully illustrated and making a handsome if rather expensive book.

The New England connected barn is an arrangement of farmhouse and farm buildings common in southern Maine and some adjacent states but virtually unknown in the rest of North America. The arrangement starts with a farmhouse set at right angles to the road and continues with minor domestic and agricultural buildings set roughly in line along the depth of the plot to culminate in a combination barn housing crops, animals, and, quite often, their manure. The fact that the buildings may be interconnected, not simply contiguous, has led to the myth that the arrangement was a clever device to help the New England farmer cope with his severe winters. In describing and accounting for the design of the various elements, Thomas Hubka explodes this and other myths but succeeds in making the real story just as romantic as the mythical one.

Farmers in New England found their small farms of stony soil increasingly vulnerable to competition as settlement moved further into the virgin lands of continental North America. Their traditional pattern of mixed farming helped to balance failure in one type of farming with limited success in another. The connected barn was an economical arrangement which minimized building costs and helped minimize labour. It was also a defiant arrangement whereby the architectural decoration appropriate to the farmhouse was extended to the farm buildings. It was an arrangement achieved to some extent through new construction but mainly through moving complete timber-framed buildings with the aid of teams of oxen and on timber skids from one part of the farmstead to another.

The author describes the arrangement with its many minor variations with the aid of extensive fieldwork as well as with evidence from documents and anecdotal evidence from a wide range of sources. To the techniques of the historian, however, he is able to add the techniques of the architect for he adds his own analytical skills to illustrate the buildings and their design with the aid of the bubble diagrams and flow charts of current architectural practice. Furthermore he is able as an architect, rather than a technician, to breathe life and character into his drawings so that they convey not only the facts of the structures they illustrate but also the spirit which transcends those facts. He is also fortunate in that the arrangement of buildings is part of a living culture so that his case studies have an immediacy rarely available in things historical.

The arrangement of connected farm buildings has its analogies in this country. There are precedents of a sort in the longhouses of the medieval period and the laithe houses of the eighteenth and nineteenth centuries. Closer analogies may be found in the long ranges of house and buildings to be seen in the Yorkshire Dales and in some other parts of highland England and Wales. Neither the yeoman farms of the south-east of England nor the large commercial farms of the eastern counties present anything like the connected arrangement: farmhouses stand strictly apart from the farm buildings. There may not prove to be any close connection between the arrangements found on both sides of the ocean but one would certainly welcome a study which could build upon that presented here in its completeness, its clarity and its quality of text and illustration.

R W BRUNSKILL

J L VAN ZANDEN, *De economische ontwikkeling van de Nederlandse landbouw in de negentiende eeuw, 1800–1914*, *A A G Bijdragen*, 25, Wageningen 1985. ix + 466 pp. 130 tables, 5 graphs, 4 maps, 3 appendices. DFl 50.

This substantial volume readily meets the high standards of critical scholarship which readers of the *A A G Bijdragen* have come to expect, in terms of both the assembly of basic data and historical and theoretical analysis. In fact the book contains two major sections which deal with each of these concerns: the measurement of the development of production, income and labour productivity in Dutch agriculture, and 'analysis and interpretation'.

The underlying theoretical motif of the second main section is a contrast between the phenomenon of so-called 'modern economic growth' initiated by specialization and technical change, associated with Kuznets, and 'traditional economic growth' induced by population growth, associated with Boserup. The author concludes that traditional economic growth occurred up to *c*1850, which was gradually overtaken by modern economic growth. This is a useful corrective to those without a specialized knowledge of the history of Dutch agriculture who, like this reviewer, may have tended to rely heavily on Jan de Vries' more accessible study of the 'agricultural sector' in an earlier period, the Golden Age, with its emphasis on the modernity of the Republic's agriculture and its relatively autonomous role within the economy as a whole. Dr van Zanden shows that in the Eastern provinces, a peasant economy had persisted until the early nineteenth century, which was gradually transformed into a modern, market-oriented agriculture.

The great value of this work lies in its attempt to relate changes in social and economic structure to productivity changes and the degree of specialization, both of which were highest in the coastal provinces where agricultural development proceeded against the background of a highly commercialized maritime economy and the prevalence of wage labour in both sectors. The relatively unspecialized farming of the Eastern Netherlands gave rise to low productivity, but because of the low cost of living, low wages and incomes still produced a real standard of living which was comparable to that found in the coastal provinces. Although the Eastern provinces witnessed 'spectacular' development between 1800 and 1860, due mainly to intensive growing of fodder crops and expansion of dairy farming, *national* economic stagnation involving *inter alia* a declining per capita consumption of farm products tended to depress farm incomes elsewhere in the Netherlands. Not until the post-1850 decades did agriculture as a whole benefit from an upsurge of modern economic growth of the kind conceptualized by Kuznets.

DAVID ORMROD

DONALD HARMAN AKENSON, *Being Had: Historians, Evidence, and the Irish in North America*. P D Meany, Port Credit, Ontario, 1985. x + 243 pp. $45 (Canadian), £25.

There seems to be no end to Professor Akenson's industry. *Being Had* (1985) builds on insights gained from *The Irish in Ontario* (1984) and *A Protestant in Purgatory*, a biography of Richard Whately, logician and onetime Archbishop of Dublin. The title of this latest, a work of related essays, refers to Whately's laughable experience with the study of head-shapes, or phrenology. For several years the earnest and intellectual divine was completely taken in by a flattering practitioner of this bogus science. For Akenson, the story has a moral. It is a reminder of the gullibility of bright people, especially academics, and the rest of the book is a zesty attack on some of those (mostly Canadian and American) historians who, in Akenson's eyes at least, have been 'had'. The list of culprits is long, since it includes all those who believe, (a) that Irish immigrants to North America were lured by the (often less economically rewarding) cities, and (b) that they were 'unsuccessful'. Those beliefs amount to no more than the founding assumptions of most American-Irish scholarship. Readers of Akenson's *The Irish in Ontario* will have anticipated his reasoning here. There is also some cogent criticism of those who go by traditional estimates of the numbers of Irish in the United States in 1790, and of what Akenson takes to be the hidden 'racism' of the guru of Canadian social historians, H Clare Pentland. If sometimes Akenson seems to get carried away by generalizations based on an interpretation of the Irish experience in his own small corner of Canada, what he writes is nothing if not entertaining and challenging.

CORMAC Ó GRÁDA

R PRICE, *The Modernization of Rural France: communications networks and agricultural market structures in nineteenth-century France*. Hutchinson, 1983. 503 pp. £27.50.

Although he has produced an interesting and valuable work, it cannot be said that Dr Price has been entirely successful in his aim of analysing the impact of the mid-century transport revolution centred on the railway upon the development of the French rural economy. This is not because he eschews sophisticated theoretical models and 'quantitative' methods, which are arguably inappropriate to a period of transition from a largely subsistence-based to a commercialized agriculture. On the contrary his traditional approach enables him to penetrate much further into the realities — in particular the psychological constraints — of French economic life, which are as likely to be obscured as illuminated by the temptingly copious but notoriously problematic official statistics. Dr Price makes (generally) judicious use of these. But he relies mainly on the significant concrete instance — and rewardingly, given the great reservoir that his extensive research into original sources, both archival and published, has enabled him to accumulate.

The problem is one of balance. Dr Price devotes so much space to setting the scene of the *ancien régime économique* that he is half-way through before he reaches the transport revolution, and three-quarters before he gets to his ostensible subject, its effects upon the agricultural sector. This hardly leaves room for an adequate analysis. The research base becomes more uneven, agriculture itself receiving only superficial treatment. This goes with a certain chronological inconsistency. Dr Price does not seem to be clear about his precise time-span. His main concern is with the three critical decades after 1850. But whereas he traces the development of transport more or less up to 1914, and he examines the effect of falling prices and rising imports upon commercial policy after 1880, his discussion of agriculture virtually breaks off at this point, and he has little to say about how it responded to the Great Depression and the return to protection in the new market environment. The lay-out follows the familiar 'before and after' plan, with matching chapters on communications, market structure and agriculture. Sandwiched in between is a prolonged section on the subsistence crisis of 1846–7, which takes up a quarter of the book. It is this which throws it out of balance.

It is also, together with the preceding discussion of the traditional pattern of markets and marketing, with which it ties in very closely, the most important and

original part of it, the major focus of the author's research. Dr Price shows how the high cost and slowness of road transport on the French land mass created a basically impermeable, compartmentalized market structure, which largely locked agriculture into production for subsistence and local sale. Waterways could exert only a limited liberating influence. The main arteries of longer-distance trade, the river systems of the Rhône-Saône, the Loire and the Seine, with their associated canals, despite considerable investment in the latter during the first half of the century, remained uneven in their efficiency cost and reliability, due to problems of low water and up-stream haulage. As late as the 1840s traffic on the Rhône for example was interrupted for as long as four months a year.

Dr Price's exclusive concern here with trade in cereals, even if they were much the major item, leads him to oversimplify however. He says nothing about the important trade in wool which developed in the departments of the Parisian basin during this period, or the much older but steadily growing tentacular network through which the vast Parisian market was provisioned with meat — whereby for example calves born in upland Auvergne literally worked their way as oxen by slow stages across the plains to the north to be fattened at the age of five or six in the Vendée and Anjou before ending up on Parisian dinner tables. Those agricultural products transported themselves, a method which if not ideal was sufficient to create a widely spread if admittedly mainly shallow commercialization in the traditional agriculture.

Periodic dearths dramatized the deficiencies of the market structure. The pathological symptoms that it displayed under stress during that of 1846–7, the sudden disruption and shifts in normal trade flows, the panic buying, the intimidation of merchants in the market place (particularly 'foreign'), the forcible prevention of grain movements (particularly unaccustomed), the sporadic food riots, reveal much about its mode of operation. In particular they illuminate the popular attitudes that were integral to it, the moral perception of the market in terms of the just price, the priority of local claims, the demonology of the hoarder, which reflected a profound underlying concern about subsistence. Dr Price is at his most interesting in these pages. He shows that the classical principle that 'the difference in price for the same merchandise between two markets cannot exceed transport costs' did not hold under the *ancien régime économique* — even in normal times. Popular psychology was the critical, if not the only, missing variable. The responses that it provoked accentuated the effects of the mis-match between supply and demand, creating disproportionate variations in price between different places, and fluctuations and shortages in the same place.

The crisis of 1846–7 was the last on such a scale. Dr Price points out that although the disappearance of such crises — the last was in 1867–8 — is a revealing indicator of the modernization of the market attendant upon the transport revolution, it has not been studied by historians. But he does not really fulfil the hopes that he raises here. He fails for example to explain why the dearth of 1853–6, when the price rise was almost as steep and more prolonged, did not cause any comparable hardship in rural communities and among small farmers, and why it did not rub off in the traditional way on manufacturing, particularly textiles. Another such indicator that Dr Price might have made more of is the gradual evening out of the old spatial disparities in the price of cereals. Altogether the chapter on changes in the market structure, although it contains useful material on import penetration, shifts in the pattern of cereal flows, relocation and concentration of markets (and milling) and their gradual replacement by direct purchase, is less satisfactory and more generalized than the earlier analysis. It was a confusing period of continuity and change, made the more so for the reader by the way in which Dr Price oscillates between emphasizing now the one and now the other. An extreme case of this is his statement on one page that 'the zone of provisioning Paris in fruit and vegetables expanded from 50 kms. in 1830 to 250 in 1855', and on another that the Paris *banlieu* largely retained its monopoly 'for some 30 or 40 years after the construction of the first railway networks'.

On the transport revolution itself, the opportunities that it offered to agriculture in terms of cost and speed, and the resultant traffic Dr Price is excellent. His account is very largely based on original sources. He has compiled a series of instructive tables from contemporary published statistics (although usefully incorporating some from recent French studies); and he has filled out the main lines of the picture with a mass of more specific evidence from the archives. The railways of course get pride of place, although Dr Price seems a bit bashful in making the claims for them that he shows they deserve.

To judge from the tables of the carriage of agricultural goods (which however only cover gross tonnage) and from other evidence the response of the merchants involved in the trade to the new form of transport was remarkably quick. The companies were in fact taken by surprise and often fell behind in providing facilities. Already by the early sixties over half the marketed surplus of grain (and flour) appears to have been carried at some point on the railways, while by the second half of the decade the volume of wine and spirits had reached about a third, and of livestock 40 per cent of the 1913 totals, although production at least of the latter had greatly increased. The success of the railways was closely related as Dr Price shows to the concurrent increase in investment in roads, which had already begun in the 1830s and which

if Levy-Leboyer's figures are to be believed amounted during the sixties to 80 per cent of investment in railways (infrastructure and construction). These are some of the more general points to emerge. But there is also much of value on other topics, such as the tariff policies of the companies, government intervention, and transport policy more generally.

The chapters on agriculture are the great disappointment. They seem to be there almost as a matter of form; and admittedly as the sub-title shows it is not Dr Price's main concern. The few pages of the first are so generalized, that the major changes that could and did occur in the pre-railway period are entirely ignored, notably the introduction of artificial meadows on the open-fields of the North associated with the transformation of the sheep flock through crossing out with the Merino — arguably an 'agricultural revolution'. The second, although much longer, is little more than a catalogue of changes in farm size, land use, improvement, equipment etc. (with some dubious maps purporting to show increases in labour productivity). Dr Price makes little attempt to relate these changes to the transport revolution. An obvious tack here is the adaptation of land use to natural potential as farmers were freed from anxiety about subsistence and faced new market opportunities and pressures. But although there are a few paragraphs on the specialization of the Midi in viticulture at the expense of more northerly growers, there is almost nothing on the shift to grass and livestock.

PATRICK CHORLEY

N J G POUNDS, *An Historical Geography of Europe 1800–1914*, CUP, 1985. xx + 598 pp. £45.

Professor Norman Pounds has been one of the most prolific and consistent historical geographers of his generation. The publication of this hefty volume represents another impressive addition to his output, and completes his ambitious project to construct an historical geography of continental Europe from the earliest times to 1914. The previous two volumes, covering the periods 450 BC to AD 1330 and 1500 to 1800 respectively, already occupy prominent positions on undergraduate reading lists and this new publication is destined to do the same. As with all his writings, the scholarship is unimpeachable, the attention to detail meticulous and the primary and secondary sources consulted quite awesome in their number and variety. There is cited material in at least eight languages, and authors referred to range from Bairoch to Balzac.

In this volume, Pounds consciously eschews his earlier organizing framework of cross-sectional time-slices, and concentrates instead on dynamic processes of change. There are ten chapters, the first of which provides an overview of continental Europe from Waterloo to the First World War and deals with mainly technical innovations and diffusions, with trade and protection, with the political background and with national economic comparisons. Chapter Two describes the resource base of Europe and is in essence a skilfully disguised introduction to the relevant aspects of the physical geography. The next seven chapters introduce the 'vertical themes' Pounds views as crucial to his task. The first of these is concerned with population and here the more salient factors influencing mortality and fertility are discussed. The treatment of the overall European population increase is rather basic, and the greatest weight is given to migration, which is clearly seen as the most quintessentially geographical demographic element. This section includes an interesting discussion of the Jewish diaspora followed by an excellent comparative analysis of ethnic and linguistic variations in Europe which is one of the strongest pieces in the book. A series of national and regional overviews concludes the chapter.

The next section deals with European urban development and takes us through 'pre-industrial', 'industrial' and 'new' towns. Here the reader is introduced to urban hierarchies and functions, and provided with an impressive range of information on health, housing, transport, food-supply and ethnicity from a wide range of continental towns and cities. It is perhaps disappointing that consideration of theory in this section goes no further than references to old favourites like Christaller and Burgess. The suggestion (p 150) that *Les Misérables* 'can be looked on as a social geography of the poorer quarters of Paris during the July monarchy', left me wondering how Victor Hugo would have reacted to such an interpretation of his text.

Agriculture provides the next theme and once more copious details pour forth on grain supply, on the physical conditions under which agriculture was practised and on the various agricultural systems in existence. This is followed by a chapter devoted to regional examples of these differing agrarian economies, and the reader is taken on a breathless trip from central Poland to Sweden via Mecklenberg, the plains of Lombardy and Flanders, Denmark, central Spain and the Balkans. There then follows a broader description of agricultural regions in France, focusing on the Beauce, Normandy, Limousin and Lower Alsace. In an attempt to convey to the reader what life must have been like in some of these places, Pounds draws heavily on literary evidence, notably Reymont's anti-semitic novel of peasant avarice in Poland, *Chopli*, and Zola's *La Terre*. These sections are the least convincing in the book as the relatively casual and unquestioning use of the novel as an historical source raises some rather intractable methodological questions, which Pounds seems to ignore.

In analogous fashion, the next two chapters are concerned with manufacturing industries in general

and with regional examples of industrialization in particular. The first of these successfully elaborates the origins of the factory system and outlines the various phases of workshop and proto-industry. This is followed by a systematic description of textiles, then iron and steel and finally the coming of the 'second Industrial Revolution', by which Pounds means the chemical, 'metal-using' and consumer-based industries of clothing and footwear. Once again Pounds cannot resist the temptation to make forays into literary criticism, and aspects of Hauptman's *Die Weber* are summarized as if they were the considered conclusions of a learned article on linen-weavers in Saxony rather than elements of a dramatic narrative (p 307). The chapter containing the regional examples of industrial development begins with a worthwhile discussion of the nature of industrial regions, and then concentrates on the coalfield areas between N E France and the Ruhr, before describing, with characteristic thoroughness: Luxembourg, Lorraine and Saar; Saxony and the Ore Mountains; Upper Silesia and Moravia; Lodz; Lyons-St Etienne; Catalonia and finally N Italy. There are passages of considerable power in these sections which demonstrate that good regional geography is capable of considerable insight and cogency. The penultimate chapter relates to transport and trade and is a useful summary of the impact of roads, waterways, railways, and international shipping on the process of economic change in Europe. The book concludes with a rather sketchy picture of the economic geography of Europe on the eve of the Great War, which is made rather more interesting by some excellent dot-distribution maps.

Any historical geography of Europe in the nineteenth century is likely to tell us as much about the foibles and predilections of the author as about the historical reality. This is perhaps as it should be, and as a whole this volume has, despite its intimidating length, a solidity and familiarity which makes the reader feel completely at home even when discussing *chiflik* estates in early nineteenth-century Macedonia. Given the magnitude of the task Pounds has set himself, one cannot fail but be suitably impressed by the outcome. However, one may be forgiven in thinking that the book is, in the end, a straightforward, uncontroversial and rather traditional economic history of nineteenth-century Europe, rendered exceptional by the wealth of detailed information it contains and the excellence of the presentation. Pounds justifies himself at the outset (p xix) by claiming that whilst 'The sources are historical; their presentation [is] geographical'. If by this he means that maps occupy pride of place, then no-one can argue. The book contains a total of 164 illustrations, a sizeable percentage of which are excellent maps, some having great historical significance in their own right. (It is particularly pleasant to see reproductions of Grumprecht's 1856 map of Spanish and Portuguese towns, Baird Smith's 1855 map of the rivers and canals of Lombardy and Sir Arthur Evans's 1875 drawing of a *zadruga* in Bosnia.) The question remains however, as to whether presentation alone is sufficient warrant to validate the book as an historical geography somehow distinctive from an economic history of the same period and place.

Never one to shirk the issue, Pounds provides the reader with a pithy definition of historical geography on the first page (p xix). It is, he says, 'concerned with the changing spatial pattern of human activity'. Though some may quibble with this, it remains as good a definition of the subject as any. Unfortunately, the implications of this do not square happily with the present volume, for it is clear that Pounds is not concerned with 'human activity' in all its richness, diversity and complexity, but is instead almost exclusively preoccupied with economic conditions. There is of course no reason why Pounds should not place the greatest emphasis on the economic, especially as the impact it had on the regional geography of Europe was so all-pervading. However, a concern with 'human activity' should surely imply that an historical geography of Europe in the nineteenth century must take at least some cognizance of the politics of the period, of national and international ideologies, of tensions between social classes, of changes in popular and élite tastes, values, attitudes and emotions. Not only did such things impact on the regional geography of Europe with a resonance and power that would be difficult to over-emphasize, but they also had their own inherent geographies which need attention. By way of example, whilst it is undeniable that a consideration of industrial economic change on the Ruhr coalfield should occupy a prominent position in any historical geography of Europe, it is equally valid to expect such a project to consider, *inter alia*, the proletarianization of the labour force in the same region, or indeed any of the other social, political and cultural changes which accompanied that particular economic revolution.

The Europe that emerged into the twentieth century was as much a product of these cultural, political and social struggles as it was the result of structural economic changes. At no point does Pounds deal with the former issues head-on. In his general introductory chapter there are sections on imperialism and politics but these are scarcely sufficient and present a rather lop-sided treatment of events. Indeed, the section on 'Communications and the spread of ideas' deals exclusively with technical and scientific advances of practical economic importance, as if these were the only ideas which had any geographical significance. In a sense then, this weighty and wide-ranging book is strangely narrow in its conception of the 'human activity' referred to at the start, and even the changes which are described seem rather drained of human content. The men, women and children that lived

through, and often died as a result of, the agricultural and industrial revolutions which Pounds describes — the people who contributed to these changes or fought against them — are consigned to a rather peripheral position within the categories of the narrative. Only rarely do individuals or groups emerge centre-stage, and for the most part seem to have been squeezed out by the sheer weight of empirical evidence on grain yields, crop rotations, tenurial systems, land use, GNP, population pressure and industrial output.

Yet such a total historical geography has scarcely even begun and to criticize Professor Pounds too strongly in these terms would be presumptuous. Historical geography has a great tradition of detailed and scholarly empirical research in which wide-ranging material is presented with consideration, skill and care. Ever mindful of regional variations, the historical geographer has often been cautious, even suspicious, of grand theory and abstract debate. The present volume is a considerable achievement and stands as a testament to this distinguished tradition. It will be welcomed by the specialist and non-specialist alike as a mine of detailed information, presented in a clear and readable form. Although the French *départements* of the Vendée and the Mayenne both suffer from misspelling (pp 213 and 429 respectively), these are very minor flaws in an otherwise beautifully published volume. Future historical geographies of Europe will probably paint a rather different picture from that crafted by Professor Pounds, but any such book will certainly owe an incalculable debt to his efforts.

MICHAEL J HEFFERNAN

D J ODDY and D S MILLER (eds), *Diet and Health in Modern Britain*, Croom Helm, 1985. 326 pp, £22.50.

This is the second book to emerge from the Historians and Nutritionists seminar at Queen Elizabeth College, London University. The first, *The Making of the Modern British Diet*, appeared in 1976. The present volume contains fifteen essays, of which twelve are historical surveys.

The editors have eschewed any attempt to impose a thematic framework on the papers, on the grounds that seminar papers of this kind do not necessarily respond well to such treatment. As a result, the chapter titles have a disparate look. Yet it would be wrong to suggest that the volume as a whole is a random collection, since the authors' common interests tend to throw up, explicitly or implicitly, certain themes which are reflected in these chapters.

The most basic theme is whether people get enough food, of the right kind, to avoid starvation. Derek Miller's chapter usefully surveys the question of calorie intake in the world today, showing how very variable is the average intake in different parts of the world; in this context, use of averages may be more than usually misleading. He also provides a cogent summary of current world food problems, which appear to be those of distribution rather than supply. Arnold Bender's chapter surveys the nutritional utility of those neglected items, fruit and vegetables. These are, it seems, every bit as good for us as we were told in childhood, but nutritionists find it hard to agree on the precise utility of any particular one. Valerie Johnston looks at one of the few well-documented sources on mid-nineteenth century calorie intakes, those of the populations of local prisons. These diets seem to have been very variable. One of the consolations of being sentenced to hard labour was that the diet was better; some prisoners protested at being taken off the tread-wheel for that reason.

Getting enough food to stay alive is one thing; the demand for food is another. As Magnus Pyke, writing in the context of the twentieth-century food processing industries, sagely remarks, the demand for food is a function of nutritional need, aesthetic appeal, and social taboo. Most food technologists spend most of their time enhancing the aesthetic appeal of foods. However, their work is not entirely frivolous, and at least two of their achievements (the pasteurization and dehydration of milk) have been of great nutritional significance.

Consideration of aesthetics and taboo leads to the interesting question of customary determinants of food demand; how much are people prepared to pay for a diet which is not merely nutritionally adequate, but palatable and conventionally acceptable? Perhaps the most intriguing aspect of Pamela Mumford's chapter on low-cost diets is her suggestion that, for most of the period *c.* 1880–1939, the dietary needs of the 'average man' could be met on as little as five old pence (5*d*) a day. However, customary influence and the desire for greater palatability would have raised this figure considerably; present-day work may suggest that it should be doubled.

The influence of custom may also be discerned in some other chapters. Thus Dorothy Hollingsworth shows that, while class differences in nutritional terms have sharply narrowed in this century, there are still considerable differences in the actual types of food consumed. These differences are partly a matter of income, but also reflect the more conservative nature of demand from lower income groups, as yet hardly affected by middle-class worries about obesity and other food-related illnesses.

To be effective, consumers must be able to back up their demands with cash. Thus economic constraints on nutrition also form one of the themes here, perhaps most clearly in Forrest Capie's survey of the inter-war demand for meat. From this it emerges (*inter alia*) that income-elasticities of demand for most kinds of meat were greater than one, and that price elasticities for imported meats were greater than those for the home product. These are perhaps not surprising con-

clusions, but useful ones in view of the paucity of such studies to date. Economic constraints, and those of wartime rationing, are also explored in Hollingsworth's chapter on consumption since *c.* 1939.

The role of government also makes an appearance, if indirectly; it underlies much of the research effort detailed in Colin Holmes's chapter on arable farming, and is the essence of John Hurt's chapter on school meals and milk, which succinctly shows the inadequacies of these programmes, until boosted by the Second World War.

One theme which the editors do refer to is the parallel drawn between nineteenth-century Britain and today's 'Third World'. This is the implicit lesson to be drawn from Ian Buchanan's chapter on the connection between condensed milk, insanitary conditions, the housefly, and deaths from infantile diarrhoea in colliery communities before 1914; a Third World theme if ever there was one, and a fascinating if slightly nauseating piece of detective work. In such circumstances, the undoubted attractions of condensed milk for the poorer consumer (Hurt, p 188) backfired badly.

Finally, three chapters are devoted to marketing. Richard Perren examines the meat trade before 1939, and Peter Atkins fruit and vegetables in the century to 1950. Both are useful contributions to an area which is both unjustly neglected and difficult to work. John Mark examines the brewing industry in this country, combining an analysis of the economics of production and distribution. Devotees of real ale and local brew may be comforted, not only by the success of the Campaign for Real Ale, but by the fact that small breweries are protected to some extent from competition by sharply-rising distribution costs as distance from the production centre increases.

In sum, these essays show the continuing benefits to be derived from the interaction of nutritionists and historians. There is clearly much scope for further work, and future publications such as this one will be very welcome.

PETER DEWEY

B A HOLDERNESS, *British Agriculture since 1945*, Manchester University Press, Manchester, 1985. 185 pp. £17.50.

The perils of writing recent agricultural history are probably less than those which attend the writing of the history of recent political events, especially since writers on agriculture have a solid and fairly uncontentious body of statistical and other material at their disposal. It is therefore perhaps surprising that this book is the first to attempt a comprehensive treatment of the post-1945 years. It is certainly a welcome pioneer.

There are eight chapters in the book. The first is a brief setting of the legacy of the Second World War; there follows a discussion of the relations between the farming industry and government in the period before and after accession to the EEC. The remaining chapters deal with the pattern of farming activity, marketing developments, the economic aspects of farming (in the form of prices, productivity and investment) and manpower. The final chapter is on the 'social bearings of agriculture'.

The comparatively modest length of this book may conceal the fact that it has a large story to tell; nothing less, in fact, than the story of an agricultural revolution (although the author eschews such a description). What better title for a period when, Dr Holderness writes, 'The yield of arable land may have risen by well over 80 per cent since 1940 and of grass land by half or more' (p 103)? He could have added that the growth of gross output since the late 1930s (2.3 per cent per annum) stands favourable comparison with that of industry. This achievement is all the more remarkable when it is considered that the labour force has fallen by about one-half, and the area of agricultural land has contracted by about one-tenth.

The processes by which this revolution has come about are not unfamiliar; first of all in the story comes long-term support from government; a complete reversal of the relationship to which agriculturalists had perforce become accustomed since the repeal of the corn laws. Support came mainly in the form of price support, improvement grants and technical advice. Against this background, farmers and landowners invested heavily in machinery, chemicals and improvements to their fixed capital. To achieve economies of scale whereby these investments could be made to pay their way, there also occurred a substantial farm amalgamation movement, particularly marked since the 1960s. A parallel development was the decline of the workforce. Taken with the sharp drop in the number of farms, the net effect was that 'About two-thirds of agricultural households disappeared in the course of a generation' (p 154). Thus the technical changes had large social consequences; perhaps it would be not fanciful to compare them in magnitude with those that attended the enclosure movement at the end of the eighteenth century.

Perhaps the most valuable service which Dr Holderness performs is to bring together from a wide variety of sources (to judge from the bibliography; there are unfortunately no footnotes) the essential details which enable the bare bones of the above story to be fleshed out. The most useful chapters in this respect are those on the pattern of farming and on prices, productivity and investment. The former is a comprehensive treatment of the essential changes which have occurred in crops and livestock. It will surprise few to be told that traditional rotations are now conspicuous by their absence in the grain-growing heartlands of southern and eastern England, but we are also told what has taken their place (chiefly feed barley, it seems). The complex and changing

structures of livestock enterprise are dealt with cogently. The chapter on the economics of farming is particularly useful for a discussion of the structure of markets and elasticity of demand. Given the tendency of affluent communities such as the British (even during the current period of high unemployment) to spend proportionately less of their income on food as time goes on, it is perhaps surprising that farmers and the food industries have been as successful as they have been in persuading the public to shift to new forms of consumption, but this has undoubtedly happened; the outstanding success story here is the broiler chicken, but there have also been significant advances in diary products and baking.

These chapters will be found by many to be especially pertinent since they supply most of the answers to the questions; what has been going on in agriculture since the war, and how has it arrived at its present position? The remaining chapters fill out much of the institutional and human aspects of the industry. Perhaps the weakest chapter is the last one, which is at rather too high a level of generalization to add much to what is fairly common knowledge about the social geography of agriculture.

Some minor criticisms may be made; there seems to be some statistical confusion attaching to the terms 'tillage' and 'arable' on p 43, and the discussion of the complex subject of energy input-output relationships on pp 116–17 is rather over-compressed. While there is a statistical appendix, it would have been still more useful to have included some form of output index which would enable the reader to appreciate the varying importance of different products to the agriculturalist. On the less technical side, one could take issue with the statement on p 132 that Britain has no peasantry. That said, Dr Holderness has written a work which should constitute essential reading for all who are interested in recent British agricultural history.

P E DEWEY

N SWAIN, *Collective Farms Which Work?*, CUP, 1985. x + 235 pp. £25.

In the Soviet Union, growing investments in agriculture have failed to solve the endemic inadequacies of collectivized agriculture. In China, the much-vaunted commune system is fast disintegrating in favour of a market-oriented, mixed co-operative/private system which is generating marked inter-regional and interpersonal inequalities. Hungary, however, seems to offer a case of successful collectivization, achieved without bloodshed, and able to meet the demands placed upon it by urban consumers, and by the need for an export surplus. Nigel Swain's book seeks to explain how this success has been achieved, in particular with regard to the social relations created since collectivization in the Hungarian countryside.

After an introduction which sets agriculture in the wider context of Hungary's economic system and its evolution, the first part of the book examines the basis of collectivization's success: the symbiosis of 'socialist wage labour' and 'family labour' in the agricultural co-operatives. On the one hand, consolidation and mechanization of the cooperatives, backed by ample state financing, has turned them into *de facto* state enterprises, able to pay predetermined wages to co-operative members, who occupy increasingly predetermined and specialized roles in the agricultural division of labour. On the other hand, 'petty commodity production' on household plots, using family labour, has flourished under liberal legislation on plot size, use of co-operative inputs, and marketing of private produce.

Part II then examines the social composition of the cooperatives. The spread of machinery, chemicals, and modern mass production techniques has led to the emergence of a sizeable stratum of élite, skilled workers, who resemble in many respects industrial skilled workers: this group includes drivers, mechanics and livestock workers. The bulk of the workforce, undertaking relatively unskilled tasks mainly in crop production, are women and older workers, who also rely more on their private plots to supplement their lower wages. Meanwhile, management has changed from a politically-based bureaucracy to a technocratic hierarchy, based on advanced technical or administrative skills. Many of the tasks performed by this expanding hierarchy, in agronomy, accountancy, engineering, etc, would in most Western agriculture be undertaken by external service agencies. Co-operative management, like the skilled workers, increasingly resemble their counterparts in industry, notably in the growing importance of academic qualifications, coupled with continued emphasis on political reliability.

The final part of the book then shows how this social structure functions in the operation of the co-operatives. Although there are still direct political controls by the Party over the appointment of top managers, the co-operative's leaders enjoy very great operational autonomy. The symbiotic family economy based on household plots provides them with a safety net in the event of production or marketing failures, and they have also developed a wide range of non-agricultural ancillary activities. However, the central authorities' monopoly of credit allows them considerable control over major investments, and ensures that the co-operatives do not stray too far from the central planners' guidelines. Despite the formally democratic structure of co-operatives, it is clear that ordinary members participate very little in decision-making except in times of crisis; and given the fragmented nature of agricultural work, there is no opportunity for the sort of informal worker pressure that is commonly found in factories in Eastern Europe.

In exercising their control, the main objective of management is to maximize their own, often very substantial, bonuses for expanding output, while maintaining satisfactory incomes and workloads for the membership at large.

The picture this book gives is one of a rather stable agricultural system, which seems to have resolved the perennial conflict between 'socialist' industry and 'petty capitalist' agriculture by effectively industrializing the latter in a *social* as well as technical sense. The result has little to do with socialism as most would understand it, except in the important sense of offering security of income to agricultural workers on a collective basis. In his conclusion, Swain suggests that there is no technological justification for the great divide between management and labour in Hungarian cooperatives: management's monopoly of power serves rather to secure Party control in a still-hostile countryside. It remains to be seen whether further economic and political reforms could lead to a more egalitarian and democratic agricultural system in Hungary.

HUGO RADICE

CHRISTOPHER JOHN BAKER, *An Indian Rural Economy 1880–1955: The Tamilnad Countryside*, OUP, 1984. xxii + 616 pp. 9 maps, 30 tables, 16 graphs. £24.

The rural economy of a country such as India is of interest not only to scholars studying third world countries but also to those interested in pre-industrial economies and agricultures of the past. In dealing with a major area of India — the Tamilnad region in the extreme south-east of the country — Baker makes an important contribution to the rapidly expanding literature concerning the rural development of the Indian subcontinent. Also, despite its title, it is a book about far more than just the Tamilnad countryside. A large section is given over to the towns and industry and another to the role of the state in the region's economy. The result is a big, sprawling book, the price of which will unfortunately discourage its purchase by all except libraries and the specialist. Despite this caveat, however, there is much of interest and indeed fascination in Baker's book. To a certain extent, the size of the book is justified by the area it covers — the Tamilnad region covered 48,500 square miles and contained a population of 29 million in 1950 (or nearly three-quarters of the population of England at the same time). The topography of the area is diverse, ranging from river valleys cutting east through the countryside to the Indian Ocean to plains and uplands in the west, and accompanying these differences in terrain are notable variations in the local agriculture and economy, from rice paddy cultures in the river valleys to grain and cash-crop regimes in the west.

The seventy-five year span that the book covers can most simply be split into two periods. The first — from 1880 to the mid-1920s — encompassed a period of economic and agricultural expansion and increasing involvement in the world economy. It was an era in which much new land was exploited, particularly on the plains and in the Kongunad (a large upland area surrounded by hills in the west of the region). The second period — from the late-1920s to the mid-1950s — was one largely of economic retrenchment and of extreme difficulty for the rural economy in particular, which only began to experience substantial improvement in the period following the second world war. Much of the trouble in the Tamilnad economy of this time simply stemmed from the downturn in the world economy as a whole. Nonetheless, there is also evidence that the rural sector in particular of the Tamilnad economy had overreached itself by the late 1920s and was entering a long period of stagnation and underinvestment. In fact, crop yield data (as presented by Baker on pp 508–12) show a decided decline for all crops over the period from 1904–5 to 1953–4, which would seem to be a typical response to over-exploitation of land resources, as land fertility was gradually depleted. Again, only in the post-war period, accompanied by strong government intervention, was this trend reversed.

Altogether, Baker's book is strongest in the panoramic view it gives of the Tamilnad economy for the period, which not only includes the rural economy but the urban economy as well, with the role of the state also coming under strong scrutiny. It is much weaker on the minutiae of agricultural life and society. The rigid tripartite division of the area into river valleys, plains, and Kongunad that Baker follows hides a great deal of diversity in individual farming, even within these regions, a diversity which is only lightly acknowledged. There is also little of the individual Indian farmer or anything that might give an indication of the welfare of the people living at the time. For instance, some discussion of mortality and fertility among the rural population would have been useful, if only to tie it in with the evidence for declining crop yields. As it is, we are left with the largely unexplored paradox that, although grain and other crop production was falling off during the period from the beginning of the twentieth century to at least 1945, the rural population in the region was steadily increasing (pp 135–6).

Despite these omissions, however, Baker contributes much to the knowledge of Indian agriculture and economy leading up to the 'Green Revolution' period of the 1950s and afterwards. In particular, he makes a perceptive point (on pp 520–33) concerning the importance of the pre-colonial Tamilnad society in maintaining the shape of agriculture in the area even after the British came, and how this age-old structure in society is still making its presence felt in the rural development of India today.

JOHN LANGDON

Shorter Notices

MASIE BROWN, *The market gardens of Barnes and Mortlake*, Barnes and Mortlake History Society, 1985. 44 pp. 6 maps, 4 plates. No price.

This carefully researched and informative piece of local history deals with commercial gardening, mainly in the nineteenth century. The author includes some evidence of commercial gardening in the area from the seventeenth century and it is a pity that she did not make more of this information to attempt a complete review of gardening from its first appearance.

The chapter on land use, ownership, and development is a confusion of acreages, dates, and statistics. The succeeding chapter on the gardeners is interesting and here good use has been made of research material. The reasons for the eventual decline of gardening in the area are well analysed and illustrated: the creation of a national supply for London with the development of the railways, competition for garden ground from property developers and the decline in manure supplies from London. The railways did, however, allow early crops to be marketed in the North and suburban villa-dwellers sought to delay the demise of remaining commercial gardens because they liked the semi-rural aspect created by the gardens between their houses. When their interests were threatened, the gardeners proved to be keen political lobbyists.

The wretched condition of many garden labourers is clearly described. The relatively high weekly earnings in the summer did not compensate for low winter wages and the hard toil of piecework.

The illustrations are well chosen and the maps clear and informative. The pamphlet is a useful addition to our knowledge of commercial gardening around London.

MALCOLM THICK

NICK LYONS (ed), *Small Houses since 1750 in North-west Lincolnshire*, Scunthorpe Borough Museum, Scunthorpe, 1985. xvi + 32 pp. Illustrated. £6 incl p & p.

This publication consists of a series of A3-sized illustrations clipped together with notes and introduction to form a pack intended primarily for teaching purposes. The illustrations consist mainly of houses and cottages from various periods up to the present day but reproductions of such documents as a probate inventory, a large-scale Ordnance Survey map, and pattern-book plans are included together with the material for a cut-out model of a row of three cottages. There are extensive notes explaining the illustrations and amplifying them with further documents and sketches. The introduction, which is itself extensively and usefully referenced, sets the examples illustrated into their context in Lincolnshire and, to some extent, into the national context.

Although this publication is a venture to be welcomed and will help the school-children of the Scunthorpe district to be far better informed about the disappearing vernacular architecture of their locality than most it has its limitations which work against the wider circulation it deserves. The first limitation is the format which makes it very difficult to house in any library. An A4 size for introduction and notes with the illustrations folded from A3 to A4 would have been more convenient. The second is the title which implies a book about farmhouses whereas this one is almost entirely about cottages. The third is the text which no doubt was written with the needs of the classroom in mind but which mixes commendable use of quotations and supporting references with some surprising statements of which the most extreme is that 'Building techniques and house plans in England evolved over time but did not differ markedly from place to place at any given period.'

As a teaching aid — its intended purpose — this publication will surely be very useful indeed. One hopes that its example will be widely followed; but one hopes even more that it will be an example modified to make such material much more widely available.

R W BRUNSKILL

ROBIN HILL, *Shropshire Sheep, a History*. Shropshire County Museum Service, Acton Scott Working Farm Museum, 1984. 16 pp. £1.50 plus 25p p & p.

Accounts of the origin of livestock breeds must take an overview to avoid becoming bogged down in the detail of individual breeds. Here there is no such restraint and the author admirably fills in the detail that must be omitted from larger works. He traces the history of Shropshire sheep from their obscure origin in the Middle Ages through the first recognizable descriptions in the eighteenth century and improvement by introduction of Leicester and Southdown influence, to its wide popularity, along with other Down breeds, during the nineteenth century. The

importance of the Shropshire at Victorian agriculture shows and the establishment of the Breed Society in 1882 are illustrated by informative old prints and photographs. Maps of the distribution of pedigree flocks and the destination of exports add to the surprising amount of information packed into a few pages.

Largely through the demand for export to the Americas and the Antipodes, the breed was at its height between 1880 and 1920, after which the fear of foot and mouth disease eliminated this outlet. Despite efforts to revive the breed between about 1940 and 1970, it declined and is an example of a well-known breed that has become rare overnight, with the knowledge of very few people, and at a time when considerable efforts were being put into conserving so-called rare breeds such as the Jacob and Soay, whose numbers are more numerous.

Robin Hill has provided a model breed history combining a popular treatment with a scholarly approach, and given a good bibliography.

M L RYDER

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Editor: Kenneth O. Morgan, The Queen's College, Oxford

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VOLUME 34 1986
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The Distribution and Significance of 'Bordland' in Medieval Britain*

By ANGUS J L WINCHESTER

MODERN Ordnance Survey maps of Scotland mark over forty places called Bor(e)land, of which over twenty can be shown to be derived from 'bordland', a term which is fairly common in late medieval and early modern Scottish sources and is also found, as a descriptive term and field-name, in England and Wales. Etymologists and place-name scholars encountering 'bordland' have been far from unanimous in their interpretation of the term and it is, perhaps, a sign of the individuality of the academic traditions in the three countries that Scottish, English, and Welsh scholars have explained 'bordland' in very different ways.

The Scottish tradition is almost unanimous in translating the term as 'table land', that is, demesne land which supplied victuals for the lord's table.[1] As will be shown, such a meaning is clearly indicated by the fairly substantial body of, mainly, fifteenth- to seventeenth-century references to the term in Scotland. It is also consistent with the statement by the English lawyer, Henry de Bracton, in the thirteenth century that 'that is demesne which a person has for his own table and as property, such as are Bordlandes in English'.[2] Welsh scholars agree that 'bordland' was a type of demesne land and, by way of explanation, see the term as a 'literal translation of *tir bwrdd*, the term applied to the Welsh king's mensal land at his court'.[3] The implication is that the term is very ancient in origin and that Welsh 'bordland' certainly predated the English penetration of Wales.

In contrast, English authors have largely ignored both Bracton's definition of 'bordland' and the use of the term across the Welsh and Scottish borders. The *Oxford English Dictionary*, while acknowledging Bracton's statement, prefers to interpret the term as meaning 'land held by a Bordar in bordage tenure' and the *Dictionary*'s definition has been followed by most editors of the English Place-Name Society's publications when they have encountered minor place-names and field-names derived from 'bordland'.[4]

The etymologies offered by the two schools of thought differ in that the one sees 'bordland' deriving from the OE *bord*, 'a plank or board' and by extension 'a table', while the other places it with Bordar in containing the OF *borde*, meaning 'a wooden hut or cottage'.[5] Other suggestions have included Professor Cameron's that OE *bord* might have the sense of 'a boundary' when

*I should like to thank Mr A D Mills, editor of *The Place-Names of Dorset*, for providing details of references to 'bordland' in that county; Mr P H W Booth for passing on references to the term in Berkshire and Cheshire; and Dr D Waugh for advice on the Borlum names of Caithness. An earlier draft of this paper was read by Professor G W S Barrow, Dr B Crawford, Dr G Fellows-Jensen, Dr I Fraser, Dr M Gelling, and Professor W F H Nicolaisen, each of whom made helpful comments and pointed me in new directions. I alone am responsible for any shortcomings or misinterpretations which remain.

[1] Eg W C Mackenzie, *Scottish Place-Names* (1931), p 214; E Johnson-Ferguson, *The Place-Names of Dumfriesshire* (Dumfries, 1935), pp 6, 25, 44, etc; W M Alexander, *The Place-Names of Aberdeenshire* (Aberdeen 1952), p 24; J S Clouston, 'The Orkney Lands', *Proc Orkney Antiq Soc*, II (1923–4), 61. Cf *Dict of Older Scot Tongue*, sv Bordland.

[2] T Twiss (ed), *H de Bracton, De Legibus et Consuetudinibus Angliae* (1881), IV, p 197.

[3] G R J Jones, 'Post-Roman Wales', *Agrarian Hist of Eng & Wales* I part II, ed H P R Finberg (Cambridge, 1972), p 338. Cf W Rees, *South Wales & the March 1284–1415* (Oxford, 1924), p 139; A N Palmer and E Owen, *A History of Ancient Tenures of Land in North Wales and the Marches* (priv printed; 2nd edn, 1910), p 106; D Jenkins (ed), *Llyfr Colan* (Cardiff, 1963), pp 173–4.

[4] See vols for counties of Berks, Cumb, Dorset, Glos, Oxon, Yorks (WR). Detailed refs are given in Appendix II.

[5] See *Oxford Eng Dict*; *Middle Eng Dict* (sv 'bordlond'); S P J Harvey, 'Evidence for settlement study; Domesday Book', *Medieval Settlement: Continuity and Change*, ed P H Sawyer (1976), pp 197–9.

used in compounds such as 'bordland' or 'bordwood',[6] and Professor Nicolaisen's conjecture that the Scottish 'bordlands' and Borthwick (OE *bordwic*) may use *bord* in the sense of 'wood' rather than 'table'.[7]

These conflicting interpretations raise questions concerning the significance of the occurrence of 'bordland' in a particular locality. First, and most obviously, is it possible to decide between the two derivations outlined above? Or did the term have more than one meaning? If the Scottish tradition and the evidence of Bracton are accepted, how, if at all, did 'bordland' differ from other demesne land to which the term was not applied? A second question concerns the antiquity of the term. The identification of 'bordland' with the Welsh *tir bwrdd* suggests an ultimate origin in the tenures of pre-feudal, Celtic Britain. If that is the case, does the presence of 'bordland' point to the antiquity and stability of the land so called as demesne? I have used the suggested link between 'bordland' and *tir bwrdd* in another paper when arguing the antiquity of estate structures in Cumberland.[8] On reflection, a broader examination of the use and distribution of 'bordland' in Scotland, England and Wales seemed to be called for. The evidence from each country is examined in turn below.

I

A survey of selected printed sources has yielded references to 'bordland' at fifty-five locations in Scotland from Galloway to Orkney.[9] Of these, twenty-three can be identified with farms named Bor(e)land[10] on the modern map, with a further three appearing as Borlum.[11] As well as these certain references to the term, modern maps name a further nineteen Bor(e)lands and two Borlums for which corroborative evidence of derivation from 'bordland' has not been found. Finally, the survey found mention of a further eleven instances of the names Bo(a)rland, Borlum, and Broadland (the last documented as a variant of 'bordland' in eastern Scotland) for which the form 'bordland' was not recorded. Thus, thirty-two possible 'bordlands' may be added to the fifty-five substantiated occurrences of the term in Scotland. Details are given in Appendix I and the distribution is mapped on Figure 1.

Before turning to consider the meaning and origins of the term, it should be noted that it is possible that not all the modern Bor(e)land names derive from 'bordland'. The form 'bordland' continued to be common in fifteenth- and sixteenth-century sources, yet there are some instances of Bor(e)land where the medial 'd' is not found, even when the name is recorded in the fourteenth century. The Borelands in Caerlaverock and Dumfries parishes, Dumfriesshire, appear as 'Bour(e)land' in fourteenth- to sixteenth-century sources[12] and the form 'Borland' is recorded at Clackmannan in the mid fourteenth century.[13] Noting the early forms in Dumfriesshire, Dr Williamson suggested that the specific might be OE *būr* ('bower'), rather than *bord*.[14]

Even if the doubtful Bor(e)land names are excluded, however, it is clear that 'bordland'

[6] K Cameron, *Place-Names of Derbyshire* (EP-NS, vol 29, 1959), iii, p 716.

[7] W F H Nicolaisen, *Scottish Place-Names* (1976), p 78. Prof Nicolaisen has indicated in correspondence (1981) that he now believes he was too sceptical in not accepting the 'home farm' interpretation of these names.

[8] 'The Multiple Estate: a framework for the evolution of settlement in Anglo-Saxon and Scandinavian Cumbria', in J R Baldwin and I D Whyte (eds), *The Scandinavians in Cumbria* (Edinburgh, 1985), pp 89–101.

[9] The principal sources consulted were: OS 1" Maps (7th series), sheets 1–70, 72–6, 79–81; L R Timperley (ed), *Dir of Landownership in Scotland c 1770*, Scott Rec Soc (ns), 5, (Edinburgh, 1976); *Inquisitionum ad Capellam Regis retornatarum Abbreviatio* (Rec Com, 1811–16) (hereafter cited as *Retours*); *Reg of Great Seal of Scotland*, i–v (1306–1593); *Exchequer Rolls of Scotland*, v (1437–54).

[10] That number includes the sole example of retention of the form 'Bordland', at Newlands, Peeblesshire (NT 15 46).

[11] Namely at Dores and Urquhart (Inverness) and Knockando (Moray).

[12] E Johnson-Ferguson, *op cit*, 6; *Reg Gt Seal*, iii, no 815.

[13] *Reg Gt Seal*, i, p 581 (no 1026).

[14] M G Williamson, 'The Non-Celtic Place-Names of the Scottish Border Counties' (unpub PhD thesis, Edinburgh University, 1942), p 195. I am grateful to Dr Gillian Fellows-Jensen for this reference. Compare the suggestion (*P-N Devon*, I, p 202 (EP-NS vol viii)) that Bowerland (Devon) derives from OE *būrland*, 'land occupied by peasants'.

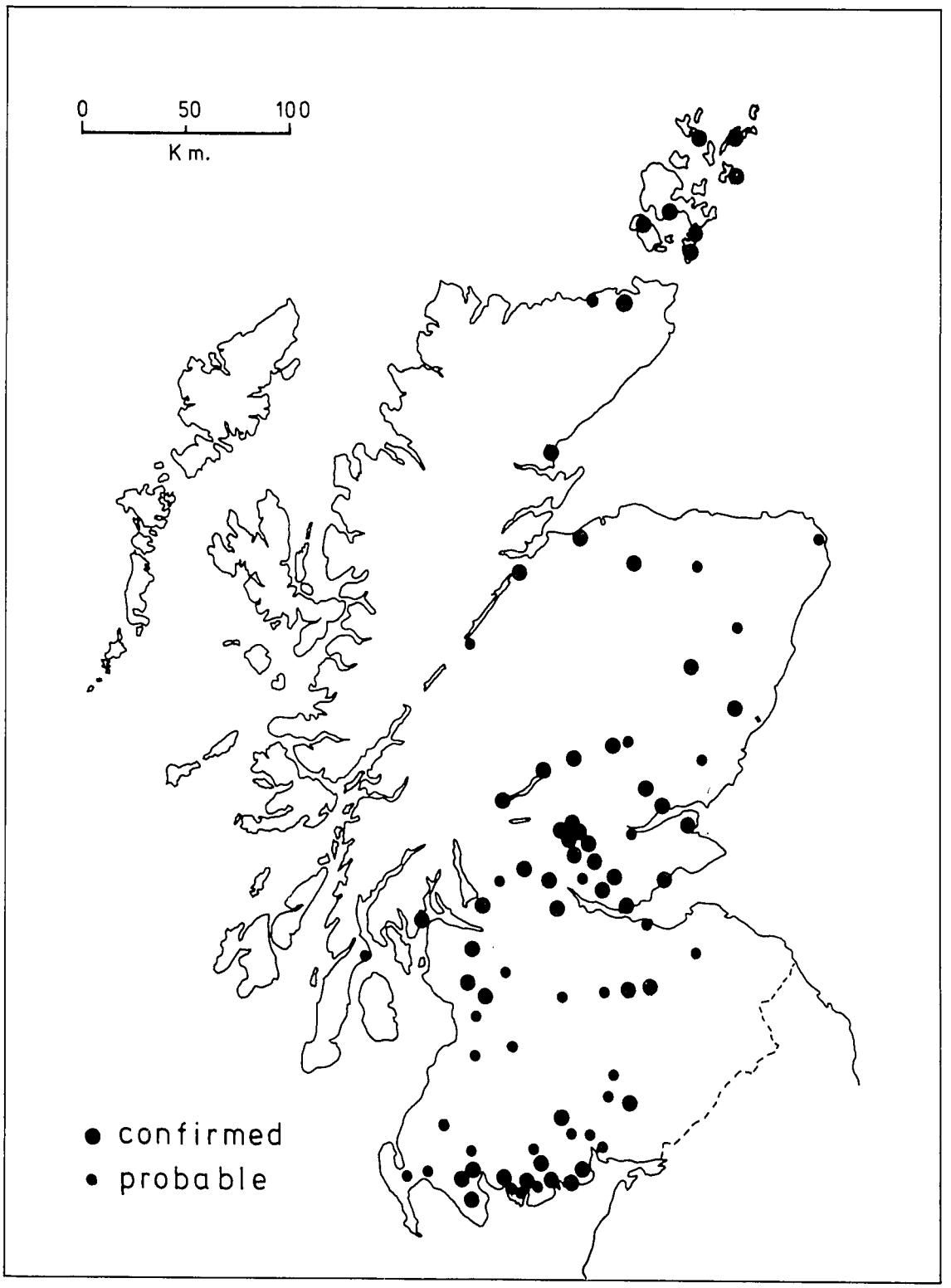


FIGURE 1
Distribution of 'Bordland' in Scotland

was a term of fairly frequent and widespread use in Scotland between the fourteenth and seventeenth centuries. Its meaning is made explicit in such references as that in 1648 to 'the demesne lands of Twynholm [Kirkcud] called Bordland of Cumpstoun'[15] and in the equation of the names Bordland and Mains recorded at Cardross [Perth] in 1637 ('lands of Bordland alias lie Maynis of Cardrois').[16] Similarly, it is well established that the 'bordlands' of Orkney were the earl's ancient demesne.[17]

As demesne land, 'bordland' often lay close to a lordly seat. This is particularly clear in the close association between 'bordland' and the royal castles of Dunoon and Urquhart: the 'lands of Bordlande' in Cowal were granted with the keepership of Dunoon Castle in 1473 and 1526,[18] while the description in 1509 of 'the 12 merklands of Bordlaund of Urquhart with the castle and fortalice of the same'[19] implies that the two elements were almost inseparable. Similar associations occur in Wigtownshire, where Bordland of Penninghame passed with the manor house in 1561,[20] and at Kincardine where, in a grant of the Bordland there with the castle and park in 1443, the motte (*viridis mons*) 'within the said Bordland' was reserved to the grantor for the holding of courts.[21] The impression that the 'bordland' was a core of demesne attached to and physically adjacent to the lord's seat is strengthened when the location of 'bordland' place-names is examined more closely on the modern map. The pattern at Urquhart [Inverness], where Borlum lies immediately west of the castle, is repeated in the juxtaposition of Bor(e)land names and the castles of Cleish [Kinross] and Snade [Glencairn par., Dumfries], and in the proximity of such names to mottes, as in the Galloway Borelands of Kirkcowan, Anwoth, Borgue, Kelton, and Colvend, for example. With the motte and the castle, 'bordland' is thus to be interpreted as a legacy of feudalism in the Scottish landscape, a compact block of demesne land which, often leased later as a single, large farm, retained the name which recorded its origin.

Although in fairly common usage by the fifteenth century when the recording of minor names becomes widespread, no reference to 'bordland' in Scotland has been noted before the later fourteenth century.[22] This is almost certainly a reflection of the nature of the sources consulted and a different approach must be taken to establish the antiquity of the term. The national distribution of the term has been plotted in Figure 1 to permit comparison with other place-name distributions in an attempt to assign 'bordland' to one of the layers of Scotland's place-name assemblage. It is found in a wide band down the length of the country from Orkney to Wigtownshire, with marked concentrations in Perthshire and Galloway; but it is absent from most of the Western Highlands and Islands and from the south-east corner of the country. The distribution compares most closely with that of 'X of Y' place-names (e.g. Water of Leith, Burn of Boyne) which Professor Nicolaisen has interpreted as reflecting the spread of the Scots language into formerly Gaelic- and Norn-speaking areas during the Middle Ages.[23] If it is accepted that the names date from that period, two possible hypotheses present themselves. On the one hand, following the suggestion that 'bordland' in Wales is a translation of the Welsh *tir bwrdd*, the Scottish 'bordlands' could perhaps represent translations from a Gaelic equiva-

[15] *Retours*, Kirkcud, no 250.
[16] *Retours*, Perth, no 466.
[17] J S Clouston, 'The Orkney Lands', *Proc Orkney Antiq Soc*, II (1923–4), p 61; A Fenton, *The Northern Isles: Orkney & Shetland* (Edinburgh, 1978), pp 28–9; F W L Thomas, 'What is a pennyland?', *Proc Soc Antiq Scot*, 18 (1884), 254.
[18] *Reg Gt Seal*, ii, no 1100; iii, no 345.
[19] *Ibid*, ii, no 3390; iv, no 204.
[20] *Ibid*, v, no 187.
[21] *Ibid*, ii, no 281.
[22] The earliest references noted are in the rental of Newlands barony, Peeblesshire, in 1376 when 'Bordlande' was listed among holdings set to farm (J W Buchan & H Paton, *Hist Peeblesshire* (Glasgow, 1927), pp 8–9) and the mention of 4 bovates 'in le Bordland' at Longforgan, Perthshire, in 1377 (*Misc Spalding Club*, V, 250).
[23] W F H Nicolaisen, *Scottish Place-Names* (1976), pp 57–64.

lent of *tir bwrdd*. Alternatively, 'bordland' may be seen as an English term which accompanied the spread of the Scots language.

The evidence suggests that the latter hypothesis is to be preferred. First of all, no evidence has been found for the use of a Gaelic equivalent of *tir bwrdd* in place-names: it might be expected that such an equivalent would have survived in those areas free from Scots penetration. Secondly, the corruption of 'bordland' into 'Borlum' along the Gaelic fringe from Caithness, through Inverness and Moray, to Argyll, perhaps stresses the foreignness of the term to the Gaelic-speaking population of those areas.[24] Finally, the distribution of 'bordland' compares closely with the occurrence of that most tangible legacy of the feudalism which brought the Scots language in its wake, the motte. Although mottes are absent from Orkney, Caithness, and Inverness, and extend further into the south-east than 'bordland', the distributions of the two features are otherwise very similar and include a concentration in the south-west.[25]

The association between 'bordland' and motte, both at a national level and in their not infrequent proximity to one another on the ground, is perhaps the key to dating the origins of 'bordland' in Scotland. The mottes are usually interpreted as being a legacy of the spread of feudal tenure and 'English' landholders north and west, particularly in the mid and late twelfth century under Malcolm IV and William the Lion.[26] Like the motte, 'bordland' seems to be a reminder of the imposition of foreign institutions, lordship, and language as the Scots kings established control over the outer parts of their realm. It is suggested, therefore, that in Scotland 'bordland' was imported as a term to describe the demesne land associated with the new pattern of lordship and lordly seats created by twelfth-century feudalization.

[24] I am grateful to Prof Nicolaisen for help on this point.

[25] G Stell, 'Mottes', pp 28–9, 128 in P McNeill and R Nicholson (eds), *Hist Atlas of Scotland* (St Andrews, 1975).

[26] *Ibid*; G W S Barrow, *Kingship and Unity: Scotland 1000–1306* (1981), pp 45–9.

II

In marked contrast to Scotland, the modern map of England contains very few place-names derived from 'bordland': only Birtlands Grove [Brimpsfield, Glos.] and two doubtful names, Boreland Hill [Woodford, Wilts.] and Bawdlands [Clitheroe, Lancs.] have been noted.[27] 'Bordland' does occur, however, as a descriptive term in fourteenth- to seventeenth-century sources from counties as far apart as Dorset and Northumberland. As such, the term has been treated as a field-name in some of the English Place-Name Society's county surveys, but it is impossible to gain a clear impression of its national distribution from published sources alone.[28] The twenty-seven instances of the term which are noted in Appendix II should not be considered in any way a complete distribution.

Most of the English examples have been interpreted by the Place-Name Society editors as referring to 'land held by bordage tenure', that is by the class of cottagers termed *bordarii* in Domesday Book. Indeed, the editor for Dorset has linked the 'bordland' at Coombe Keynes to the fact that *bordarii* were recorded there by the Domesday survey,[29] and, at a broader level, it is striking that Berkshire and Dorset, the two counties with the greatest number of recorded 'bordlands', are among the scatter of counties with a very high proportion (over 40 per cent) of the population classed as *bordarii* in 1086.[30]

Dr Harvey has shown that the people called *bordarii* in Domesday Book were a far

[27] *P-N Glos*, i, p 146 ('Bordlond' in 1494); *P-N Wilts*, p 373 (earliest reference to Boreland Hill is 1773); Bawdlands, Clitheroe, does not appear to be recorded before the nineteenth cent.

[28] All EP-NS vols have been checked, but only those published since 1950 (vol 20 onwards) contain full lists of field-names recorded in pre nineteenth-century sources.

[29] A D Mills (ed), *P-N Dorset*, i, p 120.

[30] S P J Harvey, 'Evidence for settlement study', pp 197–9.

from homogeneous group.[31] All were smallholders or cottagers, but the term seems to have been used in three distinct senses: first, of smallholders living near the lord's court and working on the demesne; second, of undertenants of the villein population; and third, of cottagers on the margins of settlement, actively colonizing woodland and waste. Indeed, she has argued that OF *borde*, the root of *bordarius*, has the double connotation of 'a cottage made of wood' and 'the edge' and suggests that the *bordarii* may have been so-called because they lived on the edge of the settled area. The first group of *bordarii* were clearly associated with the demesne: Dr Harvey cites as examples those at Evesham who were described as *servientes curiae* and at Tewkesbury, who lived and worked around the lord's court. It is thus conceivable that they and the term 'bordland' (meaning 'demesne land') might be connected, but it is less easy to see a semantic link between 'bordland' and the more numerous *bordarii* in the second and third groups.

A closer examination of the English references to 'bordland' suggests that, in some cases at least, the term did, indeed, mean 'land providing victuals for the lord's table'. For example, in three of the instances of 'bordland' in Cumberland it is clear that the land in question was demesne and lay close to an important estate centre. The 'bordland' of Upperby, recorded in 1360 and 1457, was part of the royal demesne attached to the city and castle of Carlisle, a mile to the north.[32] At Egremont, *caput* of the barony of Copeland, over 70 acres of the demesne was described as 'bordland' in 1338,[33] though then and in 1578 the sources make it clear that there was other demesne land around the castle and town which was not so labelled.[34] Finally, 120 acres of 'burdlandes' at Dockray, near Wigton, appear to have been the demesne not of the owner of Dockray, but of his feudal superior, the lord of Wigton barony: in 1334 it was stated that corn grown on the 'burdlandes' was to be ground at Wigton mill free of multure, while multure was to be paid at the normal rate on other corn grown at Dockray.[35] Although I have argued elsewhere that elements of the pre-Conquest pattern of land tenure may have survived in Cumbria, it must be admitted that a Norman origin similar to that postulated for the origins of 'bordland' in Scotland would not be inconsistent with what is known of the early history of the three estates in question. The conquest of Carlisle by William Rufus in 1092 was followed immediately by the establishment of the castle there as an important royal centre and by the deliberate settling of southern peasants in the vicinity.[36] Both the baronies of Copeland and Wigton were ostensibly created *c.* 1100 as a result of grants to Norman settlers.[37] Even if the imposition of Norman control involved the remodelling of pre-Conquest estates, it is possible that the disposition of demesne land dated from the Norman period.

Most of the references to the term in other parts of England yield little information other than that a particular piece of land was known as 'bordland'. In a handful of instances, scattered widely across the country, it is clear, however, that the term was used of demesne land. At Deddington [Oxon.] the demesne arable land, leased to tenants by 1422, was known collectively as 'Bordlond'[38] and the term was used similarly of leased demesne land on the Dorset manors of Coombe Keynes (in 1445–7) and Winterborne Came (in 1564).[39] In 1479 the demesne on which the bond tenants of Salton

[31] *Ibid.*
[32] *Originalia Rolls*, II, p 253.
[33] In 1338 the 'bordland' was at 'Blakestanfit' (apparently near the modern Ehenside, 2 miles S of Egremont), Carleton (1 mile SE of the castle) and 'Collaneleye' (unident): *Cal Close Rolls 1337–9*, pp 476–7, 486, 494.
[34] Cumbria RO (Carlisle), D/Lec/301, Percy survey, ff 88–92.
[35] Cumb RO, D/Lec/314/16.
[36] *VCH Cumb*, I, p 308; *Anglo-Saxon Chron, sub anno* 1092.
[37] *VCH Cumb*, I, p 308; *Reg Priory of St Bees* (ed J Wilson, Surtees Soc 1912), p 531.
[38] PRO, DL43/8/16.
[39] Dorset RO, D10/M 128, mm 3–5; D1/10, 635.

[Yorks., N.R.] performed their labour services was referred to as 'le Burdland'.[40] The impression gained from these late-medieval examples is that, as implied by Bracton in the mid thirteenth century, 'bordland' was a vernacular name for the lord's demesne in many parts of England. Where it is found as a field-name on a copyhold estate in late medieval or early modern sources (as at Appleford [Berks.][41] and Stour Provost [Dorset][42]) 'bordland' probably preserves the memory that the land in question was formerly demesne.

III

As noted earlier, 'bordland' in Wales has usually been seen as the translation of the Welsh *tir bwrdd* ('demesne land at the lord's court'), which, it is claimed, was an ancient element in the native landholding pattern.[43] When an attempt is made to sift from the published sources those references which specifically mention 'bo(a)rdland', rather than *tir bwrdd*, the former are found to be apparently very few in number and restricted in distribution to the Marches and Glamorganshire, both feudalized, English areas (see Appendix II). That Welsh 'bordland' was demesne is made clear in a reference to it at Newton Nottage [Glam.] in 1272 when parts of the demesne arable land there were called 'Westbordland' and 'Estbordland'.[44] Demesne status is also recorded for the 'bordlands' at Miskin [Glam.][45] and Chirk [Denb.][46]

It is difficult, from printed sources alone, to disentangle the relationship between 'bordland' and *tir bwrdd*, but it is unlikely that the former is simply a literal translation of the latter: *bwrdd* itself is considered to have come into Welsh as a loan-word from OE *bord*[47] in the same way that the Irish Gaelic *buird* (used in the sixteenth century in the phrase *fearann buird*, 'mensal land'[48]) has been identified as a borrowing from English.[49] The concept of land providing food for the lord's table is clearly common to all three terms, but, as far as the terms themselves are concerned, since OE *bord* seems to lie at the root of them all, it is more plausible to argue for the spread of an English-language word into Ireland and Wales than to suggest that 'bordland' is a translation of a native, Celtic term. This does not, of course, affect the accepted conclusion that 'mensal land' was a native Celtic concept. The impression given by the restricted distribution of 'bordland' (as opposed to *tir bwrdd*) in Wales is that the term was introduced with Norman feudal settlement in the twelfth century.

IV

The evidence discussed above points to the conclusion that, as Bracton stated, 'bordland' was demesne land that provided food for the lord's table, and that it was a Middle English vernacular term which was carried, on the crest of the wave of feudal settlement in the twelfth century, to English areas of Wales, to Cumberland, and to the outer regions of the kingdom of Scots. The scepticism of the *Oxford English Dictionary* in rejecting Bracton's statement has, perhaps, confused the issue by linking the term too strongly to the *bordarii* of eleventh-century England. When 'bordland' originated in England remains obscure: Bracton's use of the term in the mid thirteenth century seems to be the earliest on record, and the word does not appear to have been known in Old

[40] J Raine (ed), *Priory of Hexham*, ii, 76 (Surtees Soc Vol 46, 1865).
[41] *Cal Proc Chanc Eliz I*, III, p 112.
[42] King's College Cambridge MSS, C36, manor ct, 13 Oct 1442.
[43] For *tir bwrdd* see T Jones Pierce, *Medieval Welsh Society* (Cardiff, 1972), pp 138–40, 315; A D Carr, *Medieval Anglesey* (Llangefni, 1982), pp 134–5, 139; D Jenkins (ed), *Llyfr Colan* (Cardiff, 1963), pp 173–4.
[44] G T Clark (ed), *Cartae et alia munimenta quae ad dominium de Glamorgancia pertinet*, III (1910), p 768.
[45] G R J Jones, 'Post-Roman Wales', p 338.
[46] Hist MSS Comm, *App to 2nd Rep* (1871), p 67.
[47] T H Parry-Williams, *The English Element in Welsh* (Cardiff, 1923), 35 (Cymmrodorion Rec Ser, X).
[48] D Comyn (ed), *G Keating's History of Ireland Vol I* (Dublin, 1912), pp 110–113 (Irish Texts Soc, IV).
[49] M Carney and M O'Daly, *Contrib to a Dict of the Irish Language: B*, (Dublin, 1975), sv *bord*.

English.[50] An origin as a literal translation of native Welsh *tir bwrdd* can probably be ruled out and the most likely explanation is perhaps that it came into being in late Anglo-Saxon England as the manor developed its full feudal characteristics, among them the clear separation between lord's demesne and tenant land.[51]

The fact that 'bordland' is a relatively uncommon term in England perhaps makes it unlikely that it was used indiscriminately of all demesne land. Indeed, in one example cited above (at Egremont, Cumberland) it is clear that it was used only of parts of the demesne, 76 acres out of a total of well over 500 being so called in 1338. It is not immediately obvious how 'bordland' differed from other demesne land, but, on the evidence of the name itself, it is possible that a distinction was drawn between land on which crops were grown for direct consumption by the lord's household (the 'bordland') and other demesne which was farmed for profit.

The lifespan of 'bordland' as a living term in England was probably cut short by the cessation of demesne farming on many manors in the fourteenth century: most of the recorded instances of 'bordland' in England postdate the leasing of demesnes and give the impression of being field-names recording an obsolescent term. In Scotland, where it survived in many places as a farm name, the memory of its original meaning lingered on. The contrast between the survival of 'bordland' as a place-name in Scotland and its disappearance into obscurity in England reflects another aspect of the history of demesne farming in the two countries. On the classical English manor the demesne lay scattered in strips through the open fields and one at least of the English references to 'bordland' reflects such an arrangement: at Deddington [Oxon.] in 1422 the 'bordland' lay dispersed across the open field furlongs in twenty-seven different parcels.[52] In contrast, the feudal settlement of Scotland often involved the creation of a compact block of demesne land close to the lord's seat. Maintained as a discrete unit over the centuries, that block of 'bordland' in many cases emerged as one or two large farms which appear on the modern map by the name of Bor(e)land.

[50] T Northcote Toller (ed), *An Anglo-Saxon Dict* (Oxford, 1954) and *Supplement* (Oxford, 1955).

[51] T H Aston, 'The origin of the manor in England', *Trans Royal Hist Soc* (5th ser), VIII (1958), 59–83.

[52] PRO, DL43/8/16.

APPENDIX 1

'Bordland' in Scotland

a) *Locations where form 'bordland' is recorded*

County	*Parish*	*Grid ref* (a)	*Earliest ref to 'bordland'*
Aberdeen	Glentanar	NO 49	1725: *Antiq Aberd & Banff*, II, 34
Argyll	Dunoon	NS 17	1473: *Reg Gt Seal*, II, no 1100
Ayr	Dunlop	*NS 34*	1452: *ibid*, II, no 583
	Kilmarnock	*NS 44*	1492: *ibid*, II, no 2116
Caithness	Murkle	ND 16	1527: *ibid*, III, 106 (no 475)
Dumbart	Kilmarnock	NS 48	1573: Hist MSS Comm, *Rep on Laing MSS*, i (1914), 24
Dumfries	Glencairn	*NX 88*	1582: SRO, GD 28/836
	Hutton & Corrie	*NY 19*	1608: *Retours*, Dumf, no 58

APPENDIX 1 — *Continued*

'Bordland' in Scotland

a) *Locations where form 'bordland' is recorded*

County	*Parish*	*Grid ref* (a)	*Earliest ref to 'bordland'*
Fife	Dysart	NT 39	1546: *Reg Gt Seal*, III, no 3275
	Inverkeithing	*NT 18*	1459: *ibid*, II, no 742
	Leuchars	NO 42	1473: *ibid*, II, no 1139
	Saline	NT 09	1541: *ibid*, III, no 2307
Forfar	Kettins	NO 23	1485: *ibid*, II, no 1617
Inverness	Dores	*NH 63*	1507: *ibid*, II, no 3140
	Urquhart	*NH 52*	1509: *ibid*, II, no 3390
Kincard	Fordoun	NO 67	1443: *ibid*, II, no 281
Kinross	Cleish	*NT 09*	1505: *ibid*, II, no 2820
Kirkcud	'Alddistone'		1659: *Retours*, Kirkcud, no 284
	Anwoth	*NX 55*	1536: *Reg Gt Seal*, III, no 1608
	Balmaghie	*NX 76*	1592: *ibid*, V, no 2214
	Colvend	*NX 85*	1507: *ibid*, II, no 3095
	Kelton	*NX 75*	1530: *ibid*, III, no 927
	Southwick	*NX 96*	1507: ibid, II, no 3095
	Twynholm	NX 65	1648: *Retours*, Kirkcud, no 250
Moray	Knockando	*NJ 14*	1623: *ibid*, Elgin & Forres, no 37
Nairn	Auldearn	NH 95	1430: *Reg Gt Seal*, II, no 174
Orkney	Burray	ND 49	16th: J S Clouston, *Proc Orkney Antiq Soc*, II, 61
	Hoy	ND 29	1503: *Orkney Rentals*, I, 18
	Orphir	HY 30	*c*1500: Clouston, *op cit*
	Sanday	HY 64	*c*1500: *ibid*
	Stronsay	HY 62	1595: *ibid*
	South Sandwick	ND 48	16th: *ibid*
	Westray	HY 54	*ibid*
Peebles	Eddleston	*NT 24*	1639: J W Buchan, *Hist Peeblesshire*, II, 454–6
	Newlands	*NT 14*	1376: *ibid*, I, 8–9
Perth	Auchterarder	*NN 91*	1539: *Reg Gt Seal*, III, no 1895
	Blackford	*NN 80*	1507: *ibid*, II, no 3126
	Crieff	NN 82	1444: *Exchequer Rolls*, V, 171
	Grandtully	NN 85	1452: *Reg Gt Seal*, II, no 564
	Glendevon	*NN 90*	1512: *ibid*, II, no 3706
	Kenmore	*NN 74*	1495: *ibid*, II, no 2271
	Killin	*NN 53*	1509: *Dict Older Scott Tongue*
	Kincardine-in-Mentieth	NS 79	1539: *Reg Gt Seal*, III, no 1895
	Kirkmichael	*NO 05*	1510: *ibid*, II, no 3450
	Longforgan	NO 33	1377: *Misc Spalding Club*, V, 250
	Muthill (Balloch)	NN 81	1444: *Exchequer Rolls*, V, 171
	Muthill (Drummond)	*NN 81*	1493: *Reg Gt Seal*, II, no 2169
	Muthill (Strageath)	NN 81	1495: *ibid*, II, no 2269
	Port of Mentieth	*NN 60*	1637: *Retours*, Perth, no 466
Renfrew	Kilbarchan	NS 46	1540: *Reg Gt Seal*, III, no 2124
Stirling	Denny	NS 88	1539: I B Cowan & P H R Mackay (eds), *Knights of St John of Jerusalem in Scotland*, Scott Hist Soc, 4th ser, 19 (1983), 8
Sutherland	Skelbo	NH 79	1456: *Misc Bann Club*, III, 98
Wigtown	Kirkcowan	*NX 35*	1500: *Reg Gt Seal*, II, no 2520
	Kirkinner	*NX 34*	1498: *ibid*, II, no 2391
	Penninghame	NX 46	1581: *ibid*, V, no 187

APPENDIX 1 — *Continued*
'Bordland' in Scotland

b) *Other names possibly derived from 'bordland'*

County	*Parish*	*Grid ref* (a)	Form (b)	*Date and source* (c)
Aberdeen	Cairnie	*NJ 44*	3	OS cf J Macdonald, *P-N West Aberdeen*, 76
	Cluny	NJ 61	3	1540: *Reg Gt Seal*, III, no 2100
	Crimond	NK 05	3	1458: *ibid*, II, nos 625, 639
Argyll	Skipness	NR 95	4	17th cent: *Scott Hist Rev*, 50 (1971), 6–7
Ayr	Colmonell	*NX 28*	1	OS
	Craigie	*NS 43*	1	OS
	Dalrymple	*NS 41*	1	OS
	Old Cumnock	*NS 51*	1	OS cf *Dir Landownership c 1770*, p 63
Caithness	Reay	*NC 96*	1, 3, 4	OS; *Dir Landownership c 1770*, p 92; *Retours*, Caithness, nos 5, 7, 22 (dated 1604–5, 1644)
Clackmannan		NS 99	1	temp David II: *Reg Gt Seal*, I, p 581 (no 1026)
Dumfries	Caerlaverock	*NX 97*	1,2	OS; 1529: *Reg Gt Seal*, III, no 815; 1325, 1342: Johnson-Ferguson, *P-N Dumf*, p 6
	Dumfries	NX 97	2	1440, 1660: *P-N Dumf*, p 25
	Kirkpatrick Juxta	*NY 09*	1	OS; 1652: *Retours*, Dumf, no 205
	Moffat	NT 00	1	*P-N Dumf*, p 96
East Lothian	Humbie	NT 46	5	Field-name at Blegbie: information from Dr I Fraser (1981)
Forfar	Rescobie	NO 55	3	1542: *Reg Gt Seal*, III, no 2741
Inverness	Abertarff	*NH 30*	4	OS; *Dir Landownership c 1770*, p 167
Kirkcud	Borgue	*NX 65*	1	*ibid*, p 191
	Girthon	*NX 55*	1	*ibid*, p 195
	Kirkcudbright	*NX 56*	1	OS
	Kirkpatrick-Irongray	*NX 87*	1	OS; *Retours*, Kirkcud, no 369
	Minigaff	*NX 36*	1	OS: *Dir Landownership c 1770*, p199
	Parton	*NX 67*	1	*ibid*
Lanark	Libberton	*NT 04*	1	OS
	Lesmahagow	*NS 84*	1	*ibid*
Midlothian	Cramond	NT 17	1	1690: *Retours*, Edin, no 1319
Perth	Alyth	*NO 16*	1	OS
	'Keloure'		3	1522: *Reg Gt Seal*, III, no 229
	St Madoes	NO 12	3	1542: *ibid*, III, no 2810
Renfrew	Eaglesham	*NS 55*	1	OS; *Dir Landownership c 1770*, p 290
Stirling	Drymen	*NS 59*	1	OS
Wigtown	Inch	*NX 05*	1	*ibid*
	Old Luce	*NX 15*	1	*ibid*

Notes:

(a) The National Grid reference is given in italics where Ordnance Survey One Inch maps (Seventh Series) give the name Bor(e)land or Borlum in the parish in question.

(b) The recorded forms are:
1 Bor(e)land 3 Bro(a)dland 5 Boarland
2 Bour(e)land 4 Borlum

(c) Undated references where the source is cited 'OS' indicate that the name is given on Ordnance Survey One Inch maps (Seventh Series).

APPENDIX II
'Bordland' in England and Wales

County	*Parish*	*Grid Ref*	*Date*	*Source*
Berks	Appleford	SU 59	Ed VI	*PN Berks*, II, p 401
	Arborfield	SU 76	1508	*Berks Archaeol Jnl*, 46 (1942), 85
	East Hendred	SU 48	1551	*PN Berks*, II, p 485
	Hinton	SU 39	1391	PRO, DL 29/652/10542, m1
Cheshire	Gt Caldy	SJ 28	17th cent?	*Cheshire Sheaf*, Mar 1903, p 24
Cumb	Cummersdale	NY 35	1318	Cumb RO, DRC/1/1, p 526
	Egremont	NY 01	1338	*Cal Close R 1337–9*, 476–7, 486, 494
	Upperby	NY 45	1360	*Originalia Rolls*, II, 253
	Wigton (Dockray)	NY 24	1334	Cumb RO, D/Lec/314/16
Derbys	Brackenfield	SK 35	1480	*PN Derbys*, II, p 219
Dorset	Coombe Keynes	SY 88	1445	Dorset RO, D10/M 128, mm 3–5
	Dorchester	SY 69	1345	PRO, SC 11/802, m1
	Iwerne Courtney	ST 81	1555	J Hutchins, *Hist & Antiq of Dorset* (1778 edn), p 318
	Shapwick	ST 90	1468	PRO, SC6/832/13, m3
	Stour Provost	ST 72	1442	King's Coll Cambridge MSS, C 36
	Warmwell	SY 78	1466	Dorset RO, D10/M139, m3d
	Winterborne Came	SY 78	1559	Dorset RO, D1/10634
Durham	Darlington	NZ 21	1608	D A Kirby (ed), *Parl Surveys of Bpric of Durham* (1971), I, pp 99, 105
Glos	Brimpsfield	SO 91	1494	*PN Glos*, I, p 146
Lancs	Clitheroe	SD 74	1844	OS 6" Map, Lancs sheet 47
Middx	Isleworth	TQ 17	14th cent	Hist MSS Comm, *App to 6th Rep* (1877), p 233
Northumb	Horsley	NZ 19	1359	*Cal Inq P M*, X, 524
Oxon	Deddington	SP 43	1422	PRO, DL43/8/16
	Kirtlington	SP 51	1422	*Ibid*
Yorks (NR)	Salton	SE 78	1479	*Priory of Hexham*, II, p 76 (Surtees Soc, 46, 1865)
Yorks (WR)	Nether Thong	SE 10	1462	*PN Yorks WR*, II, p 288
	Wakefield	SE 32	1315	*Ibid*, II, p 171
Wales				
Denbigh	Chirk	SJ 23	17th cent	Hist MSS Comm, *App to 2nd Rep* (1871), p 67
Flint	Marford & Hoseley	SJ 35	?	A N Palmer, *Hist of Anc Tenures of Land in Marches of N Wales* (1885), 61–5
Glam	Miskin	ST 08	?	Jones, 'Post-Roman Wales', p 338
	Newton Nottage	SS 87	1272	G T Clark (ed), *Cartae . . . Glam* (1910), iii, p 768
Montgom	Llansantffraid yn Mechain	SJ 22	?	A N Palmer & E Owen, *Anc Tenures of Land in N Wales & Marches* (1910), 106

Sedge (*Cladium mariscus*) in Cambridgeshire: Its Use and Production since the Seventeenth Century*

By T A ROWELL

AREAS of peat fen in Britain have long been recognized as productive, if difficult, terrain. They provided peat, reed, rush, osiers, sedge, fish, fowl, and rich grazing land in their undrained state, and fertile arable once drained. The Cambridgeshire Fenland is one of the largest and historically most important of these areas. General and specific works on the Fenland make frequent mention of the natural products.[1] These were so important to the local economy that their imminent loss was cited in argument against the General Draining of the Fens during the seventeenth century.[2] Some fen products, such as peat[3] and coprolites,[4] have received considerable attention but, in contrast, little evidence has been previously collated to clarify the part sedge production played in the agrarian economy of the Fenland. It was certainly significant; at least sixteen Fenland parishes contain areas that can be identified as former sedge fens by name, and a further five are known to have produced sedge (Fig 1). With the system of intercommoning that was prevalent in the Fens,[5] it is likely that most settlements had access to an area of sedge fen. Today, sedge is harvested in Cambridgeshire only from the National Trust nature reserve at Wicken Fen.

The aim of this paper is to provide a general view of sedge as a crop and a commodity in the Cambridgeshire Fens. It appears that sedge has not been widely used elsewhere in Britain, except in the Norfolk Broads where it is still harvested from a few places, again mainly nature reserves.[6] Most of the information presented relates to the period since the General Draining, but earlier material has been cited where available.

I

At Wicken Fen, and in the Broads, 'sedge' is the saw sedge, *Cladium mariscus*. This is the definition followed by many authors,[7] although some do not define sedge at all.[8] Marshall, however, conjectured that the term sedge was probably used generically and covered all the species of sedge (*Carex* spp) found in the Fens as well as the 'special sedge' of Burwell Fen (*Cladium mariscus*).[9] His argument was based on the term 'lesch', which is normally translated as 'sedge', and has affinities with the French word 'laiche'

* This study was carried out while the author held the Imperial Group Research Studentship at Wolfson College, Cambridge. I should like to thank Professor Sir James Beament for research facilities in the University of Cambridge Department of Applied Biology, Dr H J Harvey for discussion and criticism, and Mrs G Crompton for the idea.

[1] Eg M Allbright, 'The entrepreneurs of fen draining in England under James I and Charles I: an illustration of the uses of influence', *Explor entrepreneurial Hist*, VIII, 1955, pp 50–65; H C Darby, *The Changing Fenland*, Cambridge, 1983; H Godwin, *Fenland: its ancient past and uncertain future*, Cambridge, 1978.

[2] J Thirsk, *English Peasant Farming*, 1957, p 30.

[3] See H Godwin, *op cit*, pp 111–23; J R Ravensdale, *Liable to Floods*, Cambridge, 1974, pp 52–3.

[4] R Grove, 'Coprolite mining in Cambridgeshire', *Ag Hist Rev*, XXIV, 1976, pp 36–43.

[5] H C Darby, *op cit*, pp 11–13.

[6] B Moss, 'The Norfolk Broadland: experiments in the restoration of a complex wetland', *Biol Rev*, V, 1983, p 537.

[7] Eg H Godwin, *op cit*, p 146; H L Edlin, *British Plants and their Uses*, 1951, p 33; T M Hughes and M C Hughes, *Cambridgeshire*, Cambridge, 1909, p 75; A H Evans, *A Flora of Cambridgeshire*, 1939, p 20.

[8] Eg M Allbright, *op cit*; J R Ravensdale, *op cit*.

[9] W Marshall, 'On some ancient court rolls of the manor of Littleport in the Isle of Ely', *Camb antiq Soc Comm*, IV, 1877–8, pp 106–7.

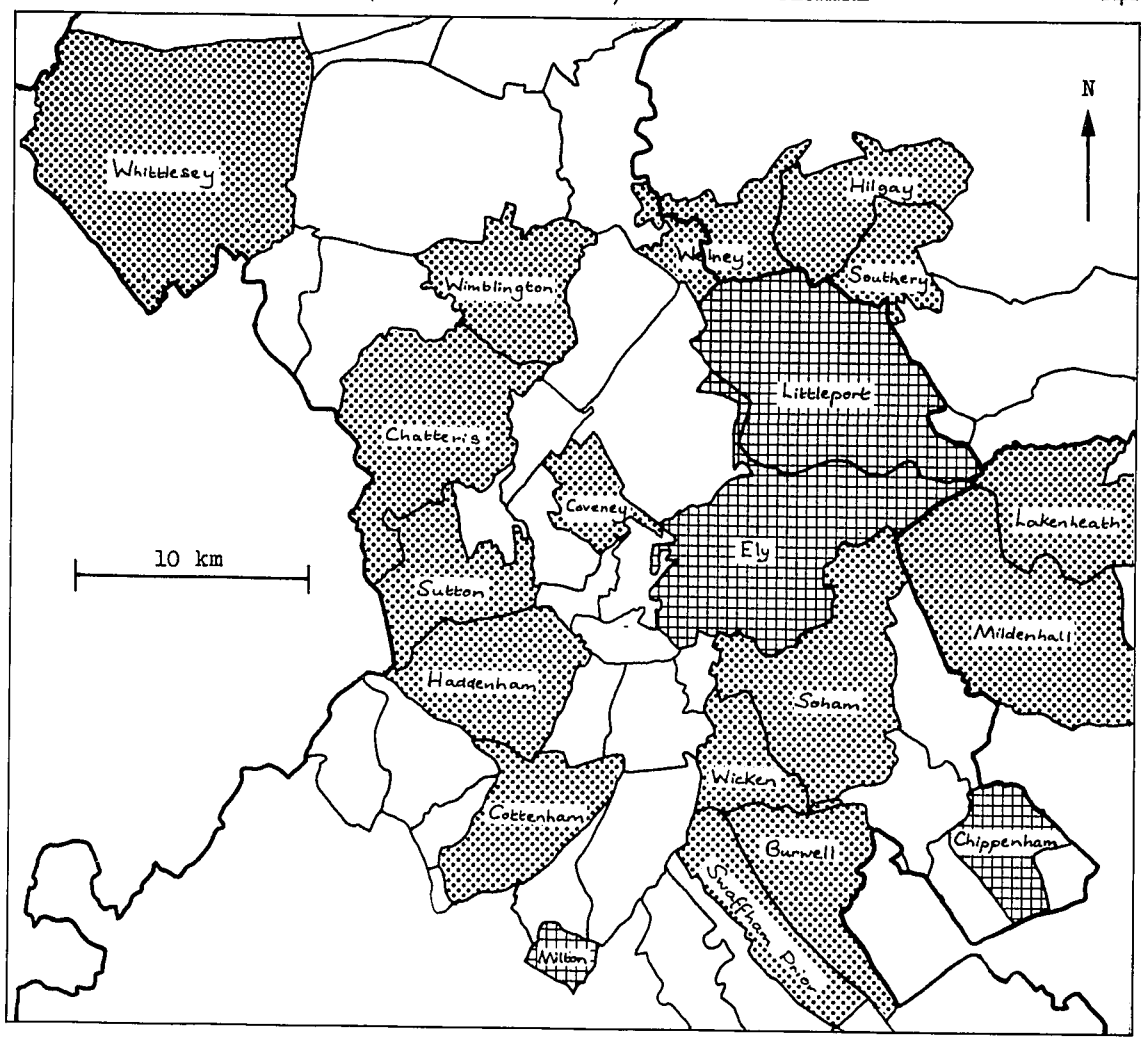


FIGURE 1

Parishes in Cambridgeshire known to have produced sedge in the past, (a) from evidence of the existence of areas known as 'Sedge Fen', 'Lesh Fen' or 'Setchel Fen' (stippled areas), or (b) from other evidence (hatched areas).

Sources: R G Baker, *Map of the County of Cambridge and the Isle of Ely*, Bluntisham, 1821; J Blaeu, 'Regiones inundatae in finibus comitatus Norfolciae, Suffolciae, Cantabrigiae, Huntingtoniae, Northamptoniae, et Lincolniae', 1648; Charity Commissioners, *31st Report*, Vol I, 1837–38, p 326 (322); F W Maitland and W Baildon (eds), *The Court Baron*, 1891, p 129; Ordnance Survey, *Provisional Edition, 1:25,000*, Southampton, 1955, sheets TL56–57; Ordnance Survey, *1:50,000, 1st Series*, Southampton, 1974, sheet 143; J R Ravensdale, *Liable to Floods*, Cambridge, 1974, p 55; P H Reaney, *The Place-names of Cambridgeshire and the Isle of Ely*, Cambridge, 1943, 137, 150, 203, 231, 261, 266; S Wells, *History of the Drainage of the Great Level of the Fens*, Vol 2, 1828, pp 141–235, 253–331; E Whetham, 'Turf digging in Swaffham Prior in the eighteenth century', *Cambs local Hist Council Bull*, XXVI, 1971, pp 8–13.

referring to the plants of the genus *Carex*. Darby[10] has followed Marshall's line of reasoning, but there is little evidence to suggest that 'sedge' refers to anything other than *Cladium*.

The ecology of *Cladium mariscus* has been described in detail by Conway.[11] It is a perennial and evergreen plant of shallow-water zones of lakes and ponds, and the fens that may adjoin these or develop from them. *Cladium* is not, therefore, a well distributed plant in the UK, and is most frequently found in East Anglia.[12] This corresponds well to its prehistoric distribution, although it has clearly passed through phases of

[10] *Op cit*, p 24.

[11] V M Conway, '*Cladium mariscus* (L) R Br', *J Ecol*, XXX, 1942, pp 211–16.

[12] F H Perring and S M Walters, *Atlas of the British Flora*, 2nd edition, Wakefield, 1976, p 353.

abundance in other regions, notably the Somerset Levels.[13] There seems to be no evidence, however, that the plant has been cropped in Somerset, at least in the recent past.[14]

The leaves are the economically important part of the plant. They grow out from a short stock, are 1.0–1.5 cm wide and up to 300 cm long, and are armed with sharp saw-like teeth (hence the common name). The plant spreads locally by short horizontal rhizomes and, under favourable conditions, grows in dense stands. The production of seed appears to depend on a high summer water table, and the floating seeds are spread by water. Establishment from seed is probably only successful on bare soil or open water as it is severely inhibited by the presence of a canopy of vegetation.[15] *Cladium*-swamp is a well-defined phase of hydroseral plant succession which tends to give way to either woodland or acid bog.[16] Regular mowing of the sedge, however, prevents succession to woodland by curbing the establishment and growth of woody species.

Very few species co-exist with *Cladium* under conditions favourable for that species. Lowering of the water table, perhaps through improved drainage, reduces the vigour of *Cladium* and allows other species to become more prominent. These two types of sedge have been described respectively as 'pure sedge' and 'mixed sedge',[17] botanical terms that are difficult to equate exactly with the fenmen's terminology, but may correspond roughly to 'sedge' and 'sedge-litter' (the latter being a mixture of sedge and grass). The mixed sedge harvested today at Wicken Fen may well have been regarded as a poor quality crop in the past when pure sedge may have been more prevalent.

Adequate production of *Cladium* depends on the water table, a range between +40 cm and −15 cm in relation to the soil surface being most favourable.[18] The crop is, therefore, susceptible to damage or destruction through drainage. Widespread draining of the Fenland, from the seventeenth century onwards, severely affected the status of sedge. It follows also that lowering of the soil surface through shrinkage or peat digging should favour the species. Indeed, it has been noted that land dug for peat often spontaneously produced a profitable crop of sedge soon afterwards.[19] Descriptions of plant succession in abandoned turf pits suggest that this was not an immediate or even inevitable development,[20] depending surely on the local availability of seed or vegetative parts of *Cladium*.

II

The various published works listing the uses of British plants give thatching[21] and kindling[22] as the uses of *Cladium mariscus*. Today, the sedge harvested from Wicken Fen is exclusively a thatching material, most frequently ridging roofs that are otherwise covered with reed. As a ridging material, sedge is much more flexible than reed, and more durable. It is, however, still occasionally used to thatch a complete roof.[23]

Thatching is undoubtedly a historical use of sedge, and Dimbleby[24] has speculated that it could have been used for this purpose in the prehistoric period. Thatching with sedge in

[13] H Godwin, *The History of the British Flora*, Cambridge, 1975, p 392.
[14] M Williams, *The Draining of the Somerset Levels*, Cambridge, 1970; B Storer, *Sedgemoor; its History and Natural History*, Newton Abbot, 1972.
[15] T A Rowell, 'History and Management of Wicken Fen', unpublished PhD thesis, University of Cambridge, 1983, pp 183–97.
[16] D Walker, 'Direction and rate in some British post-glacial hydroseres', D Walker and R G West (eds), *Studies in the Vegetational History of the British Isles*, Cambridge, 1970, pp 117–39.
[17] H Godwin and A G Tansley, 'The Vegetation of Wicken Fen', J S Gardiner (ed), *The Natural History of Wicken Fen, Part V*, Cambridge, 1929, pp 405–7, 424–6.
[18] V M Conway, *op cit*, p 212.
[19] W Gooch, *A General View of the Agriculture of the County of Cambridgeshire*, 1813, p 176.
[20] R Parkinson, *A General View of the Agriculture of the County of Huntingdon*, 1811, p 320; L Jenyns, 'On the turf of the Cambridgeshire Fens', *Trans Sect Br Assoc*, 1845, pp 75–6.
[21] H L Edlin, *op cit*, p 33; F N Howes, *A Dictionary of Useful and Everday Plants and their Common Names*, Cambridge, 1974, p 233; G B Usher, *A Dictionary of Plants Used by Man*, 1974, p 157.
[22] H L Edlin, *loc cit*.
[23] For an illustration of modern sedge thatch see H Godwin, *Fenland*, p 147.
[24] G W Dimbleby, *Plants and Archaeology*, St Albans, 1978, p 43.

East Anglia is well documented. For example, sedge was used to cover a temporary bell frame at the church of St Mary the Great in Cambridge in the early sixteenth century, and to thatch the incomplete tower of the church after the bells were re-hung in 1515.[25] Sedge was subsidiary to reed and gladden (reed-mace) for thatching buildings in eighteenth-century Norfolk, and was used mainly for topping hay and corn ricks.[26] Thatching sedge was being produced in Cambridgeshire at about the same time,[27] being cut expressly for this purpose at Chippenham[28] and, later, at Wicken.[29]

An additional use of sedge in Cambridgeshire was as a firelighting material, or as fuel. Gooch,[30] when recording the uses of sedge in the nineteenth century, noted that the price of thatching sedge was approximately 17 per cent higher than that of burning sedge, though nothing is known of the differences in crop quality that this seems to imply. The use of sedge for burning dates from at least the beginning of the seventeenth century.[31] A mid-eighteenth-century guide to the city of Cambridge listed the 'Necessaries of life' with which the town was well supplied, and included 'Sedge, with which the Bakers heat their ovens'.[32] Sedge was considered to be sometimes the principal fuel used in the Cambridge colleges,[33] and examination of college accounts confirms that this was, indeed, the case. Sedge was the only fuel purchased for the bakehouse of both St John's[34] and Corpus Christi[35] Colleges throughout the seventeenth century. In contrast, in the kitchen at St John's, sedge was subsidiary to sea-coal and charcoal.[36] According to Reeve, every college had a 'sedge loft', and servants wore special gloves to protect their hands from the sharp edges of the sedge.[37] Christ's College had a 'sedge house',[38] and a leather sedge glove survives in the Folk Museum at Cambridge. Sedge from Burwell Fen was 'sent by water to the upper country for the purpose of drying malt', while some of that cut at Chippenham was used for fuel.[39] There are numerous records of the use of sedge for firelighting in Cambridge during the nineteenth century,[40] but the practice was in decline by the 1870s[41] with one observer blaming the introduction of resined firelighters.[42]

If thatching and burning sedge represented two different qualities of the commodity, as suggested by the price differential noted by Gooch, then perhaps sedge litter represented a third and poorer one. Sedge litter was a common material in eighteenth-century Norfolk,[43] and in eighteenth- and nineteenth-century Cambridgeshire,[44] being used for agricultural purposes in barns and farmyards. The use of sedge as a floor covering for domestic buildings is suggested by the payment, by Christ's College, Cambridge, of *2d* for 'sedge when the

[25] J E Foster (ed), *Churchwarden's Accounts of St Mary the Great, Cambridge from 1504 to 1635*, Cambridge, 1905, pp 25–6; W D Bushell, *The Church of St Mary the Great*, Cambridge, 1948, pp 33, 44.

[26] W Marshall, *The Rural Economy of Norfolk*, 1795, pp 88 ff, 319.

[27] W Gooch, *op cit*, pp 177–8.

[28] C Vancouver, *General View of the Agriculture of the County of Cambridge*, 1794, p 31.

[29] G T Porritt, 'A fortnight in the Fens', *Naturalist*, ns IV, 1879, p 119; J T Carrington, 'Localities for beginners. No 8 — Wicken', *Entomologist*, XIII, 1880, p 171; W G Sheldon, 'Wicken Fen: its past, its present condition, and its future', *Entomologist*, XLIV, 1916, p 3.

[30] *Loc cit*.

[31] W Camden, *Britannia*, 1610, p 491.

[32] *Cantabrigia Depicta*, Cambridge, 1763, pp 15–16.

[33] J E T Rogers, *A History of Agriculture and Prices in England*, IV, Oxford, 1882, p 373.

[34] St John's College, Bakehouse Bursar's Account, 1608–1860 (BB2.1–3). I am grateful to the Masters and Scholars of all three Cambridge colleges mentioned here, St John's, Corpus Christi, and Christ's, for permitting access to their records.

[35] Corpus Christi College, Corpus Christi and Catherine Hall Baker's Account, 1638–85.

[36] St John's College, Junior Bursar's Account, 1719–95 (SB11.1).

[37] F A Reeve, *Cambridge*, 1976, p 73.

[38] Christ's College, Accounts and Bills, 1729.

[39] C Vancouver, *op cit*, pp 31, 36.

[40] Eg C C Babington, *Flora of Cambridgeshire*, 1860, p xix; J Venn, *Early Collegiate Days*, Cambridge, 1913, p 279; A Stewart, 'Fenland lightermen', *Fenl Notes Queries*, VII, 1907–9, p 102.

[41] W Marshall, 'Botanical Sketch', I: Botany of the Fenland'; S H Miller and S B J Skertchley (eds), *The Fenland, Past and Present*, Wisbech, 1878, p 306.

[42] J Venn, *loc cit*.

[43] W Marshall, *Norfolk*, p 319.

[44] T M Hughes and M C Hughes, *op cit*, pp 99–100; C Vancouver, *op cit*, pp 31, 36, 41, 139; S H Miller, *The Handbook to the Fenland*, 1889, p xxii.

Christenmass lordes came at Candlemas to the colledge with shewes'.[45] Sedge has also been used out of doors as a surfacing material. Soham causeway, for instance, was strewn with sedge in 1589 at a total cost of 4 shillings.[46] In 1811 Cottenham parish bought half a hundred of sedge 'for North Fen Bridge'[47] — possibly, strewing is implied here. Later, around 1900, sedge was strewn on the gallops at Newmarket during frosty weather to provide improved purchase for race-horses.[48]

A number of more minor uses for sedge have been recorded. During the repair of the roof of the tower at the church of St Mary the Great, Cambridge, in 1593 sedge was bought to 'laye upon the Leads of the Church to save the Leadds when the slate of the Steple was taken downe'.[49] More sedge was purchased to cover, and presumably to protect, the new work on the tower. Sedge was used in the making of hollow drains during the early nineteenth century.[50] At Madingley and Horningsey drainage channels were filled with bushes and sedge before the topsoil was replaced. This mixture of materials replaced stone, branches, bracken, furze, twisted straw, or bean-straw which were used in other parts of the country.[51] According to Sheldon,[52] sedge from Wicken Fen has been used as forage, and its use as 'chaff for horse fodder' — presumably to bulk out feed — has also been referred to.[53] Stacks of 'fodder' were generally present on the Fen during the 1880s, but this material was differentiated from sedge, and may have referred to grass.[54] The tough, saw-edge leaves of *Cladium* probably do not make it an ideal animal feed-stuff, and Conway[55] indicated that it was 'never grazed'. However, at Chippenham Fen in Cambridgeshire, Highland cattle readily eat the growing shoots, and cut sedge has been used as fodder in Sweden during periods of hay shortage.[56] In the 1870s the chief consumers of sedge appear to have been brickmakers.[57] Some of the sedge cut at Wicken was used for covering bricks while drying, but the demand for it for that purpose was declining at the beginning of the twentieth century,[58] a period which coincides with the closure of the nearest brickyard, sited on the edge of the Fen itself.[59]

III

Sedge was measured and sold by the 'hundred', a unit that consisted of 120 bunches.[60] Today, commonly used units are the score (ie 20 bunches) and, beyond that, 600 bunches which are sometimes referred to as a 'load'.[61] The size of the bunch in the past remains unknown, but the modern 'standard bunch' measures 71 cm in circumference at the band (which will normally be at least 30 cm from the butt) when the sedge is first cut; the measurement decreases as the material dries so, when sold, the bunch may measure less than this. Modern thatchers prefer to use partially green sedge of about 105 cm in length;[62] well-grown material can be much longer than this. Sedge land

[45] J Peile, *Christ's College*, 1900, pp 54–5; I am grateful to Dr D E Coombe for bringing this reference, and the newly discovered series of porters' bills at Christ's (Note 33), to my attention.
[46] University Library, Cambridge, EDC 3/1/1 (April, 1589); I am grateful to Mrs D M Owen for bringing this reference to my attention.
[47] *Westrope's Year Book*, Cottenham, 1912, p 13.
[48] H Godwin, *Fenland*, p 148.
[49] J E Foster, *op cit*, pp 246, 252, 261.
[50] W Gooch, *op cit*, p 242.
[51] W Gooch, *loc cit*; G E Mingay, *The Agricultural Revolution: changes in agriculture, 1650–1880*, 1977, p 48.
[52] *Loc cit*.
[53] A H Evans, *loc cit*.
[54] W Farren, 'Memories of Wicken'; J S Gardiner (ed), *The Natural History of Wicken Fen*, Cambridge, 1926, p 181.
[55] *Op cit*, pp 213–14.
[56] C Tyler, 'Calcareous fens in South Sweden. Previous use, effects of management and management recommendations', *Biol Conserv*, XXX, 1984, p 78.
[57] W Marshall, 'Botanical sketch', *loc cit*.
[58] R Ransom, 'Wicken Fen (a journey to)', *Camb Graphic*, 12.v.1900, pp 4–5.
[59] T A Rowell, 'The origins of the Wicken Fen brickpits', *Nature Cambs*, XXV, 1982, pp 21–2.
[60] St John's College, Junior Bursar's Account, 1719–95 (SB11.1), entry for 1735.
[61] Norfolk Reed Growers' Association, 'Standards and specifications for reed and sedge', *The Reed*, Norwich, 1972, p 68.
[62] F W Cooper, 'The thatcher and the thatched roof', *The Reed* (Norfolk Reed Growers' Association), Norwich, 1972, p 64.

generally produced something between 5 and 15 hundred sedge (600–1800 bunches) per acre.[63] Production at Whittlesey Mere, before draining, was around 1000 bunches per acre.[64]

In the nineteenth century, sedge was cut at Wicken in the early morning; as with hay, dew on the vegetation aided the scythe.[65] The sedge-cutters had to protect themselves against the viciously sharp edges of the sedge, so they bound their hands and arms with pieces of stocking.[66] The bindings can be seen clearly in R W Macbeth's painting (dated 1878) of the Wicken sedge harvest. There can be little doubt that his fascinating illustration is reasonably accurate; Macbeth was regarded at the time as painting 'the picturesque, but sad and unhealthy, life of rural England, with something apparently of a philanthropic intention',[67] and a separate study of a sedge-cutter is 'in fact exactly as he is to be seen at his work'.[68] Once cut, the sedge was tied into bunches or sheaves,[69] stacked, and removed from the site. Macbeth's painting shows wheelbarrows being used, of the type that were also used to transport peat. Bunches were also carried away on two poles between two men,[70] a method that was still being used at Wicken in the 1930s.[71] It was thought noteworthy that no horses were used on the Fen in the 1880s,[72] but a pony and sledge were used to remove sedge during the 1920s and 30s.[73]

As a natural crop, sedge traditionally receives no management other than harvesting by cutting though, today, some control may be exercised over the water table. Being an evergreen plant, a utilizable crop of sedge can be taken at any time of the year,[74] if ground conditions allow. Aspects of cutting, such as timing and frequency, are known to have significant effects on the vigour and abundance of other species of plants, and there is considerable evidence that this also applies to *Cladium*. At Wicken Sedge Fen, during the 1920s, sedge was cut during the winter months between April and October, on a four-year cycle.[75] This was believed to be a traditional practice, although it is difficult to understand why as the adjacent Poors' Fen had been cut by the villagers within very recent memory, and was governed by rules restricting harvesting to the third Monday in July.[76] Interpretation of internal evidence in late nineteenth-century descriptions of the Sedge Fen strongly suggests that the sedge harvest occurred, in part at least, during the period May–August.[77] During the 1650s and 60s, April sittings of the manor court instructed that commoners should have cleared their parts in the Sedge Fen by Midsummer Day, laying out of the Fen being ordered for 24 April in 1658.[78] Cutting was similarly controlled on freehold land; both landlord and tenant of one area of Wicken Sedge Fen were constrained by agreement to cut only between March and August.[79] Elsewhere in the Fenland, and at an earlier time, similar restrictions applied to the timing of sedge harvesting. At Littleport in the early fourteenth century, it was an offence to not have completed the sedge harvest by Midsummer, but some classes may have been restricted to cutting after that date.[80] In the same period, sedge was protected from harvesting during the winter period, from Michaelmas to Hock Day, at both Little-

[63] W Gooch, *op cit*, p 177.
[64] W Wells, 'The drainage of Whittlesea Mere', *J Royal agric Soc*, XXXI, 1860, pp 149.
[65] Anon, 'In the Fens', *Engl Illustr Mag*, II, 1883, p 72; C Lucas, *Fensmen's World*, 1930, p 52.
[66] Anon, *loc cit*.
[67] Anon, 'The Royal Academy', *Mag Art*, 1878, pp 105–6.
[68] Anon, 'In the Fens', pp 72, 75.
[69] C C Babington, *loc cit*; S H Miller, *loc cit*; W Farren, *loc cit*; W Wells, *loc cit*.
[70] S H Miller, *loc cit*.
[71] J Wentworth-Day, *A History of the Fens*, Wakefield, 1973, pp 48–9.
[72] S H Miller, *loc cit*.
[73] D G Reid, 'Wicken Fen: notes and memories', *Camb public Libr Rec Booklist*, III, 1931, p 94.
[74] D S A McDougall, 'Marsh management for reed and sedge production', *The Reed* (Norfolk Reed Growers' Association), Norwich, 1972, p 54.
[75] H Godwin and A G Tansley, *op cit*, p 442.
[76] T A Rowell, 'Wicken Poors' Fen; origins and land use history', *Cambs local Hist Counc Bull*, XXXVII, 1982, pp 7–10.
[77] T A Rowell, 'History and Management', pp 102–24.
[78] University Library, Cambridge, Doc 3974.
[79] Cambs CRO, 101/T/919.
[80] F W Maitland and W P Baildon (eds), *The Court Baron*, 1891, p 129.

port[81] and nearby Downham.[82] Neilson, in her survey of *Customary Rents*, considered that sedge was cut at some time during the summer or early autumn,[83] though we are given no clue as to where this information originates.

While presentments for transgressing the sedge by-laws indicate that some sedge was probably cut at all times of the year, the by-laws themselves appear to confirm a well-established system of management involving cutting in spring and early summer. This timing fits well into a calendar of fen harvests, with reed cut between 1 December and mid-March[84] and fodder cut after Midsummer's Day.[85] Furthermore, observation and biological information suggest that cutting sedge late in the season, or during the winter, would risk waterlogging, frost damage, and consequent death of shoots.[86] Whatever the actual reasons for restricting the period of the sedge harvest, it appears that the 'tradition' of winter cutting at Wicken has no clear historical precedent, apparently being linked to changes in demand for the crop, and to a change in the basic land-use of the site from sedge production to wildlife conservation at the end of the nineteenth century. The view that sedge cutting was normally a summer activity, at least in recent times, is supported by information from Norfolk.[87]

Restrictions on the season for sedge harvesting may explain, in part at least, discernable fluctuations in the price of sedge at Cambridge (Table 1). Sedge was generally more expensive in the first and second quarters of the agricultural year, from October to March. There is occasional evidence that prices may have begun to decline as early as March in some years. Sedge appears to have been cheapest during the season of harvest, and more expensive during the winter, possibly due to scarcity. However, seasonal demand for fuel, and problems of transportation and storage may also be implicated. Occasional justifications for the purchase of high-priced sedge have been noted in Cambridge account books, indicating that it had been bought 'out of season [*tempus intempestivum*]', or was 'winter sedge'.[88]

At Wicken Sedge Fen, sedge has been cut on a cycle of three to five years since at least the late eighteenth century.[89] Experimental cutting has indicated that cutting sedge more frequently than one year in four can reduce yield, and allow greater admixture with other species so that, eventually, purple moor grass (*Molinia caerulea*) becomes dominant.[90] The localized nature of the experiment means, however, that generalizations cannot be drawn from the results. The frequency of cutting to which the sedge succumbs, and the speed of its decline, will be related to the vigour of the plant, and seems to depend largely on the water table. Similarly, dominance by *Molinia* is not an inevitable consequence of the demise of sedge, and Darby's extrapolation of the Wicken experiment to Fenland vegetation in general[91] cannot be justified.

Once sedge was allotted in the common fen at Wicken, it had to be cleared or risk presentment.[92] Similarly, at Downham, it was an offence to leave the sedge unbound on the fen after cutting.[93] Either leaving the sedge uncut or lying on the Fen would have ecological consequences that could reduce the value of the crop. The former would allow, in many instances, the establishment of shrub species which would reduce yield and hamper harvesting, and the latter would

[81] *Ibid*, p 142.
[82] M C Coleman, *Downham-in-the-Isle*, Woodbridge, 1984, p 21.
[83] N Neilson, 'Customary rents', *Oxford Studies in Social and Legal History*, Vol II, Pt 4 (ed P Vinogradoff), Oxford, 1910, p 57.
[84] L M Warren, 'The drainage of the Fens and its effect upon the parishes of the South Division of the Bedford Level, 1600–1850', unpublished MA thesis, University of London, 1927, p 34.
[85] M C Coleman, *op cit*, p 34.
[86] T A Rowell, 'History and Management', pp 117–20.
[87] B Moss, *loc cit*.
[88] J E T Rogers, *History of Agriculture and Prices in England, Vol VI*, Oxford, 1887, pp 360–75.
[89] *Ibid*, pp 122–4.
[90] H Godwin, 'Studies in the ecology of Wicken fen, IV. Crop-taking experiments', *J Ecol*, XXIX, 1941, pp 83–106.
[91] H C Darby, *op cit*, p 24.
[92] University Library, Cambridge, Doc 3974.
[93] M C Coleman, *op cit*, p 21.

TABLE I

Quarterly variation in the price of sedge (shillings per hundred) at Cambridge

Quarter		1594	1605	1606	1607	1611	1614	1621	1628	1629	%
Oct–Dec	Max	9.5	—	5.0	9.0	8.0	8.0	6.7	5.0	8.0	104
	Min	8.5	—	4.0	5.0	5.0	5.0	5.0	5.0	8.0	
Jan–Mar	Max	9.0	6.7	8.5	11.0 (Jan)	7.0	10.0	12.0	6.7	9.0	118
	Min	7.0	4.0	6.7	4.0 (Mar)	5.0	5.0	5.0	5.9	9.0	
Apr–Jun	Max	6.1	4.0	6.4	—	5.0	5.0	5.0	6.0	5.5	89
	Min	5.0	4.0	5.0	—	5.0	5.0	5.0	5.0	5.5	
Jul–Sep	Max	5.0	4.5	5.0	5.0	5.0	5.0	5.0	7.5	—	88
	Min	5.0	4.0	5.0	4.0	5.0	5.0	5.0	5.7	—	

Ranges have been calculated from published quantities and prices [J E T Rogers, *A History of Agriculture and Prices in England, Vol VI*, Oxford, 1887, pp 360–75]. The final column indicates the mean quarterly price as a percentage of the mean annual price.

be likely to reduce the extent or density of the future crop.

The cutting of sedge was often one of the works that peasants were obliged to carry out for their lord.[94] These works were, on occasion, commuted for cash payments recorded as *seggesilver*. In common with many other natural fen products, sedge was tithe-free in both Whittlesey[95] and Wicken.[96]

IV

Once cut and bundled, any sedge not intended for local use was transported from the Fenland villages to Ely,[97] Cambridge,[98] and neighbouring villages[99] by barge. A toll of 1*d* per hundred of sedge was collected on the River Cam between 1702 and 1850.[100] The centre for the Cambridge sedge trade was probably the Quay opposite Magdalene College.[101] Close by, at the end of Thompsons Lane were the Sedge Yard and Sedge Hall.[102] It was probably at the Quay that local and University entomologists searched the sedge boats for unusual fenland beetles. Charles Babington, later Professor of Botany, took several specimens in this way in Cambridge in 1831.[103] In earlier times, sedge was stacked in the streets of Cambridge where, in 1410, the 'seggerekes' were recorded as causing a nuisance.[104]

Of the men who cut, transported, or sold sedge, little is known. Trade directories, available for Cambridgeshire from the late eighteenth century onwards, do not list any dealers in sedge until 1864.[105] In that year, Robert Aspland of Wicken began to

[94] H C Darby, *loc cit.*

[95] Anon, 'Curious customs in collecting tithes in the Fens', *Fenl Notes Queries*, I, 1889–91, pp 57–9.

[96] PRO, IR18/13665.

[97] M Fisher, 'Captures near Ely, Cambs', *Entomologist*, I, 1842, pp 412–13.

[98] J Venn, *loc cit*; W Farren, *op cit*, p 179.

[99] C C Babington, *loc cit.*

[100] G J Greenhough, 'The present use of the River Cam in relation to its historical perspective', unpublished M Litt thesis, University of Cambridge, 1980, p 78.

[101] Illustrations showing the location of the site can be found in R Farren, *The Granta and the Cam, from Byron's Pool to Ely*, Cambridge, 1880, Plate 18; Cambridgeshire Collection (Cambridge Public Library), B.Qua.J73 885, B.Qua.K10 5362.

[102] *Camb Chron J*, 31.vii.1818, p 3; T Baker, *History of the College of St John the Evangelist*, Cambridge, 1869, p 1086.

[103] Zoology Museum, Cambridge, Catalogue of Insects presented by C C Babington, 1876.

[104] C H Cooper, *Annals of Cambridge*, Vol I, Cambridge, 1842, p 152.

[105] *Post Office Directory*, 1864.

advertise his services as a sedge merchant, and continued to do so until 1916.[106] He owned more than 48 acres of Wicken Sedge Fen at one time or another, but sold most of his holdings to the National Trust in that year.[107] Aspland may have employed the two 'sedge labourers' who appear in the Wicken censuses of both 1871 and 1881. Only one other sedge merchant has appeared in the Cambridgeshire directories; Robert Casburn of Burwell had an entry in 1879.[108] He was a dealer in all fen merchandise, sedge, turf, litter and reed,[109] and also had an interest in the Sedge Fen at Wicken, owning 42 acres from 1843 until 1878.[110]

As the growth of sedge is dependent on a suitable water table, production must have been severely curtailed by the General Draining of the Cambridgeshire Fenland in the mid-seventeenth century. It has been suggested that sedge prices rose dramatically at Cambridge following the Draining, and that purchases then ceased.[111] Examination of College account books[112] indicates that neither of these suggestions holds true. Sedge continued to be purchased into the eighteenth century, and the failure of drainage works appears to have caused a spreading of sedge throughout the Fens.[113] By the early nineteenth century, however, improved drainage appeared to be having an effect on the availability and value of sedge, which was compounded by a rise in the cost of straw.[114] The successful drainage of large, sedge-producing areas around Whittlesey Mere and in Burwell Fen during the first half of the nineteenth century must have reduced the supply severely. Furthermore, sedge may have been suffering competition in its role as tinder, from resined firelighters[115] and from newspaper.[116] Whereas whole gangs of barges had formerly delivered sedge to Cambridge, by 1860 only single boats were occasionally observed.[117] Wicken Sedge Fen was then the major local source of the commodity, hence the interest of the sedge merchants Aspland and Casburn in the site.

The local industry in sedge, reed and litter was 'still going strong' between 1856 and 1875,[118] but a declining demand for sedge was beginning to affect Wicken in the 1870s[119] and 80s.[120] Even local demand, in the brick industry and for thatching, declined. In 1879, 'Nearly the whole of Wicken — houses, stables, sheds and outhouses of all descriptions' — was thatched with sedge[121] but, by 1916, even this use was rapidly disappearing, the 'picturesque old houses of the district being rapidly done away with in favour of brick and slate houses of a particularly hideous design'.[122]

The decline continued until, in 1932, sedge from Wicken Fen could no longer be sold for thatching at all.[123] Some cutting was maintained for nature conservation purposes and, eventually, the market revived. Much of the good sedge was lost, however, and continued to be lost, either because of bush invasion, a lowered water table, or inappropriate management. Today, a relatively small area of the old Wicken Sedge Fen is regularly cut for its traditional crop.

[106] *Kelly's Directory*, 1916.
[107] National Trust Archive, London, conveyances of R Aspland to the Trust, dated 8.v.1916 (3), 29.v.1916, 31.v.1916. I am grateful to the National Trust for access to these documents.
[108] *Post Office Directory*, 1879.
[109] C Lucas, *op cit*, p 126.
[110] Cambs CRO, 101/T/981, 101/T/990.
[111] J E T Rogers, *A History of Agriculture and Prices in England*, Vol I, Oxford, 1887, p 392.
[112] St John's College, Junior Bursar's Account 1719–95 (SB11.1), Bakehouse Bursar's Account 1663–1735 (BB2.2).
[113] A Young, 'New information on paring and burning', *Ann Agric*, XLIII, 1805, pp 148–9, 544.
[114] Gooch, *op cit*, p 178.
[115] J Venn, *loc cit*.
[116] H Godwin, *op cit*, p 148.
[117] C C Babington, *loc cit*.
[118] C Lucas, *op cit*, p 21.
[119] A H Evans, 'Wicken and Burwell Fens fifty years ago and now', *The Natural History of Wicken Fen* (ed J S Gardiner), Cambridge, 1925, p 90.
[120] W Farren, *op cit*, p 179.
[121] G T Porrit, *loc cit*.
[122] W G Sheldon, *loc cit*.
[123] J S Gardiner, 'Preface', *The Natural History of Wicken Fen*, p iv.

Pedigree and the National Cattle Herd circa 1750–1950

By JOHN R WALTON

IT IS not customary for a historical study with a narrow thematic focus to be concerned with an extended period of time. Micro-scale history is usually micro-scale in all respects. The present hybrid approach to a pedigree subject therefore requires explanation. Pedigree stock — that is, stock eligible for inclusion in published genealogies listing ancestral links between animals of a particular breed and those originally improved by the pioneers of that breed — represent a continuing testimony to the aims and beliefs of the master breeders. A diagnosis of the impact of pedigree is relevant to an assessment of the achievements of the pioneers. But only by adopting a long-term view is it possible to evaluate their worth. This study attempts such an evaluation within the context of a wider survey of the development of cattle husbandry since Bakewell. It provides an expansion of the necessarily brief accounts of the standard texts, which for the most part can do little more than outline the principles of selective breeding and their application by Bakewell and others with varying degrees of success. The primary objective is to remove some of the murkiness from the history of livestock improvement in Britain, which one authority has described as 'long, tangled and in many respects obscure'.[1]

The essay examines three broad themes. An extended introduction sets the problem in context by outlining the evidence for quantitative change in cattle output since 1750. I then explore the history of pedigree, particularly in relation to its social and economic environment. And the last and longest section tries to establish how far pedigree contributed to the productivity changes already described. The social context of improvement and the deferential pressures associated with it are important considerations here. But the theme is also placed in the context of late nineteenth- and twentieth-century developments in the emergent science of genetics.

I

It is not easy to reconstruct historical trends in livestock output. The familiar deficiencies of the statistical record before the first June returns of 1866 are compounded by the inherent complexities of the production process. This means that crude estimates of livestock numbers, which are available nationally back to Gregory King, and may be reconstructed regionally from probate inventory samples, are likely to be of limited assistance in establishing the lineaments of change.[2] The problem reflects the diversity of end products in livestock (meat, milk, hides, wool, manure), and the numerous means available for securing changes in overall levels of output. Besides increases in the numbers of livestock, we also have to be alert to possible improvements in size, quality (for example in the ratio of saleable meat to offal or of lean to fat), yield (annual milk output for example), changes in feed provision, economy of feed conversion, and the length of time needed to attain maturity. In the circumstances, it is often difficult to

[1] G E Mingay, *The Agricultural Revolution: Changes in Agriculture 1650–1880*, 1977, p 29.

[2] M Overton, 'Agricultural Revolution? Development of the Agrarian Economy in Early Modern England', in A R H Baker and D Gregory (eds), *Explorations in Historical Geography*, Cambridge, 1984, p 131.

secure acceptable estimates for all categories of output.

Nevertheless, certain trends are discernible. Estimates made by Gregory King at the end of the seventeenth century, Arthur Young in 1779, and Mulhall in 1832 offer no evidence of increases in the numbers of British cattle during the period of rapid population growth in the second half of the eighteenth and the early years of the nineteenth century.[3] Naval victualling contracts and estimates made by Sir John Sinclair suggest to Deane and Cole that there may have been unit increases in the mean weight of beef carcasses during the eighteenth century, although this conclusion is not supported by Fussell's statistics on cattle weights, which derive mostly from late eighteenth- and early nineteenth-century published estimates.[4] Both Fussell and Deane and Cole think other qualitative improvement likely. Fussell suggests that a reduction in the number of beef animals which were first expected to earn their keep as plough oxen ensured that a greater proportion of the national herd could be brought to an acceptable slaughter weight at three rather than four years of age.[5] Deane and Cole also believe that an earlier age of fattening may have been responsible for a 25 per cent improvement in supply, while, they hypothesize, 'the efforts of cattle breeders presumably resulted in some improvement in the quality of stock . . . and in the reduction of bone and offal'.[6] But these somewhat speculative suggestions do not greatly alter the overall impression derived from both the Smithfield and animal by-product series, which is of small absolute increases and tangible decreases per capita of the population in the supply of beef, to some extent compensated for by improvements in the supply of mutton. 'In the second half of the eighteenth century, and still more at the beginning of the nineteenth, the supply of beef failed to keep pace with the growth of population.'[7]

In the nineteenth century, the picture becomes clearer and provides better evidence of improvement. The underlying causes are well understood and may be summarized briefly as follows.[8] First, British agriculture was increasingly exposed to foreign competition, especially after Corn Law repeal. Cereals producers were much more vulnerable to the effects of this competition than were livestock producers, principally, but not exclusively because it took somewhat longer to surmount the inherent problems of transoceanic transport in livestock products. Within the livestock sector, meat producers were more exposed than were dairy producers for much the same reason. Second, increasing real wages, which even pessimists concede were a feature of Britain from the beginning of the third quarter of the nineteenth century, resulted in an accelerated demand for high-cost proteins. These provided an increasing proportion of overall calorific intake. Admittedly, under conditions of rapid population growth, the size of the market for all categories of food increased, but the rate of increase was more rapid for livestock products than in the cereals sector, where it was insufficient to offset the effects of greater import penetration. Third, the cereal producer's loss was the livestock producer's gain to the extent that stagnating or falling prices for cereals and artificial feedstuffs reduced the overall cost of producers' inputs in livestock to a greater

[3] P Deane and W A Cole, *British Economic Growth 1688–1959*, Cambridge, 2nd edn, 1962, p 69.
[4] G E Fussell, 'The size of English cattle in the eighteenth century', *Ag Hist*, III, 1929, p 179.
[5] *Ibid*, p 179.
[6] Deane and Cole, *op cit*, p 70.
[7] *Ibid*, pp 68, 74.
[8] The following discussion draws upon E L Jones, 'The Changing Basis of English Agricultural Prosperity, 1853–73', *Ag Hist Rev*, X, 1962, pp 102–19; D C Moore, 'The Corn Laws and High Farming', *Econ Hist Rev*, 2nd ser, XVIII, 1965, pp 545–61; S Fairlie, 'The Corn Laws and British Wheat Production', *Econ Hist Rev*, 2nd ser, XXII, 1969, pp 88–116; G Hueckel, 'Relative Prices and Supply Response in English Agriculture during the Napoleonic Wars, *Econ Hist Rev*, 2nd ser, XXIX, 1976, pp 401–14; A J Taylor (ed), *The Standard of Living in Britain in the Industrial Revolution*, 1975; L D Schwarz, 'The Standard of Living in the Long Run: London, 1700–1860', *Econ Hist Rev*, 2nd ser, XXXVIII, 1985, pp 24–41.

extent than was possible in the arable sector.

Of course, one might have reservations about the balder assertions of this outline. Collins and Jones, for example, have argued that cereal producers responded to competitive disadvantage by adopting mixed farming systems and treating fatstock rather than cereals as their major saleable commodity.[9] However, there were obvious limitations to the arable farmers' immunity to depressed cereals prices, as their severe difficulties after the collapse of the cereals sector in 1879 prove.

Some statistical elaboration of the broad general outline is provided by the estimates of Ojala, subsequently modified by Fletcher and Perren, and by those of Venn and Whetham. Ojala's modified figures show that meat rose from almost 30 to almost 35 per cent of total gross English agricultural output between 1867–71 and 1894–8, with milk increasing from 11.9 to 18 per cent. By 1894–8, milk was the most important single component of output, with beef second at 14.3 per cent. While the United Kingdom livestock sector increased by 18 per cent at constant 1867–71 prices between these two dates, arable declined by 9 per cent. The decline was greatest in respect of wheat which fell from 21.9 to 6.8 per cent of gross English output.[10]

However, even the rates of increase in the livestock sector could not match the pace of increase in domestic demand. The favourable performance of the livestock sector from the 1890s owed as much to the abysmal showing of arable as to its own achievements. Dairying was the only activity experiencing appreciable growth, while declining numbers of beef cattle and sheep were an important feature of British agriculture from the 1890s to the 1930s.[11]

Imports made up the deficiency. Since 1842, when British ports were opened to European livestock, imports of mostly inferior and cheaper stock and meat had steadily increased until domestic sources supplied only 58 per cent of demand by 1905–9.[12] When London's Smithfield reopened as a carcass market in 1869, 75 per cent of its stocks came from the British Isles, but by 1927 this had dropped to 27 per cent. Transoceanic areas took over from Europe as the major source for imported meat after 1880. Perren estimates that throughout the nineteenth century, output of meat from British farms increased at only half the rate of population growth.[13]

The domestic livestock sector showed only a moderately successful response to the new challenges of expanded markets. The factors which may have contributed are numerous and diverse. What follows is not therefore offered as a complete explanation of performance failure, but is concerned with the specific status of pedigree. Let us pose the question, 'Are pedigree breeders to be congratulated for having contributed to such improvement as occurred or to be reprimanded for having squandered their energies on an activity which had little bearing on the needs of the wider market?' The balance of evidence to be presented in the following sections favours the second viewpoint more than the first.

II

To trace the history of livestock pedigree we have to begin at least 150 years earlier than the late nineteenth century. Although heroic

[9] E J T Collins and E L Jones, 'Sectoral Advance in English Agriculture', *Ag Hist Rev*, XV, 1967, pp 65–81.

[10] E M Ojala, *Agriculture and Economic Progress*, 1952; T W Fletcher, 'The Great Depression of English Agriculture 1875–1896', *Econ Hist Rev*, 2nd ser, XIII, 1960–1, pp 431–2; R Perren, *The Meat Trade in Britain 1840–1914*, 1978, pp 6–9; D Taylor, 'The English Dairy Industry, 1860–1930: the Need for a Reassessment', *Ag Hist Rev*, XXII, 1974, 153.

[11] Fletcher, *op cit*, p 419; E H Whetham, 'Beef Cattle and Sheep', Dept of Land Economy, Univ of Cambridge, *Occasional Paper*, 5, 1976, pp 15–16.

[12] Perren, *op cit*, pp 3, 77; Whetham (*ibid*, p 14) estimates that by 1907–8 about 40 per cent of the beef and veal and 44 per cent of the mutton and lamb consumed in the United Kingdom derived from imports.

[13] R H Green, 'Cattle husbandry', *Live Stock Journal Almanac 1929*, p 52; Perren, *op cit*, pp 176, 3, 4.

accounts of the period tended to regard Bakewell as pedigree's sole author, the most that he can genuinely claim is a more rigid advocacy of adherence to the principles of selective breeding than any of his rivals or predecessors, greater success as a self-publicist, and a keen eye to the commercial main-chance. Rigorous prosecution of his own financial interests and the interests of those who took up Bakewell stock was achieved by the imposition of high stud fees and severe penalties on any whose generosity inclined them to offer their stock for less.[14] Although Bakewell's protectionism may have been more extreme than that later pursued by the breed societies, it can still be regarded as its precursor.

Not only did Bakewell show how pioneer breeders might profit by creating a demand and then imposing strict controls on supply, he also demonstrated the profit potential of breed in a broader context, non-pedigree as well as pedigree. In essence, breed was nothing more than an ingenious marketing and publicity mechanism. Certain identifiable physical characteristics were imprinted in animals of a particular strain, and prospective purchasers were then encouraged to associate those markers with some attribute or attributes of productivity which, it was claimed, such animals also possessed: rapid weight gain, larger size, high food conversion rates, better distribution of meat, heavier milk yields and so on. The success of a breed depended to some extent on the visual impact of the chosen marker or trade mark, and the ease of its transmission from one generation to the next, to some extent on the degree to which the claims made for the breed's performance were thought to be valid. At the time, the claims simply could not be submitted to acceptable tests of validity. Perhaps paradoxically, Bakewell's Longhorn was successful in neither respect. Its Longhorn trademark made it an impossible candidate for the fold-yard, while its capacity to make fat did not impress those who had a commercial interest in the good milk yields of the old Longhorn.

If Bakewell's immediate achievements were not an unqualified success, there are also doubts about the extent to which they were truly original. Russell has reminded us that other Midland breeders, notably Webster of Canley and Gresley of Drakelow, had started to improve Longhorn stocks taken from Lancashire as early as 1720, while the Lancashire Longhorn had itself acquired a reputation for quality in the seventeenth century. Even at this early date, there were complaints, reminiscent of those later directed at Bakewell, that selection for fat was ruining the breed's milking properties.[15]

The more one explores the problem, the more it becomes clear that pedigree was merely an elaboration of old-established principles and practices. Domestication itself amounted to little more than the selection by man of those strains which best suited his purposes, coupled with the neglect and ultimate demise of others.[16] There is no reason to suppose that improvements thus initiated were willingly abandoned in subsequent centuries. As Fraser puts it, 'that [Bakewell] was the first breeder of livestock to pay due attention to a sire's get I simply do not believe, having never met a breeder so supremely foolish as not to do so'.[17] In sheep husbandry, Ryder has suggested that selective breeding for continuous fleece growth occurred in the Middle Ages following the invention of sheep shears.[18] In cattle husbandry, selective castration of bull

[14] H C Pawson, *Robert Bakewell. Pioneer Livestock Breeder*, 1957, pp 68–79; R Trow-Smith, *A History of British Livestock Husbandry 1700–1900*, 1959, pp 45–69, 85–9.

[15] N Russell, 'Who Improved the Eighteenth-Century Longhorn Cow?', in W Minchinton (ed), 'Agricultural Improvement: Medieval and Modern', *Exeter Papers in Economic History* 14, 1981, pp 27–8, 38.

[16] See for example R J Berry, 'The Genetical Implications of Domestication in Animals', in P J Ucko and G W Dimbleby (eds), *The Domestication and Exploitation of Plants and Animals*, 1969, pp 211, 214.

[17] A Fraser, *Animal Husbandry Heresies*, 1960, p 28.

[18] M L Ryder, 'Medieval Sheep and Wool Types', *Ag Hist Rev*, XXXII, 1984, p 21.

calves, or the use of other techniques similar to those documented in contemporary ethnographic studies,[19] provided a simple but effective means of exerting control. The more likely-looking animals could be reserved for breeding (these could probably be identified by a practised eye, or by crude and informal tests to ensure that the beast was capable of performing the tasks demanded of it) while their more docile castrated brethren served out their time as draught oxen until they were fattened and slaughtered. Polygamous mating of the favoured bull then ensured wide dispersal of his genes.

At one level, pedigree may be seen as an extension of long-standing customary practices. But its application to farm livestock during the later eighteenth century had more immediate antecedents within the non-farm sector. Bakewell himself may well have been strongly influenced by these, for his Leicestershire home lay only six miles from the place where Hugo Meynell had established a pack of celebrated foxhounds during the middle years of the eighteenth century.[20] Among other more general coincidences in the geographies of improvement for profit and improvement for pleasure we may note the proximity of Newmarket to the great East Anglian centres of pioneering agriculture, and, perhaps even more striking, the appearance of the Improved Shorthorn on the banks of the Tees in close proximity to Cleveland and the North Yorkshire vales which had already become 'the most decided breeding countries in England for coach horses, hunters and hackneys', according to Youatt.[21] A late eighteenth-century directory entry for the town of Bedale describes the high esteem accorded the offspring of certain favoured stallions.[22]

Horse breeders in general and the breeders of racing stock and hunters in particular were early exponents of selective breeding and the first to recognize the advantages of a formal pedigree record. Keith Thomas believes that selective breeding of horses for the different functions they had to perform dates back to the fourteenth century and was pursued with increasing enthusiasm from the sixteenth century onwards.[23] The importation from the Middle East during the late seventeenth and early eighteenth centuries of the three stallions which were the founders of all thoroughbred racing stock opened an important new chapter in the improvement of non-farm domestic livestock.[24] Advertisements in the English provincial press for stallions at stud not only became more frequent from the 1740s, but were also more likely to provide details of pedigree. This interest culminated in the publication of the first thoroughbred stud book in 1791, which pre-dated the first stud book for a farm animal by some thirty years.[25]

These changes were paralleled elsewhere. By the early eighteenth century not only horses, but dogs, game-cocks, pheasants, cage-birds, and the vegetable kingdom were being accorded the same treatment on a grand scale.[26] One contemporary witness to these events saw a clear moral. 'I cannot help thinking,' wrote Thomas Bewick, 'that if the same pains were taken in breeding mankind, that gentlemen have bestowed on

[19] B A L Cranstone, 'Animal Husbandry: the Evidence from Ethnography', in Ucko and Dimbleby, *op cit*, pp 254–5.

[20] P Mathias, *The First Industrial Nation. An Economic History of Britain 1700–1914*, 1969, p 80.

[21] *Ibid*, p 79; W Youatt, *The Horse. A Treatise on Draught*, new edn, 1843, p 96.

[22] *Universal British Directory of Trade and Commerce . . .*, II, 1791, p 275. 'Though the pedigree of them is not preserved for a succession of ages . . . yet are their stallions denominated by certain names that never fail to advance the price of a horse according to the repute of the sire he comes from.'

[23] K Thomas, *Man and the Natural World*, 1983, p 59.

[24] I M Lerner and H P Donald, *Modern Developments in Animal Breeding*, 1966, p 123.

[25] J H Plumb, 'Commercialization and Society', in N McKendrick, J Brewer and J H Plumb, *The Birth of a Consumer Society. The Commercialization of Eighteenth-Century England*, 1983 edn, pp 318–19; E H Whetham, 'The Trade in Pedigree Livestock 1850–1910', *Ag Hist Rev*, XXVII, 1979, p 47.

[26] Thomas, *op cit*, p 60; J S Sebright, *The Art of Improving the Breeds of Domestic Animals. A Letter to Sir Joseph Banks*, 1809, p 27; Plumb, *op cit*, pp 317–27.

the breeding of their dogs, horses and game-cocks that human nature might as it were be new modelled, hereditary diseases banished and such a race of mankind might people the country as we can form no true conception of, and instead of a nation of mongrels, there would in time appear a nation of Admirable Crichtons.'[27] More interesting than the eugenic implications of these remarks is the exclusion of farm animals from Bewick's list of selective breeding successes. Bewick, whose 'sole stimulant . . . was the pleasure derived from imbibing natural objects', had little sympathy for the work of his neighbouring Shorthorn improvers, which he thought a travesty of nature and fraudulent in its claims.[28]

It has been shown that the application of selective breeding practices to non-farm livestock antedated their use in the agricultural sector. This is important in the context of the following discussion, which tries to assess the contribution of pedigree to productivity improvements in cattle. It will be argued that the potential for improvement using selective breeding techniques was restricted both by the breeders' lack of an appropriate scientific background, and by the general socio-economic context within which pedigree had originated. To grasp this last point demands appreciation of a complex web of interconnections. Much of the early attention devoted to the selective breeding of non-farm livestock arose from an interest in the manipulation of animate raw material for its own sake and not because the animals concerned had a specific utility to man. The most wayward creations of 'the fancy', as it came to be known, were in the realms of pigeon breeding, although few domestic animals or birds escaped its attentions completely. Motivations varied from one group of fanciers to another, but several contemporaneous social and economic developments are reflected in the growth of 'the fancy'. These include a developing interest in the natural world, shaped by man's continuing perception of himself as standing at the apex of a hierarchy embracing the whole of the animal kingdom and therefore free to interfere; the rise of a prosperous bourgeoisie during the eighteenth century, able and willing to devote time and money to such pursuits, followed by the downward social diffusion of these conditions and inclinations to the respectable working class by the second half of the nineteenth century; and a continuing search for the rural ideal among commercial or industrial interests, fully realized by the few who could afford to buy landed property, partially realized by those who had to rest content with mountain holidays, gardening, or the ownership of pets.[29]

The significance of 'fancy' or 'ornament' in relation to our present concerns is as follows. The application of selective breeding procedures to farm animals was only likely to enhance their utility if breeders were more interested in the animal's performance than in its potential as a vehicle for 'fancy'. Since the lead in breeding was taken by the richer landed proprietors, these conditions were most likely to be fulfilled in respect of animals like foxhounds, hunters and racehorses, where richer landowners made direct use of the animals' utility functions (albeit success was not guaranteed).[30] The same could not be said of cattle, where despite protestations of an interest in utility, many breeders were not concerned about the profitable ends of commercial livestock husbandry in quite the way that, say, the average tenant farmer would be. Breeding farm livestock appealed to many landowners

[27] I Bain (ed), *A Memoir of Thomas Bewick Written by Himself*, Oxford, 1979, pp 33.
[28] *Ibid*, pp 140–1, 187.
[29] Thomas, *op cit*, p 60; Plumb, *op cit*, p 318; D Elliston Allen, *The Naturalist in Britain. A Social History*, 1976; J A Secord, 'Nature's Fancy: Charles Darwin and the Breeding of Pigeons', *Isis*, 72, 1981, pp 170–4; Sebright, *op cit*, p 13.
[30] Robin Dunbar, 'The race to breed faster horses', *New Scientist*, 1459, 6 June 1985, pp 44–7 shows how, even at present, stallions which have won one or two key races automatically acquire a high stud value irrespective of their true genetic worth. Winning times for the major Classics have shown only modest improvement in the present century.

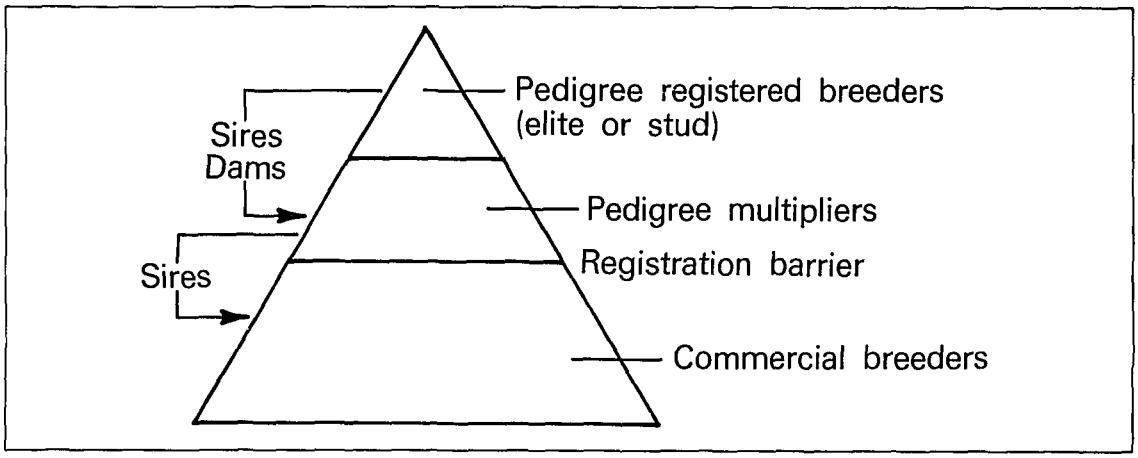


FIGURE 1
Traditional breed structure. After D C Dalton, *An Introduction to Practical Animal Breeding*, 1980, p 128.

because it created an appearance of concerned and enlightened interest in improvement and thus conferred status. Unsupported by performance criteria, it could become as large an indulgence as the breeding of sporting animals. Fashion or fancy gained more than a toehold in the cattle trade because a sufficiently large number of breeders were sufficiently unconcerned about productivity performance to create a substantial market for pedigree stock based on fashion or fancy alone. There was no barrier to profitable trading in fashionable pedigree stock with impaired utility functions as long as a large number of purchasers were persuaded by the claims of fashion and saw no particular virtue in utility.

III

In some textbooks on animal breeding, and several papers on the evolution of specific breeds, breed structure is represented as triangular.[31] In a traditional breed structure, the apex of the triangle is occupied by the pedigree élite, who breed stock for other members of the élite and for non-élite pedigree breeders who multiply the stock, partially with a view to making sires available to non-pedigree commercial breeders (Fig 1).

While the model is a useful representation of what should happen in theory, a number of variables and relationships require quantifying if it is also to serve as a basis for understanding what actually happened in practice. Two sets of variables are of particular relevance. First, the achievements of pedigree during the period before the development of artificial insemination are to some extent to be measured by numbers of pedigree stock relative to total stock. Essentially, what we should establish are the numerical values which attach to different subdivisions within the triangle. Second, and more important, we need a clearer idea of the extent to which pedigree strains were transmitted downward to regular breeders, since, in theory at least, there is no reason why the élite should require any market of this kind as long as demand from their own number remained strong. Equally, there is little reason why regular breeders should want pedigree stock if it did not meet their practical needs.

The first question is perhaps the more difficult to answer, though only because herd book volumes, which in any case cover only the later years of pedigree history, are

[31] Lerner and Donald, *op cit*, p 172; D C Dalton, *An Introduction to Practical Animal Breeding*, 1980, pp 128–9.

not well represented in library collections.[32] In the circumstances, the best estimates proved to be those made in 1919 in a Ministry of Agriculture census of pedigree farm livestock. While it was acknowledged that not every pedigree animal was a good specimen, the survey was prompted by the belief that pedigree strains held out the best hope for the improvement of the inferior animals which made up a large proportion of the national stock. The compilers admitted that there might be some under-enumeration, to the extent that members of breed societies (the survey sample) did not own absolutely every animal of pedigree standing. But they were confident that the total given 'should not be far below the actual figure'.[33]

Altogether, there were 115,618 pedigree cattle in England and Wales, compared with 6,194,539 cattle enumerated in the June returns that year. The returns do not permit estimates of the importance of pedigrees within specified breeds, but the global figures are illuminating. Pedigrees constituted rather less than 2 per cent of the total national herd (slightly more if we admit the possibility that the pedigree census may have under-enumerated to a greater extent than the June return),[34] but as a proportion of the different categories of breeding stock, pedigree strains were rather more important. According to the census, there were 6545 bulls in service (that is bulls of a least one year of age used for breeding) compared with a June return total of 88,978 (7.4 per cent). Comparable figures for cows and heifers in calf and milk suggest that pedigree animals accounted for just over 3 per cent of the national herd. It follows that pedigrees were poorly represented among cattle not intended for breeding.

The Shorthorn was by far the most important of the pedigree breeds, accounting for 30 per cent of the pedigree herd, or 46 per cent if we add in its Lincoln Red Shorthorn derivative, which was well established as a separate breed by this date. The Shorthorn's nearest rival was the Hereford, accounting for 10.2 per cent of the total herd, although the British Friesian, at 9.7 per cent, was already beginning to make a powerful impression. The next most important breeds were the South Devon (7.3 per cent), the Jersey (5.7 per cent), and the Red Poll (3.7 per cent). The Longhorn, once all-important, was reduced to a mere 316 pedigree animals, or rather less than 0.3 per cent of the total pedigree herd.

The modest contribution of pedigrees to the national herd is reflected not only in small overall totals but in a very uneven geographical distribution. In Fig 2, pedigree census statistics for the counties of England and Wales have been expressed as location quotients (proportion of total pedigree cattle in county divided by proportion of total cattle in county). A quotient greater (or less) than 1 indicates that the county had more (or less) pedigree stock than it would have had were the distribution of pedigrees solely determined by the distribution of cattle as a whole.

Much of the underlying variation may be explained by the persistence of associations between particular breeds and counties. Certainly, this accounts for the relatively strong positions of Lincolnshire (LQ 3.019 and 13,083 pedigree Lincoln Red Shorthorns), Herefordshire (LQ 3.017 and 16,142 pedigree Herefords), and Devon (LQ 1.523 and 2278 pedigree Devons). It is also notable that the all-pervading Shorthorn had no such pronounced county affiliations by this date, being heavily outnumbered by non-pedigree stocks in both Durham (LQ 0.352) and Yorkshire (LQ 0.442), but still with a northern stronghold in Cumberland (LQ

[32] E H Whetham, 'The Trade in Pedigree Livestock, 1850–1910', *Ag Hist Rev*, XXVII, 1979, p 47. Both the Bodleian and British Library holdings of nineteenth-century herd books are fragmentary for all but a few breeds.

[33] Ministry of Agriculture and Fisheries, *Census of Pedigree Live Stock, 1919*, 1921, pp 3, 4.

[34] On the deficiencies of the parish summary agricultural returns see J T Coppock, 'The Cartographic Representation of British Agricultural Statistics', *Geography*, 50, 1965, pp 101–14; R H Best and J T Coppock, *The Changing Use of Land in Britain*, 1962, pp 29–71.

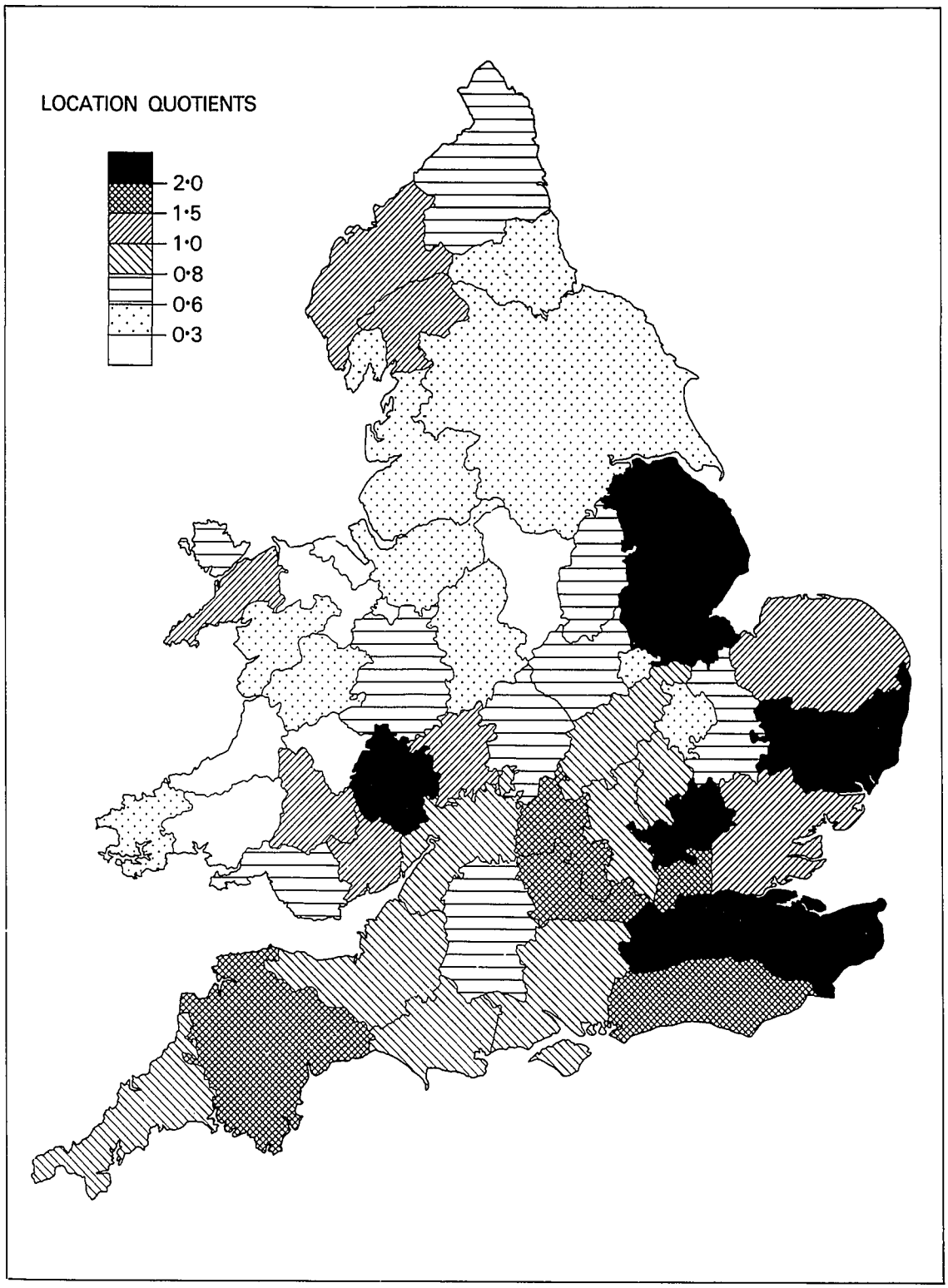


FIGURE 2
Pedigree cattle in England and Wales, 1919: Location quotients.

1.370) and Westmorland (LQ 1.422). However, just as striking as the variations which can be explained by the regional affiliations of particular breeds are those which can only be attributed to, and which serve to underline, the elevated social context of pedigree breeds. One of the most prominent features of the map is the concentration of pedigrees around London in counties with no native pedigree breeds. The pattern reflects the influence of metropolitan wealth. The distributions of both landscape parks by notable designers and the nineteenth-century squirearchy show loose parallels.[35] Surrey, with a location quotient of 4.9 had a very pronounced concentration, although Hertfordshire (3.017), Kent (2.596) and Berkshire (1.966) were also exceptionally high, with Middlesex (1.678) and Essex (1.490) not far behind. Despite the difficulties which had beset landed proprietors from the late 1870s,[36] at least some were still prepared to take on the burdens of pedigree breeding.

A third noteworthy feature was the pronounced lack of pedigree stock in certain parts of the country, but above all in upland mid- and north Wales. Location quotients were small in all counties except Caernarvonshire, where many native cattle qualified for entry in the Welsh Black herd book, and Brecon, where the pedigrees of neighbouring Herefordshire were well represented.[37] The Celtic aversion to pedigree may be attributed to several factors: the inappropriateness of pure-bred strains in an upland environment of meagre feeding traditionally attuned to a market which until not many years previously had demanded low grade stores capable of the long overland march to English fattening pastures; the small size and inherent conservatism of the Welsh family farm; and, above all, the relative dearth in upland Wales, especially by this date, of those social groups most likely to find pedigree attractive.[38]

IV

The question of social context assumes considerable prominence when we turn our attention to the impact of pedigree on the character of the national herd as a whole. Not only was the total pedigree herd small, but a disproportionately large number of pedigree breeders were drawn from the ranks of the landed élite. In the case of the Shorthorn a pioneering phase during which tenant farms were well represented was followed by an extended period during which the proportion of titled breeders steadily declined but their absolute numbers increased greatly.[39] The dominant position of the élite among pedigree breeders did not escape the attention of contemporary observers. In 1849, Beesley's report on Lancashire noted that pedigree Shorthorns were 'confined to gentlemen or amateur farmers'.[40]

Further examination of Coates's Herd Book supports these impressionistic observations. Comparison of bulls registered during two periods separated by approximately fifty years (Volume IV covering registrations from 1836 to 1840, and Volumes XXXVI and XXXVII for bulls calved mostly between 1888 and 1890) reveals some tendency towards wider participation in pedigree breeding. At the earlier date, 537 breeders on the British mainland registered 2886 bulls (mean 5.37 bulls per breeder) compared with 752 breeders and 3183 bulls (mean 4.23 bulls per breeder) at the later date. The figures

[35] H C Prince, *Parks in England*, Shalfleet, 1967; F M L Thompson, *English Landed Society in the Nineteenth Century*, 1963, p 115.

[36] *Ibid*, Chapters 11 and 12; R Perren, 'The Landlord and Agricultural Transformation, 1870–1900', *Ag Hist Rev*, 18, 1970, pp 36–51; C Ó Gráda, 'The Landlord and Agricultural Transformation, 1870–1900: A Comment on Richard Perren's Hypothesis', *Ag Hist Rev*, 27, 1979, pp 40–6.

[37] For an account of the development of the pedigree Hereford see E Heath-Agnew, *A History of Hereford Cattle and their Breeders*, 1983.

[38] R J Colyer, *The Welsh Cattle Drovers*, Cardiff, 1976, Chapter 2; J Davies, 'The End of the Great Estates and the Rise of Freehold Farming in Wales', *Welsh Hist Rev*, 7, 1975, pp 186–211.

[39] J R Walton, 'The Diffusion of the Improved Shorthorn Breed of Cattle in Britain during the Eighteenth and Nineteenth Centuries', *Trans Inst Br Geogr*, new ser, IX, 1984, pp 32–3.

[40] Quoted in Fletcher, *op cit*, p 79.

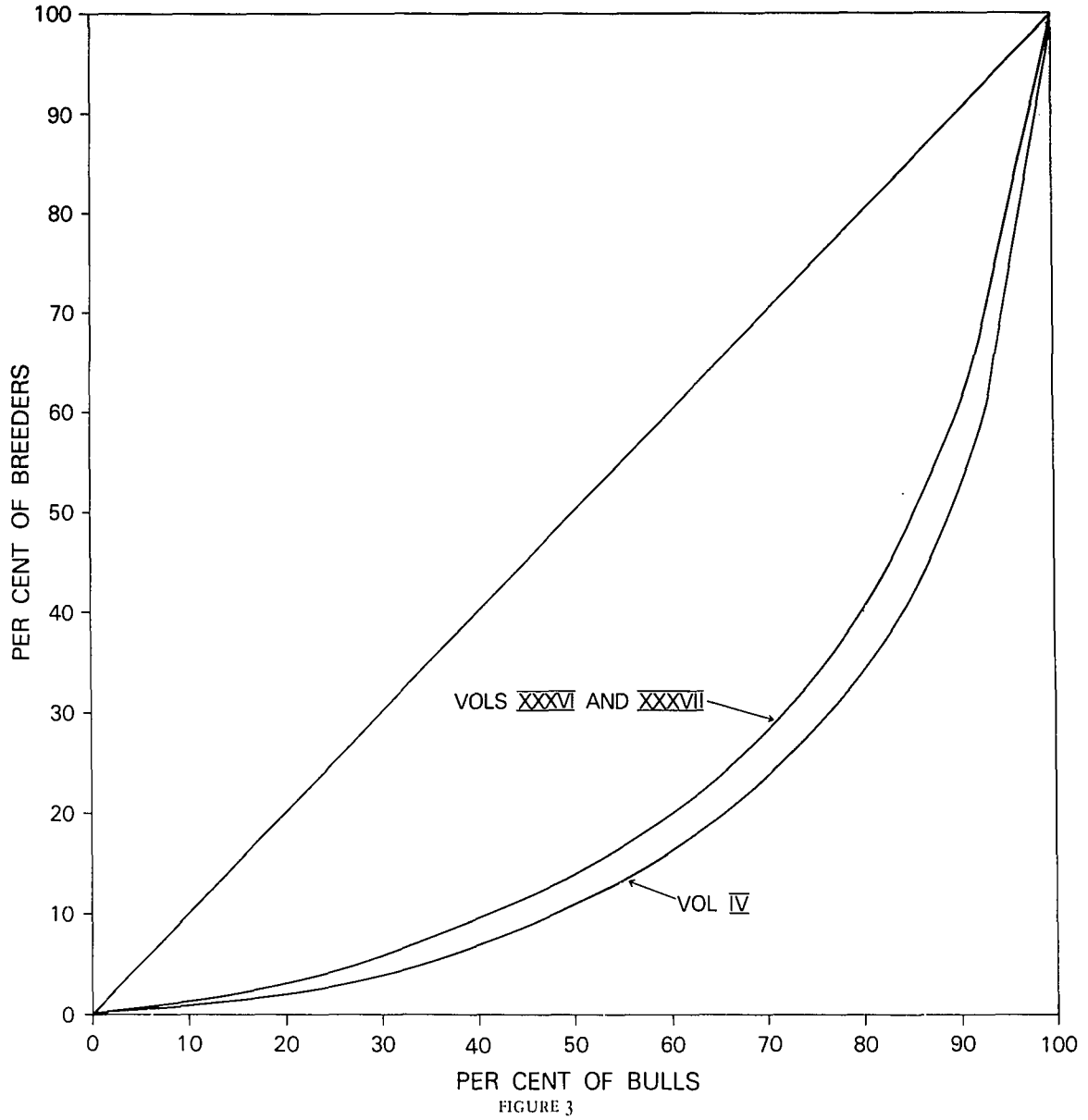


FIGURE 3
Lorenz Curves: Pedigree Shorthorn bulls listed in *Coates's Herd Book* Volume IV, and Volumes XXXVI and XXXVII.

therefore show modest expansion in the numbers responsible for producing roughly equivalent quantities of pedigree breeding stock.

However, the most striking feature was the continuing élitism of pedigree breeding, evidenced in small numbers of pedigree breeders relative to the overall size of the farming community, the relatively large proportion of pedigree breeders registering only cows (over 43 per cent of those listed in Volume XXXVI), and the fact that a large proportion of total pedigree stock was still produced by a small proportion of total pedigree breeders. At the later date, 55.6 per cent of pedigree breeders producing bulls registered one or two animals only, little different from the figure of 53.6 per cent for the earlier period. The Lorenz curves plotted in Fig 3 reveal the full extent of underlying

inequalities in levels of activity among breeders of pedigree Shorthorn bulls. The later curve is closer than the earlier curve to the 45° diagonal suggesting some tendency towards a more equable pattern of participation in breeding of pedigree bulls. But it is clear from the close coincidence of the two curves that the tendency was not especially pronounced. At the later date, the top 10 per cent of British breeders were still responsible for breeding more than 40 per cent of all pedigree bulls.

Nominal linkage techniques allow closer examination of the status of pedigree breeders, although the approach can only be applied to a relatively small sample, in this case breeders resident in Oxfordshire. Altogether, forty different Oxfordshire residents were entered as having bred pedigree Shorthorns prior to 1880. Many of these were traced to the Census enumerators' books, which provide details of certain economic and social variables, including farm size and place of birth. Of the forty original pedigree breeders, the first (Attenbrow of Stratton Audley) pre-dated the available census evidence, although the Land Tax indicates that he had been resident on his farm for at least twenty-five years, and that he was one of ten tenants on an estate totalling approximately 1500 acres.[41] Most of the others operated on a much grander scale. Sixteen of the remaining thirty-nine were either omitted from the census or were enumerated as something other than 'farmer'. Six of these sixteen were traced to the *Return of Owners of Land, 1873* (1875) where they were recorded as owners of estates ranging in size from 21,945 acres (the Duke of Marlborough) to 1692 acres (Mrs Strickland of Cokethorpe Park). Of the twenty-three traced to the census, sixteen farmed more than 400 acres, twenty more than 300 acres, twenty-one more than 200 acres. The mean size of the twenty-three farms was 483 acres, compared with county means derived from the census enumerations of 173 acres in 1851 and 201 acres in 1871. If the estate owners are added, then mean holding size for all pedigree breeders increases to 1527 acres. Only two individuals farmed less than the 1871 county average: Henry Middleton of Cutteslowe, a lessee of Christ Church, Oxford, specializing in the supply of pedigree stock, with 150 acres;[42] and John Widdows of Standlake, farming a mere 40 acres, but described in the census enumeration as 'farmer and cattle dealer'. Presumably, it was as a consequence of his dealing that he came to be listed as a pedigree breeder.

Aristocratic interest in pedigree breeding is exemplified by the inclusion of the Duke of Marlborough in the list. But as Oxfordshire was not a county of great estates, ranking only thirty-three of thirty-nine English counties in respect of proportion of total area occupied by estates exceeding 10,000 acres,[43] it is only to be expected that the squirearchy and greater gentry would be better represented. They included some of the 'new' gentry, notably Albert Brassey of Heythrop, the great railway contractor, or Hall of Barton, whose wealth derived from an Oxford brewing concern, as well as other more established men of middling rank: Colonel North of Wroxton, J H Langston MP of Sarsden, whose model farming activities were accorded full recognition in both the local newspaper and the national agricultural press, and C C Dormer whose unpretentious ancestral home at Rousham now boasts not only the rarest of endangered species, an unmodified landscape garden by Kent, but, perhaps paradoxically, a major herd of Longhorn cattle.[44]

Most of the others were among the county's leading practising farmers. They

[41] Oxfordshire County Record Office, QSD/L/269.

[42] Middleton was better known for his Channel Islands stock. See *Jackson's Oxford Journal*, 10 July 1869, advertisement for 'Alderney bulls at stud at Cutteslowe'; *Jackson's Oxford Journal*, 5 August 1871, extract from an article originally published in the *Farmers' Magazine* on Middleton's Jersey heifers.

[43] F M L Thompson, *op cit.* pp 32, 113.

[44] *Ibid*, p 119; *Jackson's Oxford Journal*, 15 February 1862, report on the farming activities of J H Langston, reprinted from the *Mark Lane Express*.

included Matthew Savidge of Churchill, who had served for some time as Langston's bailiff. It is of interest to note that, as a Lincolnshire man, he was one of the few farming pedigree breeders traced to the Census who was not local by origin. Almost half the breeders had been born in their enumerated parish of residence, and a further 30 per cent no further than five miles from it.

The farmer-breeders also numbered many who were prominent as or were related to specialist breeders of sheep. These included J P King of North Stoke, better known for his Hampshire Downs than for his Shorthorns, Joseph Gillett of Hazeley, related to the Gilletts of Cote, Brize Norton and Southleigh, who were prominent Oxford Down breeders, and George and John Garne of Churchill and Filkins respectively, who were members of the Gloucestershire family whose Improved Cotswold sheep were in great demand among west Oxfordshire farmers.[45]

All in all, we gain an impression that breeders were known to one another through various social networks. Whether landowners or farmers, they represented the more substantial members of the Oxfordshire agricultural community, their status as leaders being enshrined not only in their patronage of pedigree itself, but in support for agricultural societies, farmers' clubs and other local organizations.

It is clear enough that the élite took the initiative in pedigree breeding, but it is less clear that those whom their activities were ostensibly intended to influence followed their example. There are two important considerations here. First, there is little evidence — at least in the Shorthorn records — to suggest that the breeding of registered pedigrees ever interested anyone other than the élite to any great extent. It has to be admitted that the social status of registered breeders was rather more plebeian in areas closer to the origin of the breed than was the case in Oxfordshire, but even in the North Riding in the late 1840s, 'excellent landlords' were still seen as leading pedigree enthusiasts.[46] Second, it is not self-evident that the dissemination of pedigree strains throughout the breed by multiplication and cross-breeding ever took place to the extent suggested by conventional breed-structure models. The question of status is central partly because, as we have already seen, there was no good economic reason for the élite to breed stock which fulfilled the requirements of practising farmers as long as their fellow élite provided a market which demanded no more than a proven genealogical connection with a particularly favoured lineage, not performance; partly because awe-struck deference informs the enormous mass of eighteenth- and nineteenth-century writing on livestock husbandry, thereby providing severe interpretative difficulties for those who draw upon this obvious source to try to understand exactly what was happening. Indeed, a large amount of this material was the work of pedigree breeders. Two recent writers on animal breeding have noted 'remarkably little evidence of improvement of stock by élite breeders which does not emanate from them'.[47]

Where deference exerted an overpowering influence on a writer's capacity for analysis, this may often be detected, particularly if overt plagiarism or borrowing is also involved. For example, Lawrence's *Treatise on Cattle*, published in 1805, gave rather more prominence and rather more praise to the Devon breed than was usual. However, Lawrence took no fewer than seven of the eleven pages on the breed from an article in the *Annals of Agriculture* by Lord Savernake, 'an exquisite judge and a native and resident of the country in which these cattle are bred', Lawrence noted. Savernake was also the book's dedicatee.[48]

[45] For additional information on these individuals as sheep farmers see J R Walton, 'Aspects of Agrarian Change in Oxfordshire, 1750–1880', unpub DPhil thesis, Univ of Oxford, 1976, pp 287–319.

[46] M M Milburn, 'On the Farming of the North Riding of Yorkshire. Prize Report', *J Roy Agric Soc*, 9, 1849, p 518.

[47] Lerner and Donald, *op cit*, pp 178–9.

[48] J Lawrence, *A General Treatise on Cattle*, 1805, p 35.

It is more difficult to estimate the extent to which qualitative assessments of pedigree's influence on the national herd may have been amplified by such deferential attitudes. Oxfordshire evidence may again be used to illustrate the point. Fig 4, which derives from advertisements for dispersal sales of farm stock appearing in two local newspapers, provides an outline of the main characteristics of chronological change in the county's cattle breeds. The increasing dominance of the Shorthorn is striking, but equally so is the fact that breed was never specified for more than a minority of the cattle advertised in sales notices. It is not implausible that this may have happened because the cattle concerned were of no recognized breed (although there are other possible explanations).[49] It is difficult to reconcile the state of affairs revealed by this evidence with descriptive accounts which acknowledge some lack of commitment to breed during the 1830s and 1840s but see Shorthorn pedigrees as exerting a powerful ameliorating influence within increasingly Shorthorn-dominated stocks by the 1870s. In 1878, Darby noted that the Shorthorn was the prevalent breed and 'excellent cattle [were] to be found almost everywhere owing to the very general employment of pure-bred bulls, which are easily procurable from the half dozen or more pedigree Shorthorn herds of which Oxfordshire can boast'.[50] If upgrading of non-pedigree stock by the use of pedigree bulls was as widespread and as desirable as Darby claimed, then it is reasonable to suppose that farm sales notices might have made some mention of these influences. Yet, from 1808, when Shorthorns first started appearing in Oxfordshire sales notices, up to 1880, descent from pedigree Shorthorn stock was referred to in only twenty-eight of a total sample of over 2700 sales notices listing cattle. These included some 276 which specifically mentioned Shorthorns.

Although it must be admitted that statistics such as these are suggestive rather than conclusive, an array of other evidence indicates that they point in the right direction. First, we may note the admission, even by authors susceptible to the pressure of deference, that the use of pedigrees as a means of upgrading non-pedigree stock was strenuously resisted by many farmers. For example, the agent to Lord Fitzwilliam made the following observations in his contribution to the 1834 edition of Youatt's treatise.

> The breed of cattle in the greatest esteem in the vicinity of Wentworth [seat of Lord Fitzwilliam] and throughout all the southern part of the West Riding is the pure short-horn. [However] . . . a traveller passing through this district will observe many deviations from that breed and will meet with crosses which he will have much difficulty to identify. The farms are small and the farmer has a mixed employment, part agricultural and part mercantile: hence his attention is not so much directed to his farm as it should be and here arises a certain degree of carelessness as to the selection of his cattle; added to this, the idea, though an erroneous one, that pure Shorthorns are not good milkers.

Likewise, Youatt himself, writing of the East Riding in the same volume noted that the Shorthorns 'prevail universally . . . except among the cottagers and little farmers who still obstinately cling to many varieties of half-horns'.[51]

While these extracts treat the smaller man's resistance to the Shorthorn (and by implication to Shorthorn pedigree also) as an unfortunate but inevitable outcome of his ignorance and conservatism, when we survey the entire body of nineteenth-century writing on livestock husbandry, especially by authors less influenced by the pressures of

[49] For example, it is possible that uniformity of breed has reached such a level that cattle were naturally assumed to be of the dominant breed unless specifically stated to be different. It is also possible, and on the whole more likely, that most potential purchasers at sales were simply not interested in breed, and that auctioneers were therefore only showing an acute appreciation of their market when they failed to mention it in advertisements.

[50] J Darby, 'Oxfordshire Agriculture and Stock Farming', *Jnl Bath and West of England Society*, 3rd ser, X, 1878, pp 131–2, 147. See also J Coleman (ed), *The Cattle of Great Britian*, 1875, p 4, on a report 'from a successful breeder in Gloucestershire that 25 years since, when he commenced breeding, there was not a Shorthorn within many miles; now it would be an exception to find a herd that is not three parts pure'.

[51] W Youatt, *Cattle: Their Breeds, Management and Diseases*, 1834, p 250.

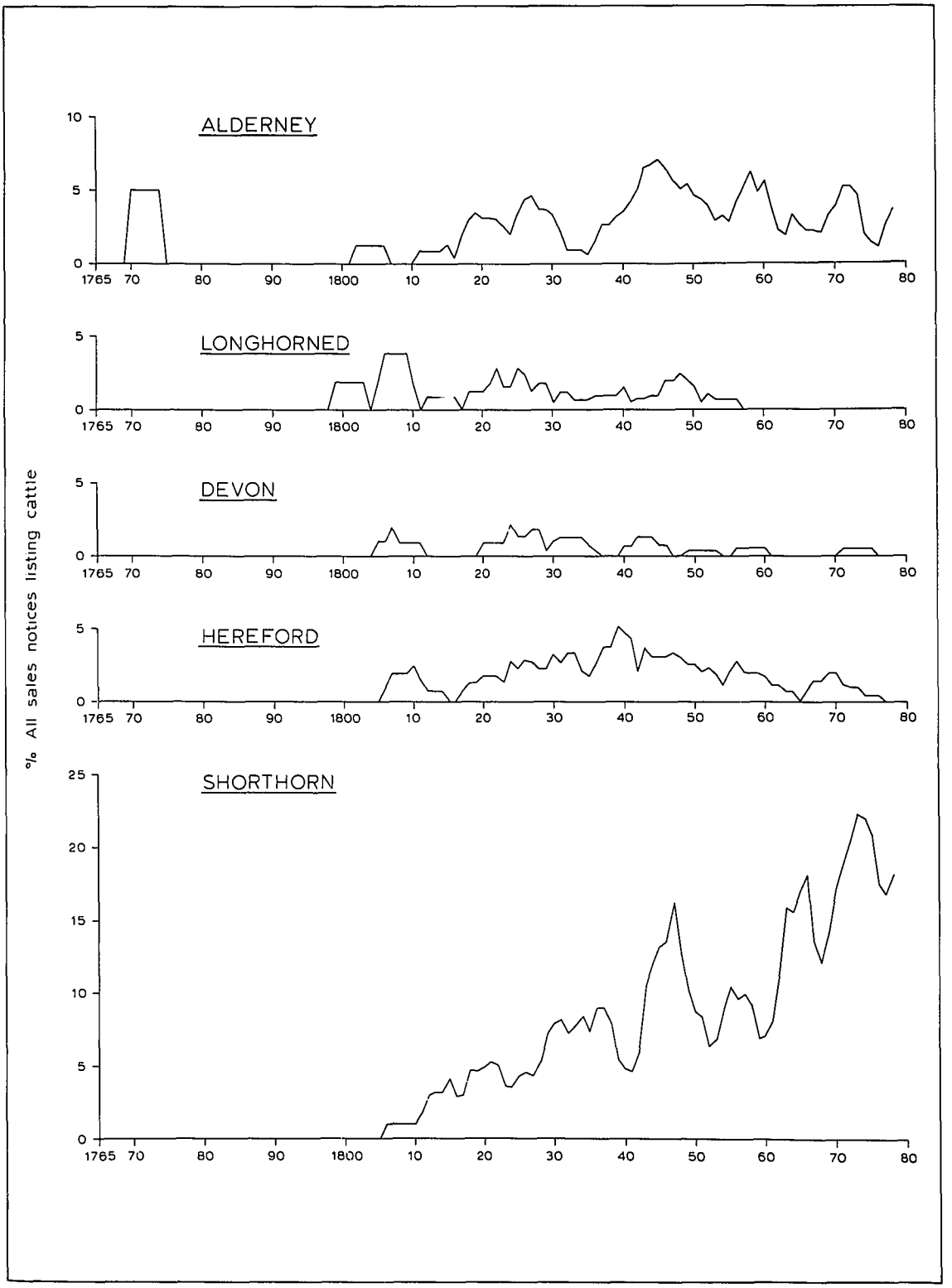


FIGURE 4
Cattle breeds in farm sales notices: Oxfordshire (five-year moving means).

deference, it becomes clear that those who resisted pedigree may have done so because of ignorance or conservatism, but their action or inaction also had a basis in reason. Authors as far back as Culley, writing in 1794, or Parkinson in 1810 condemned at least some aspects of Bakewell's methods and presaged many criticisms later directed at the advocates of non-productive fashionable traits in pedigree cattle. Culley, for example, speculated as follows: 'Could any of these people [Bakewell and other pioneers] be prevailed upon to make an experiment they would most probably find that excellence does not depend on the situation or size of horns or on the colour of faces and legs, but on other more essential properties.'[52] Parkinson records how his father, 'a breeder and grazier for a good many years', attained his objectives of 'good milking heifers with an aptitude to fatten when old' by using 'a bull from Warwickshire which did not appear to be either of the long or shorthorned but of a mixed breed'[53] — in other words a solution which was directly contradictory to the advice later offered by pedigree enthusiasts.

In agricultural journals throughout the early and middle years of the nineteenth century, expressions of dissatisfaction may be found, though all but swamped by adulation. Questioning criticism became rather more insistent from the 1870s, as more difficult economic circumstances helped emphasize the need for stock which could perform rather than adorn.[54] 'It is more important to the true farmer,' noted Cadwallader J Bates in 1879, 'to have cattle of uniform average excellence, giving plenty of rich milk, thriving well and feeding rapidly than to have them eligible for the Herd Book and winning occasional prizes. It says little for the science of breeding if the two aims are incompatible.'[55] Sceptics or agnostics increasingly drew attention to several incompatibilities of aim. It was argued, for one, that the show and auction system by which the leading pedigree stocks (and especially pedigree Shorthorns) established their reputation among pedigree breeders could only serve to increase the aversion of those who were not pedigree breeders. 'When Shorthorns are lauded to the skies for every conceivable point except those which serve some useful purpose . . . more are discouraged from breeding them than are won for the pursuit,' noted one commentator in 1877.[56] Others went even further in their condemnation. 'Pedigree for and by itself alone is no more use to a dairy herd than headache powders are to a drowning man,' wrote Harmsworth in 1919. 'It would be just as sensible to go in for breeding Gloucester Old Spot pigs because you are fond of *noir et blanc* whisky as to keep many of the anti-milk and anti-beef creatures that one sees so often fetching large prices at the leading auctions solely because they have pedigrees as long as the Trans-Siberian railway.'[57] By 1946, Cochrane could regard showing as little more than a competition between irrelevancies resulting in the award of prizes to useless animals.[58]

Although some of the statements quoted above show stylistic inclinations towards rhetoric and ornament, these tendencies were much more pronounced among those who favoured pedigree. This in itself was a major source of difficulty. Shorthorn publicists in particular were guilty of an attachment to a style of writing, likened by one critic to a gushing schoolgirl describing a favoured lap dog,[59] which can have done little to win over doubters. The contrast between, say, the annual Shorthorn reports in the *Livestock Journal Almanac* and those for

[52] Quoted in Lerner and Donald, *op cit*, p 124.
[53] R Parkinson, *Treatise on the Breeding and Management of Livestock*, 1810, p 12. See also Sebright, *op cit*, pp 8–9, 14.
[54] R Bruce, 'Shorthorn Cattle', in C Brynner Jones (ed), *Live Stock of the Farm, I, Cattle*, nd, p 143.
[55] Quoted in E R Cochrane, *The Milch Cow in England. A Plea for Constructive Breeding*, 1946, p 13.
[56] *Live Stock Journal*, 5 January 1877, p 2.
[57] H Harmsworth, 'The 2,500 Gallon Dairy Shorthorn', *Live Stock Journal Almanac 1919*, pp 56–7.
[58] Cochrane, *op cit*, pp 68–9.
[59] *Live Stock Journal*, 5 January 1877, p 2

some other breeds is quite striking. Whereas Thornton's 1896 account stands as a monument to deference ('The year 1896 will go down to agricultural posterity as the Prince's year. Both Persimmon and Celt were bred on the Sandringham estate — the former won the Derby; and though Celt did not win the championship of the Royal at Leicester, yet he was first in his class.') others, like 'J.B.'s report on Devon cattle were more concerned, if slightly apologetically, with the breed's performance merits ('meat of the finest quality and most excellent flavour is put on very rapidly . . . with a consumption of less food than most cattle . . . require').[60] It is also particularly telling that the twentieth-century success of the British Friesian was secured not only because it enjoyed specific performance advantages but because the breed society quickly adopted a sensible publicity policy. 'Verbosity was to be avoided at all costs', and the 'average farmer' helped to 'a better appreciation of the unrecognized possibilities of good dairy cattle'.[61]

It might be argued that the alienating force of much pedigree Shorthorn publicity was simply a symptom of the breed's problems. Writers focused on irrelevancies merely because to have done otherwise would soon have necessitated exposing performance deficiencies. Certainly, by the later years of the century it was becoming more and more apparent that these deficiencies existed. Complaints were too numerous to be either stifled or ignored.

Of course, there were those who still continued to argue in the same vein as writers on pedigree had always done, upholding traditional desiderata.[62] 'Cumbrian', writing in 1927, regretted the vigorous emphasis on productivity among breeders of Dairy Shorthorns (itself a reaction to the performance limitations of the old Shorthorn) which, he argued, was undermining the traditional character of the breed, 'especially the graceful downward curl of the horns'.[63] But much more striking was mounting dissatisfaction with pedigree, articulated as several distinct areas of complaint.

In addition to the objections to exhibition prompted by the general social milieu of the showyard, there were more specific grievances, with Shorthorn pedigrees attracting much of the attention. Although this partly reflects the breed's dominance in the national herd, it also underlines its real problems. A dual-purpose breed, like the Shorthorn, was in tune with nineteenth-century market demand to the extent that increasing numbers of producers required cows which would milk well yet produce calves capable of making fat quickly, while themselves fattening to killing weight rapidly once dried off. Unfortunately, these qualities do not combine well. To achieve them would pose considerable problems even for breeders conversant with recent developments in animal breeding science and having the full array of present-day techniques at their disposal. 'If there is or could be,' Lerner and Donald have noted, 'an effective physiological mechanism for switching food energy to meat in males and milk in females, there would seem to be no reason to prevent a high performance dual-purpose type.'[64]

Regrettably, too many pedigree breeders turned their back on such rudimentary performance evidence as was available and as might have assisted them, and produced not dual-purpose rent payers but what one commentator has described as 'no-purpose parasites'.[65] Several criticisms recur,

[60] J Thornton, 'Shorthorns in 1896', *Live Stock Journal Almanac 1897*, p 109; 'J.B.', 'Devon Cattle in 1896', *Live Stock Journal Almanac 1897*, p 123.

[61] G Hobson, 'Breed Propaganda', *Live Stock Journal Annual 1927*, pp 43–4.

[62] See, for example, W F M'Laren, 'Cattle Breeding Problems', in G F Finlay (ed), *Cattle Breeding: Proceedings of the Scottish Cattle Breeding Conference*, Edinburgh, 1925, pp 110–11.

[63] 'Cumbrian', 'Upturned Horns in Dairy Shorthorns', *Live Stock Journal Annual 1927*, pp 51–2; G T Burrows, *History of Dairy Shorthorn Cattle*, 1950, Chapter 7. See also F P Matthews, 'Shorthorns in 1916', *Live Stock Journal Almanac 1917*, p 89; 'True Value of Show Points. Spirited Defence by T J Eady of a Much-Criticised System', *Live Stock Journal*, 17 March 1933, p 244; Earl of Coventry, 'Maintaining Our Breeding Stocks', *Livestock Journal Almanac 1916*, p 47.

[64] Lerner and Donald, *op cit*, p 165.

[65] Cochrane, *op cit*, p 60.

emphasizing and re-emphasizing both the adverse consequences of concentrating breeding at this level in the hands of those who had little direct interest in performance, and the deficiencies of the show system. Encouraged by the conventions and expectations of their particular social milieu, pedigree breeders, it was argued, had focused on meat to the detriment of milk, on fat to the detriment of lean, and on what was fashionable to the detriment of what was productive. 'The bulk of pedigree cattle,' wrote Sheldon in 1880, 'have been bred away from milk, and purposely so, because by milking copiously they could not carry the load of fat and flesh which has so long and so unwisely been regarded as a *sine qua non* in the showyard.'[66] 'The milk vessels of our prize cows are frequently mere contortions,' observed Stratton some years later. The show system, it was noted, condoned the retention of 'good looking passengers' merely because they matched the prejudices of the judges.[67] An animal with an impressive pedigree was worth keeping for breeding no matter what its other deficiencies.

Reservations among meat producers about the emphasis on fat (itself often as much a result of the over-generous feeding regimes of showyard stock as of the ancestral properties claimed for that particular line) began to be more vociferously expressed as demand switched towards younger and leaner meat during the early decades of this century.[68] One writer, noting the unsuitability of pedigree Shorthorns for the new purpose, recalled the saying, 'The way to ruin your most bitter enemy is to make him a present of a couple of Shorthorns.'[69]

The real barrier to reform from within, for those pedigree breeders who might otherwise have been persuaded by their critics' arguments, was that when traditional mechanisms of improvement failed they knew no others. Admittedly, where a pedigree breeder selected his stock as much on the basis of observation and tests of performance as on the basis of what the pedigree suggested performance ought to be (which was the case with some pedigree Shorthorn dairy herds),[70] then the claims made for pedigree might well prove to be justified. Much was also made of the emphasis on performance at the annual bull show and sale at Bingley Hall, Birmingham, which, it was claimed, attracted purchasers from the ranks of fatstock-producing tenant farmers (unlike the shows of the Royal Agricultural Society, where sales were largely to 'foreigners, colonists or breeders of prize stock at home').[71] But these developments amounted to little more than straws in the wind.

Without the proof of extended performance records, pedigree counted for very little. The root of the problem was the genetic diversity of the stock which made up

[66] J P Sheldon, 'The Milk-Pail and the Cows that Fill It; or the Relative Merits of Dairy Cattle', *Live Stock Journal Almanac 1880*, p 46.

[67] R Stratton, 'Shorthorns and the Show System', *Live Stock Journal Almanac 1897*, p 155. See also A Fraser, *Breeder and Boffin*, 1962, pp 30–1; Cochrane, *op cit*, pp 66–7; W S Dixon, 'Future Organization of our Shows', *Live Stock Journal Almanac 1919*, p 63; G Greenall, 'Single Judging', *Live Stock Journal Annual 1921*, pp 4–5; R B Brassey, 'Over-Fattened Show Exhibits', *Live Stock Journal Annual 1921*, pp 43–4; 'Salopian', 'Dangers of Pursuing Fashion in Breeding', *Live Stock Journal Annual 1924*, p 42.

[68] Whetham, *op cit*, 1976, pp 25–6; Stratton, *op cit*, p 157; T B Goucher, 'New Thoughts on Baby Beef Production', *Live Stock Journal Annual 1926*, pp 47–50; A D Buchanan Smith, 'Livestock Breeding Research. Practical Points', *Live Stock Journal Annual 1929*, p 47. See also the following short items in *Live Stock Journal*, 1933: 'Shorthorns or "Blubber Bags": a Few Plain Words from "Field Marshall" to Those in the Breed', 27 January, p 77; 'Store Period in Stock Must be Eliminated, Such is the Only Way to Produce a Greater Volume of British Meats', 28 April, p 387; 'Inadequate Supply of Quality Stores. The £.s.d. Considerations of Summer Beef Production', 23 May, p 483.

[69] *Live Stock Journal*, 27 January 1933, p 77.

[70] Note the emphasis on production in some of the specialist dairy producers' breeding cards and advertisements. For example, *Live Stock Journal*, 21 August 1912, breeding card of Miss E D Coats, Brenchley, Kent. 'Heavy milking herd of Dairy Shorthorns, 48 cows milked daily. Milk registers kept. Average 1911, 796 gallons per cow.' Advertisement of R W Hobbs's Kelmscott Dairy Shorthorn Herd, *Livestock Journal Almanac 1916*, p 214. 'Herd of 500 Dairy Shorthorns, milk records kept. Over 60 cups, medals, champion and other prizes won 1914–15 for inspection, butter and milking tests.' However, Harmsworth, *op cit*, p 56 noted that few breeders were prepared to rely, like Hobbs, on the animal itself and not its pedigree.

[71] H Biddell, 'Our Showyards and What They Have Done for Us', *Live Stock Journal Almanac 1884*, p 64. It has to be said that widespread use of pedigrees by overseas meat producers helped enhance the reputation of their products in Britain. See, for example, Perren, *op cit*, 1978, p 157; Whetham, *op cit*, 1979, pp 48–50.

the pedigree Shorthorn population, allied with a system of Herd Book registration which was merely intended to serve as a means of demonstrating genealogical links (in most cases extremely remote ones) with favoured or fashionable lineages, and therefore provided in itself no basis for improvement. Suggestions that the Herd Book should record performance, which had been heard as early as 1880, were regarded with justification as too utopian to be practical.[72]

The problem was quite the reverse of that diagnosed by those who regard Bakewell as the initiator of a sort of grand programme of bovine genocide, which reduced the genetic diversity of the national cattle herd to a point where inbreeding depression was a real threat.[73] Even after adopting the extremely implausible assumption that all the genealogies it contains are genuine, analysis of Coates's Herd Book suggests an inbreeding coefficient for the pedigree Shorthorn of 20 to 25 per cent in 1825 increasing to only 26 per cent by 1920 — well below the level of 3 to 5 per cent per generation which produces inbreeding depression.[74] The disclosure that 55 per cent of the pedigree breed in 1920 were descended from the Collings brothers' Favourite[75] may appear disturbing, but we have to bear in mind Coates's thoroughly cavalier attitude to early pedigrees (if the task of reconstruction was too difficult or the price right, descent from one of the favoured foundation animals was simply invented) and the immense contribution over upwards of fifty generations of ancestors other than Favourite.[76]

In any event, by the second or third decade of the present century, it was beginning to be recognized that culling, far from being excessive, had not proceeded far enough.[77] 'It is said that like begets like,' wrote Harmsworth in 1919. 'But it is hardly ever admitted that as often as not like begets unlike, and very different unlikes at that.'[78] As if to emphasize the problems of heterozygosity the breed possessed in abundance, Shorthorn breed markers simply refused to breed true. Nor is this to be wondered at since some, like roan colouring, are hybrid traits.[79] Even if nothing else is predictable in a breed, at least the breeder should have reasonable confidence that recognized markers will appear in the next generation, if only because in non-pedigree stock this is all that defines breed. An animal that *looks* as if it belongs to a known breed raises fewer awkward questions about the true nature of its genetic composition. The Shorthorn is therefore quite unlike the Hereford, which owes much of its long advance to the conspicuous success of its eventual breed marker. As a separate dominant allele, the white face colour is transmitted to all first generation offspring of a Hereford bull, no matter what the maternal parentage.[80]

V

Developments in genetics provided both increasing support for critics of the conventional pedigree system and sound scientific foundations for new breeding practices. These ultimately succeeded both in exposing

[72] R B Becker and P C McGilliard, 'A Suggested Simplification of the Present System of Official Testing with the Dairy Breeds of Cattle', *Journal of Dairy Science*, 12, 1929, pp 337–348; M'Laren, *op cit*, p 113.

[73] H W Keary, 'Management of Cattle', *J Roy Ag Soc*, 9, 1849, p 427; J E Nicholls, *Livestock Improvement in Relation to Heredity and Environment*, Edinburgh, 1957, p 150; J Hutchinson, *Farming and Food Supply: The Interdependence of Country and Town*, Cambridge, 1972, p 32; E L Jones, *Agriculture and the Industrial Revolution*, Oxford, 1974, p 12.

[74] Fraser, *op cit*, pp 45–7; Dalton, *op cit*, p 95; H C McPhee and S Wright, 'Mendelian Analysis of the Pure Breeds of Livestock: III, the Shorthorns', *J Heredity*, XVI, 1925, pp 208, 213.

[75] *Ibid*, p 211.

[76] T Bell, *The History of the Improved Shorthorn or Durham Cattle from the Notes of the Late Mr Thomas Bates*, Newcastle, 1871, pp 10–11, 37–8, 97, 210–11.

[77] W Graham, 'Shorthorn Interests and Reflections in 1916', *Livestock Journal Almanac 1917*, p 48; *Live Stock Journal*, 31 March 1933, p 291; Cochrane, *op cit*, p 28.

[78] Harmsworth, *op cit*, p 57.

[79] I C Jones, 'The Inheritance of Red, Roan and White Coat Colour in Dairy Shorthorn Cattle', *Jnl Genetics*, 48, 1947, pp 155–63; Lerner and Donald, *op cit*, p 124.

[80] Dalton, *op cit*, p 31; Heath-Agnew, *op cit*, p 45.

the deficiencies of a simple-minded faith in pedigree alone and in securing that level of improvement in the national herd which pedigree had long claimed but failed to provide. It was not until 1934 when Hammond and Walton gave the first public demonstrations in Britain of the technique of artificial insemination that there was any prospect of reduced genetic diversity ever becoming the problem which Hutchinson feared.[81] It has been estimated that by 1950 each bull on the AI rota was inseminating approximately 1000 cows a year, compared with an average of fifty inseminations by pedigree prize bulls, and seven by non-pedigree bulls.[82] To date, thanks largely to parallel developments in performance and progeny testing, which ensure the suitability of donor bulls, problems of genetic impoverishment remain little more than hypothetical, far outweighed by the benefits of predictable performance characteristics in the offspring.[83]

What is perhaps more striking in all this is how very recent most important developments in scientific livestock breeding have been. Of course, they occurred as the culmination of a long period during which a scientific understanding of genetic processes was acquired and refined. We may note the interesting influence of early achievements and claimed achievements in livestock breeding on the intellectual development of Darwin (interesting given the way the debate thereby initiated ultimately reflected back on biology through, for example, Social Darwinism and eugenics).[84] The beginnings of genetics following the publication of Galton's *Natural Inheritance* in 1889 and the rediscovery of Mendel's work in 1900,[85] and the developing conflict during the period 1900–1918 between the Mendelians, led by Bateson, and the population geneticists like Pearson and Weldon, whose application of probability concepts to patterns of inheritance was of particular relevance to practising agriculturalists, were other important milestones.[86] We may also note the influence of nineteenth-century developments in veterinary science, and the attempts to acquire empirical estimates of the effects of different feeding regimes, both by Lawes in Britain, and by others in Germany.[87] And, of course, there were the beginnings of a concerted attempt to encourage higher standards in the livestock sector when milk recording was promoted under the Ministry of Agriculture's Livestock Improvement Scheme during the 1920s, and under the Bull Licensing Act, which came into force in 1934, both in the face of strong resistance from breeders. The pedigree breed societies played a conspicuously inactive role throughout all these developments.[88]

However, it was the late thirties before an attempt was made to bring together both theoretical and empirical discoveries to try and shape a better practical understanding of livestock husbandry in all its aspects (the balance between nature and nurture, the heritability of different traits, and so on). It was not until workers like Johannsen refined and developed the concept of heritability

[81] Fraser, *op cit*, pp 55–6.

[82] R A Pepperall, *The Milk Marketing Board*, Wells, nd, pp 90–5; C D Darlington, *Genetics and Man*, 1964, p 307.

[83] Lerner and Donald, *op cit*, pp 139–41.

[84] S S Schwaber, 'The Origin of the *Origin* Revisited', *J Hist Biol*, X, 1977, pp 236, 257, 293; J A Secord, *op cit*, pp 163–5, 184–6; L T Evans, 'Darwin's Use of the Analogy Between Artificial and Natural Selection', *J Hist Biol*, XVII, 1984, pp 113–14, 124, 133–4; P J Vorzimmer, 'The Darwin Reading Notebooks (1838–1860)', *J Hist Biol*, X, 1977, pp 107, 114, 119–40; M Ruse, 'Charles Darwin and Artificial Selection', *J Hist Ideas*, XXXVI, 1975, pp 339–50.

[85] R S Cowan, 'Francis Galton's Contribution to Genetics', *J Hist Biol*, V, 1972, pp 389–412.

[86] C H Waddington, 'Applied Animal Genetics During the Last Quarter of a Century', *Animal Breeding Abstracts*, XXV, 1957, p 1; Dalton, *op cit*, pp 37, 42; L Darden, 'William Bateson and the Promise of Mendelism', *J Hist Biol*, X, 1977, p 87; Lush, *op cit*, pp 125, 257–63.

[87] See, for example, J B Lawes, *Observations on the Recently Introduced Manufactured Foods for Agricultural Stock*, 1858, pp 3–6; *Idem*, *Experiments on the Question Whether the Use of Condiments Increases the Assimilation of Food by Fattening Animals*, 1862, p 3; Mingay, *op cit*, p 16; J Cooke Hurle, 'Some Lessons of the Weighbridge', *J Bath and West Soc*, 4th ser, 12, 1901, pp 52–61; C Tyler, 'The Development of Feeding Standards for Livestock', *Ag Hist Rev*, IV, 1956, pp 97–107.

[88] Cochrane, *op cit*, pp 19, 43, 100, 120–1, 131–3; 'Recent Livestock Improvement', *Live Stock Journal Annual 1926*, pp 48–9; *Live Stock Journal*, 19 May 1933, p 460; Green, *op cit*, p 52; 'Britain's Improving Live Stock', *Live Stock Journal Annual*, 1923, p 41; Lerner and Donald, *op cit*, pp 169–70.

(that is, the relative importance of hereditary and environmental sources of variance) during the 1910s and 1920s that it could be applied to practical animal breeding.[89] The publication of Lush's *Animal Breeding Plans* and Lerner's *Population Genetics and Animal Improvement*, both major milestones, followed in 1937 and 1950 respectively. During the war years, it was increasingly accepted that dual-purpose herds could never hope to produce satisfactory quantities of both milk and beef. War Agricultural Executive Committees played an active part by compiling registers of good breeding stock in milk recorded herds.[90] The inexorable growth of AI after the first British centre had been established in 1942 paved the way for widespread implementation of new attitudes and understanding.[91]

Throughout all this not only has breed remained intact (a striking contrast to the situation in the poultry industry where performance has displaced any concern with external appearance)[92] but pedigree continues to function. Indeed most AI bulls are pedigreed, although pedigree counts for a great deal less than performance tests. An impressive pedigree is no compensation for indifferent performance. It is likely that in future the importance of pedigree will diminish further as grade stock and cross-breds are gradually brought up to the uniform quality and performance characteristics of AI donors.[93]

[89] A E Bell, 'Heritability in Retrospect', *J Heredity*, 68, 1979, pp 297–8.

[90] See, for example, the following contributions to *Agriculture*, 50, 1943–4: John Hammond, 'Improved breeding for milk production', pp 242–5; W S Mansfield and W A Stewart, 'Cattle at the cross-roads', pp 487–9; John Hammond, 'Scientific aspects of breeding dairy cattle', pp 489–92; W S Abbott, 'Our cattle', pp 535–7.

[91] Waddington, *op cit*, pp 2–3; Lerner and Donald, *op cit*, pp 126, 137–9; S L Huthnance, 'Farming in Berkshire and Oxfordshire', *J Roy Ag Soc*, 110, 1949, pp 3–4; A Fraser, *op cit* 1962, p 50; E S Simpson, 'The Cattle Population of England and Wales: Its Breed Structure and Distribution', *Geogr Studs*, V, 1958, pp 50–3.

[92] Dalton, *op cit*, p 15.

[93] Milk Marketing Board, *In 21 Years 25 Million Cattle Have Been Bred by A.I. in Great Britain*, nd; Lerner and Donald, *op cit*, pp 107, 174. For illuminating remarks about progeny testing during the early years of the British AI programme see Joseph Edwards, *The Development of Ideas in Cattle Breeding*, The George Scott Robertson Memorial Lecture, Queen's University, Belfast, 1961, pp 11–21.

The true achievements of AI and performance testing are epitomized in the successful introduction to Britain of Charolais stock. Bred to serve as draught animals in a relatively 'backward' farming environment and therefore largely spared the ruinous attentions of fancy breeders tempted to load them with fat, these breeds provide beef producers with the lean carcasses demanded by modern markets. Brought to Britain only in 1961, when they were given extensive trials by the Milk Marketing Board, and then disseminated by AI, Charolais and Charolais/Friesian crosses attained a dominant position nationally within twenty years.[94] Before such techniques were available, this simply could not have happened.

VI

On balance, it seems that whatever the merits of Shorthorn and other breeds as a whole, the endeavours of pedigree cattle breeders during the eighteenth and nineteenth centuries were substantially unhelpful in the long term, though not in the way that some of their critics have suggested. Reports of a national herd crippled by depleted genetic diversity have been greatly exaggerated. The limitations of the breeders' achievements are perhaps most clearly demonstrated by the considerable potential for improvement which still remained during the early decades of this century. Dramatic change has taken place since then as critical thresholds of theoretical and empirical understanding have been crossed. To expect similar changes to have occurred in a society lacking such levels of understanding would be misguided. Even so, it will be clear from the evidence presented above that the milieu of nineteenth-century pedigree breeding offered little encouragement to rational appraisals of performance. 'Improvement' served as a means of

[94] *Ibid*, p 120; Dalton, *op cit*, p 13; Milk Marketing Board, *The Charolais Report*, Thames Ditton, nd.

asserting or acquiring status and influence. It also often involved identifying and disseminating materials and methods which would genuinely enhance practice and profit among smaller-scale producers. However, in the case of pedigree, the first objective could be attained even though the second might be quite neglected.

Previously, herd books have been used as a means of exploring both spatial patterns of agricultural change during the eighteenth and nineteenth centuries and the processes of communication which shaped them.[95] In this context, their value is considerable. The patterns revealed by these studies provide, among other things, a uniquely exact illustration of the uneven geographical incidence and slow pace of agricultural innovation in the past. However, it is less certain that this particular innovation itself contributed a great deal to agricultural progress.

[95] Walton, *op cit*, 1984.

The Tariff Commission, Agricultural Protection and Food Taxes, 1903–13

By A J MARRISON

EUROPEAN agriculture's typical reaction to increasing world competition in the late nineteenth century was to exert pressure on government for protection. In France, though the grain producer's concern about the heavy surplus of imports over exports was not stilled by the disappointing tariff of 1881, the rest of the 1880s saw the imposition or raising of duties on food, agriculture's voice being strengthened in the elections of 1885 and 1889. In the Meline Tariff of 1892, agricultural duties reached 25 per cent *ad valorem*, and were raised further in the late 1890s and 1910.[1] In Germany, virtually free-trade by 1877, the first tangible results of the change in mood occasioned by foreign competition and depression in the 1870s came in the tariff of 1880, after which increased agricultural protection was 'the most noticeable feature in the history of the German tariff',[2] though there was frequently friction between the large grain farmers who participated in the famous 'alliance of iron and rye' and the small livestock farmers who were less well served by the policy-makers. Specific duties on grain and flour increased five-fold between 1879 and 1888, despite falling world prices, and though there was some reduction under Caprivi in 1891–4 the *Bund der Landwirte* ensured that the primary objective of the 1902 tariff was a reversal of Caprivi's policies and a considerable shift upwards in agricultural duties. The tariff of 1905 went even further in this direction.[3] In both these countries, fear of an 'industrial state' and depopulation of the countryside provided a persuasive socio-economic rationale for a resurgent agrarian-based economic nationalism.[4] In Russia, reaction to the liberalizing tendencies of 1824–70 came in 1876 and was generally intensified thereafter, especially in 1885, 1891 and 1903. By 1912 duties on food imports averaged 67 per cent *ad valorem*.[5] Austrian and Italian commercial policy, though less extreme than Russian, followed the general return to protection, and in the frequent tariff wars between the continental powers agricultural products played a major role.

In Britain, alone among the major European powers, the landed interest was too weak to influence government, and in any case, as the Fair Trade League found in the 1880s, was somewhat divided on account of the feeling by some farmers of Liberal leanings that protectionism was the creature of large landlords.[6] Probably more significant than such Ricardian suspicion[7] was the feeling that protection was politically unattainable, and by the 1890s many farmers saw little prospect of preventing what more

[1] P Ashley, *Modern Tariff History*, 1904, pt III; E Golob, *The Meline Tariff*, New York, 1944, *passim*; M S Smith, *Tariff Reform in France 1860–1900*, Ithaca, 1980, pp 165–81, 199–200, 213–14.

[2] Ashley, *op cit*, pp 79–80.

[3] *Ibid*, pt I; Ivo N Lambie, *Free Trade and Protection in Germany*, Wiesbaden, 1963; K D Barkin, *The Controversy over German Industrialization 1890–1902*, Chicago, 1970.

[4] As exemplified in Adolf Wagner's *Agrar- und Industriestaat*, Jena, 1901 and Jules Meline's *The Return to the Land*, 1906.

[5] M Miller, *Economic Development of Russia 1905–1914*, 2nd edn, 1967, pp 50–1.

[6] B H Brown, *The Tariff Reform Movement in Great Britain 1881–1895*, New York, 1943, pp 144–5.

[7] Under a crude Ricardian theory of rent, protection would allow a rise in rents until the landlord had appropriated the entire proceeds of a duty on foodstuffs.

outspoken spirits called the deliberate 'murder' of British agriculture.[8]

Agricultural patience was tested sorely when Sir Michael Hicks Beach's Corn Registration Duty (CRD), introduced to raise revenue in the Boer War, was removed in the budget of 1903.[9] The anger amongst farmers, however, was of less immediate significance than the controversy in the cabinet over whether to retain the duty as a vehicle for introducing colonial preference, a controversy which gave the protectionist-imperialist movement in Britain what it had lacked in the 1880s — a political leader of national and international stature.[10]

Joseph Chamberlain's developing concern for imperial unity had been strikingly manifest by his decision to accept the post of Colonial Secretary in preference to that of Chancellor of the Exchequer in Salisbury's ministry of 1895. At the Colonial Office, and at the Colonial Conferences of 1897 and (especially) 1902, he had seen that unity could be promoted by means only of reciprocal trade preferences, since other methods such as closer co-operation in imperial defence or a 'Council of Empire' had been vetoed by the self-governing colonies.[11]

Cabinet defeat on the CRD led Chamberlain to launch his Tariff Reform campaign in a speech at Birmingham on 15 May 1903. Free Traders were quick to force him to admit that colonial preference would require duties on British food imports, since food constituted the bulk of colonial exports.[12] Furthermore, they delighted in reminding farmers that Chamberlain's vision of vast imperial granaries with preferential access to the British market offered British agriculture little comfort.[13] But Chamberlain's Tariff Reform proposals were still vague and unformed, even after a more detailed speech at Glasgow on 6 October, and in December Chamberlain announced the establishment of an unofficial Tariff Commission of fifty-nine businessmen, whose brief was to construct a detailed 'scientific tariff' which would accomplish Tariff Reform objectives. The secretary of the Commission was to be W A S Hewins, ex-director of the LSE and a prominent historical economist.[14]

This article examines the efforts of the Commission's Agricultural Committee to devise an agricultural policy in line with overall Tariff Reform objectives. At the same time as the agricultural interest had to be satisfied, industrial and colonial interests had to be placated. Whether we see Hewins, and by implication the Commission he guided, as exponents of 'fairly conventional industrial protectionis[m]', or as being driven by an 'imperial vision',[15] agricultural protection in itself was far from being their single overriding objective. Such considerations should not, however, lead us to underrate the concern of Chamberlain, Hewins and the Commission for agricultural welfare. Though the Unionist Party's retreat from food taxes in 1913 made it clear that agriculture was the main Cinderella in its policy on Tariff Reform, the Tariff Commission's earlier efforts to design remedial measures for the agricultural situation mark it out as the most pro-agricultural of all the Tariff Reform groups and factions.

But the task was not easy, and below we examine the constraints and limitations which conspired to defeat their purpose. In

[8] Sir Wm E Cooper, *The Murder of Agriculture*, Letchworth, 1908; F A Channing, *The Truth about Agricultural Depression*, 1897, pp xii, 60–3; B H Brown, *op cit*, pp 145–52; Rider Haggard, *A Farmer's Year*, 1899, pp 413–4; *idem*, *Rural England*, 2nd edn, 1906, I, p x.

[9] For Henry Chaplin's deputation to Balfour, see J Amery, *Life of Joseph Chamberlain*, V, 1969, pp 181–3.

[10] *Ibid*, chs 97–9.

[11] For a good short summary, see S H Zebel, 'Joseph Chamberlain and the Genesis of Tariff Reform', *Journal of British Studies*, VII, 1967, pp 138–41. Also, J E Kendle, *The Colonial and Imperial Conferences 1887–1911*, 1967, esp chs 2–3.

[12] *Parliamentary Debates*, CXXIII, 28 May 1903, 185.

[13] A J Marrison, 'The Development of a Tariff Reform Policy during Joseph Chamberlain's First Campaign', in W H Chaloner and B M Ratcliffe (eds), *Trade and Transport*, Manchester, 1977, p 223.

[14] *Ibid*, *passim*.

[15] B Semmel, *Imperialism and Social Reform*, 1960, p. 208; cf I M Drummond, *British Economic Policy and the Empire 1919–1939*, 1972, pp 37–8. Both these authorities would acknowledge the overlap in Hewins's concerns and motivations.

Section I we chart the equivocal attitudes of farmers to Tariff Reform and briefly examine the mechanism established by the Commission to construct a Tariff Reform policy on agriculture which was at the same time more congenial to farmers and in line with wider Tariff Reform objectives of industrial regeneration and imperial consolidation. Section II examines the difficulties posed in aiding agriculture by either a duty or a bounty on wheat, whilst Section III analyses the problems encountered in trying to compensate for this through other provisions such as a tax on barley, and Section IV discusses the difficulties in trying to supplement the policy with politically acceptable non-tariff measures. Section V gives brief consideration to the fate of the Commission's proposals in the wider collapse of a Tariff Reform policy on agriculture.

I

At Glasgow Chamberlain had advocated a duty of 2*s* per quarter on foreign corn, a 'corresponding' tax on flour, and 'about 5 per cent' on meat and dairy produce. Maize and bacon were to be exempt, as were colonial products except for wine and fruit, which would receive 'substantial preference'. To offset any rise in prices, existing revenue duties (on tea, coffee, etc) would be reduced.[16]

In its examination and modification of these initial proposals, the Commission knew there was disquiet among farmers over aspects of the policy. Speaking at the Central Chamber of Agriculture's Annual Meeting, Rider Haggard feared Chamberlain's policy was 'not made . . . with any special reference to agriculture, and if agriculture did come in it would only be by a side wind'. Sir Edward Strachey feared any preferential deal with the colonies.[17] Even Lord Onslow, president of the Board of Agriculture and a cautious supporter of Chamberlain, remarked in an open letter to a tenant that he feared the spectre of free entry of wheat from 'millions of acres of colonial soil, yet untilled'.[18] Several Chambers of Agriculture, including the Stockton, Cleveland, West Riding and Scottish Chambers, were known to be unhappy with Chamberlain's speech.

Farmers were fearful of being dupes in a policy which benefited only industrial and colonial interests, and were particularly concerned over the claim of some Tariff Reformers that the price of wheat might even fall if preference encouraged colonial production and exports more than it stifled foreign shipments to Britain.[19] But Henry Chaplin, at the same time agricultural champion and strong Tariff Reformer, was determined that an equitable policy must embrace agriculture as well as industry. Replying to Haggard, he stressed the danger of 'one-sided' protection of manufactures as envisaged in Balfour's policy of 'retaliation'. At present, Chamberlain's policy was the best available, and Tariff Reform plans were still incomplete, still capable of expansion.[20]

Thus Chaplin knew that support for Tariff Reform was for many in agriculture a tactical, even provisional move. As A H H Matthews, secretary of the Central Chamber, was to inform the Committee when a member, only about half of the forty-one Chambers and Farmers' Associations which passed resolutions on Tariff Reform between June 1903 and March 1904 endorsed Chamberlain's scheme unequivocally.[21] Nevertheless, the Commission found it easier to recruit Agricultural Committee members than it did industrialists to sit on the main Commission, a sign that there was little opposition to Tariff Reform amongst farmers that could not be

[16] Reprinted in J M Robertson (ed), *The Collapse of 'Tariff Reform': Mr Chamberlain's Case Exposed*, 1911, pp 2–66, esp. pp 50–6.
[17] *Sheffield Daily Telegraph*, 4 and 8 November 1903.
[18] *Morning Post*, 26 November 1903.
[19] Marrison, *loc cit*, pp 222–3.
[20] *Sheffield Daily Telegraph*, 9 December 1903; *Morning Post*, 15 December 1903.
[21] 'Resolutions on Tariff Reform by Chambers of Agriculture' (undated typescript); C-756, Tariff Commission Papers (hereinafter TCP).

met by improvement of the Glasgow proposals. Help from Matthews at the Central Chamber and, more clandestinely, from Onslow, Sir Thomas Elliott and Jacob Wilson at the Board of Agriculture, enabled a committee to be assembled without political embarrassment.[22]

Conscious of the need to establish the reputation of the Committee as a true friend of agriculture, Chaplin sought to choose members who were prestigious in their localities, and who would be seen to possess expertise and authority.[23] He also ensured a significant departure from prevailing Commission practice. With manufacturing, the Commission pursued a methodology intended to establish whether the relevant British industry suffered under natural or institutional disadvantages which would render the claim for protection unjustified.[24] British industry should be protected only against unfair foreign commercial practices, not against classic 'comparative advantage'. This was difficult to maintain in the case of agriculture, given the low production costs of the New World.[25] But, as Matthews argued, 'It is either a good thing for Agriculture in this country to be flourishing, or it is not. I have never yet come across anyone who holds the latter opinion, so let it be granted that it is good.'[26] Accepting this naive but fairly early appreciation of the divergence between private and social costs and benefits,[27] Chaplin was determined that the Committee should not waste its energies examining the state of British agriculture. To do so would merely duplicate the work of the two Royal Commissions on agricultural depression on which he himself had sat. Thus he ensured that the Committee's job was limited to examining the probable effects of Chamberlain's policy proposals on agriculture, ways of extending or improving those proposals, and the best ways of harmonizing any conflict of interest between agriculture and manufacturing.[28]

Under Hewins and the full-time staff, the preliminary work of compiling and dispatching questionnaires was accomplished quickly, and by June 1904 replies were being received in considerable numbers, though the summer revealed a relative sparsity of returns from Wales and Ireland.[29] Efforts to remedy this proved successful in the case of Ireland, assistance being received from Sir William Goulding and various Irish local authorities,[30] but Welsh farmers remained 'very difficult to get at in such matters',[31] and in the end only some forty-eight of a total of 2251 replies came from that country.[32]

Initially, it was feared that farmers would be less able and less willing than industrialists to fill in and return the questionnaires, early drafts of which were criticized for being too complicated.[33] Such fears were apparently exaggerated, and Hewins wrote to Arthur Wilson Fox, a man well-versed in agricultural enquiry, of the 'excellent manner' in which farmers filled in the forms.[34] The

[22] There were political difficulties of a kind in the appointment of William Frankish. A member of the Lincolnshire Chamber dominated by Lord Heneage, he was thought undesirable by some Commission members since he was associated with the view that Chamberlain's scheme would aid the farmer little. But Chaplin's demand that Frankish should be included to reassure the Lincolnshire farmers and disarm future criticism from that quarter prevailed. See Chaplin to Hewins, 5 March (telegram) and 6 March 1904; C-76(I), TCP. Also Lord Heneage to Ed, *The Times*, 9 August 1904.

[23] Of the sixteen active farmers on the Committee, acreage is known for ten. Only two of these (both in Ireland) farmed less than 1000 acres. See appendix, pp 186–7.

[24] A J Marrison, 'British Businessmen and the "Scientific Tariff": A Study of Joseph Chamberlain's Tariff Commission 1903–1921', unpublished PhD thesis, University of Hull, 1980, Chs 4 and 5.

[25] It was realized, however, that technical efficiency and yields per acre in Britain stood international comparison well. See *The Tariff Commission*, vol 3, *Report of the Agricultural Committee*, 1906, para 552 (hereinafter *Agricultural Report*).

[26] A H H Matthews, 'Agriculture and Preferential Tariffs', undated typescript, *c*1904, p 5; copy in TCP.

[27] Chaplin also had in mind, of course, the need for food duties as a prerequisite for imperial preference, and the necessity, as he saw it, for safeguarding food supplies in time of war.

[28] Chaplin to Hewins, 31 January and 4 March 1904; C-76(I), TCP. Also *Agricultural Committee Minutes* (printed), 8 March 1904; TCP (hereinafter ACM(P)).

[29] P Hurd to Hewins, 8 September 1904; C-174.1, TCP.

[30] See correspondence between Hewins and Goulding between September 1904 and November 1906; C-137, TCP.

[31] Agricultural Committee Minutes (verbatim typescript), 28 June 1906, p 28; TCP (hereinafter ACM(VT)).

[32] Southeastern and Midland counties (including East Yorkshire) provided 41.5% of the returns to the questionnaires, Northern and Northwestern counties 15.1%, Scotland 11.1%, Ireland 19.4% and Wales 2.1%.

[33] R W Hudson to Hewins, 16 March 1904; C-608, TCP.

[34] Hewins to Wilson Fox, 26 May 1905; C-1591, TCP.

selection of witnesses, too, went much more smoothly than in difficult trades such as cotton and chemicals. Some 146 agricultural witnesses were examined, thirty or so being directly nominated by local Farmers' Clubs and Chambers of Agriculture.[35]

II

Free Traders such as Sir William Harcourt saw the landed interest as fervent supporters of Chamberlain because of their desire for a rise in the price of corn under protection, and Free Trade propaganda wisely and effectively fuelled the indignation of workers against a tax on bread, that most biblical of consumer goods. Free Traders hence treated a corn tax and a wheat tax as synonymous.[36]

The Tariff Commission's Agricultural Committee, however, put little value on a tax on wheat in itself. Most members thought Chamberlain's proposed 2*s* duty too small to transform the profitability or scale of UK wheat farming, and in view of the fact that public hostility to corn duties was 'one of the great difficulties we have to meet',[37] they saw little scope for raising it enough to make any significant difference. Duties on the German scale (*c* 10*s* per quarter) were out of the question.

Mitchell Harris, the bacon curer, and John Stratton, the large-scale Hampshire farmer, were willing to abandon the wheat duty to aid political acceptance of a wider Tariff Reform policy. But, as Chamberlain remarked, the corn tax was 'almost the fundamental part' of Tariff Reform. Even he, however, admitted the almost symbolic nature of a wheat duty in his proposals. Since there was 'no serious foundation' for the fear that a 2*s* duty would raise prices, the 'lies' and 'misinterpretations' of the opposition would gradually be revealed for what they were. He admitted the duty's ineffectiveness, but considered it unwise 'to run away in sight of the enemy'. Opponents who had so far:

> . . . devoted themselves entirely to attacking us upon the wheat duty would . . . immediately begin to attack us upon the meat duty or something else of that kind: and the very fact that we appeared to be frightened at their arguments would give them encouragement . . .[38]

Thus, the wheat duty was necessary as 'a sort of umbrella to protect us from [criticism of our] other taxes', and as a necessary prelude to colonial preference. One possible compensation for its inadequacy was a differentially heavy duty on foreign flour. The Agricultural Committee hoped this would aid small country mills, which had been declining rapidly for some thirty years with a consequent loss of rural employment.[39] Such hopes were in fact rather optimistic. A rise in the grain:flour ratio of imports[40] would have largely benefited the port miller. Given the capital intensity of the first-class roller mills at the major ports and the prevalence of overproduction around 1900,[41] it is likely that even urban employment would have been little stimulated. Chaplin's additional objective, that an increase in the grain:flour ratio of imports would also improve the supply of offals available to British farmers (incidentally necessitating an export duty to prevent offals finding their way to Europe and returning as 'Butter and Bacon' to add to the misfortunes of British farmers) was also of doubtful benefit. As flour miller Joseph Rank stated, British farmers were well served already, only surplus bran and pollard being exported in spite of prices in Europe being 5*s* to 7*s* 6*d* higher even after heavy transport costs.[42]

[35] ACM(P), *passim*.
[36] 'Mr. Chamberlain's Proposals', *Free Trader*, 31 July 1904, p 4.
[37] Chaplin, ACM(VT), 28 June 1906, p 1; TCP.
[38] Tariff Commission Minutes (verbatim typescript), 11 July 1906, pp 7–9, 14–16; TCP (hereinafter TCM (VT)).
[39] See remarks of William Cooper, TCM (VT), 11 July 1906, p 11; TCP.
[40] This had happened under Hicks Beach's Corn Registration Duty, when there was a differential of 3*d* per quarter on wheat and 5*d* per quarter on flour.
[41] H W Macrosty, 'The Grainmilling Industry: A Study in Organisation', *Economic Journal*, XIII, 1903, esp pp 324–8.
[42] Chaplin to Hewins, 10 November 1906; C-76(II); Rank to Hewins, 18 March 1905; C-333, TCP.

Given that the Committee realized any practicable wheat duty would be of little benefit to agriculture, there was considerable support for a production bounty. This had been first mentioned by Sir Charles Follett,[43] a member of the Commission but not of its Agricultural Committee, and it was raised again at the joint meeting of the Commission and the Committee in July 1906, when Sir Walter Peace[44] suggested a bounty of £1 per acre on wheat.

Chamberlain, though realizing the popularity of such a proposal with farmers, argued that year-to-year changes in acreage would introduce uncertainty into government spending. His remark that a bounty 'would no doubt be a popular thing' with the electorate was probably disingenuous, designed to placate those on the Committee who supported one. More likely he agreed with Alfred Gilbey, of the wines and spirits firm, that bounties were, in the age of the Brussels Sugar Convention, regarded as 'the worst form of protection . . . and . . . very unpopular'. Chamberlain's opposition, however, did not lessen the appeal of bounties for many on the Committee. John Dennis, Covent Garden merchant and farmer, urged an indirect alternative — that agriculture should stake its claim on the revenues gained from the proposed duties on food and manufactures by demanding a reduction of taxes on agricultural land. Manufacturers, he argued, would welcome such a measure since 'those very funds which are being placed at the disposal of agriculturalists . . . would be funds which in the raising of them protected the manufacturers'. The more moderate view of Sir Samuel Boulton[45] that such a subsidy be limited to the revenue raised by the 2*s* wheat duty, or even 'a portion of it', received even wider support, not least from opponents of a direct bounty such as Gilbey. Dennis was not alone in the opinion that, without some form of indirect bounty or subsidy, 'I fail to see entirely where the farmer . . . will be able to get any benefit whatever out of Tariff Reform.'[46]

The prevailing fear amongst Committee members that agriculture stood to gain little from existing Tariff Reform plans was shown again in discussion of the treatment of colonial wheat. Chaplin had originally envisaged the Committee adhering to Chamberlain's Glasgow proposal that colonial corn should be admitted free. Opponents of this view wanted the old 1*s* Corn Registration Duty to be restored, and treated as an irreducible minimum.[47] Chamberlain was prepared to give ground on this, since 'it is a little hard upon [British farmers] that they do not get anything whatever', whilst free entry of corn from Canada and Australia might 'induce such an enormous increase in their production as to lower the price and leave the [British] farmers worse off than ever'.[48]

Though this was a significant concession of principle, it left undecided whether the duty on foreign wheat should be 2*s* (as at Glasgow) or 3*s* (Glasgow plus the CRD). The majority of members favoured the latter, and when, subsequently, Chaplin coupled a 3*s* duty with a duty of 5*s* on foreign and 1*s* 8*d* on colonial flour in a motion from the chair, there was mild euphoria. But Gilbey and Stratton counselled caution, arguing cogently that the trivial economic advantage would not be worth the political hostility it would incur.[49] Furthermore, it is likely that Chamberlain and Hewins worked behind the scenes, aware not only of the public reaction to an increase in the proposed bread tax but also of the likely attitude of the Commission itself, mostly industrial and

[43] Recently retired Solicitor to HM Customs.
[44] Recently retired Agent-General for Natal in London.
[45] Chemicals producer, tar distiller and timber importer.

[46] TCM(VT), 11 July 1906, pp 17, 19–25; TCP.
[47] The opposition was led by Lord Desborough (formerly W H Grenfell, member of a prominent family of merchant bankers and owner of 12,000 acres), Bridges Webb (a London grain import merchant) and William Cooper (a Smithfield cattle merchant).
[48] TCM(VT), 11 July 1906, pp 11–17; TCP.
[49] ACM(VT), 31 July 1906, pp 37–9; TCP.

not agricultural in its interests.[50] When, by a cloudy and obscure process, the 2*s* proposal was revived and embodied in a draft report, Committee members were to learn, if they had not known before, of the considerable unspoken opposition to going beyond 2*s*. But they were also beginning to realize the wisdom behind restraint. All agreed with Hewins that a duty of at least 10*s* would be necessary to have any significant effect on UK wheat output, and that this was not only politically unrealistic but would also affect other branches of agriculture severely. In this sense, therefore, it seemed to make little difference whether 2*s* or 3*s* were finally chosen, and the choice was made on political grounds.

This disappointment strengthened the Committee members' resolve to secure an indirect bounty. The Committee's 'establishment' was prepared to countenance recommending full implementation of Chaplin's own Agricultural Rates Act of 1896,[51] or the transference of the burden of expenditure on education, police and highways from local to national funds.[52] But even such modest measures (Hewins later calculated that extension of rate relief under Chaplin's Act would only cost the Exchequer some £0.75m pa) posed a political difficulty. The need to provide compensating reductions in existing revenue duties, and the political opposition to the original Agricultural Rates Act,[53] boded ill for any attempt to extend rate relief. Thus, though Chamberlain's scheme as it stood was realized to benefit industry much more than agriculture, any attempt to redress this by even such a modest indirect bounty would appear to the public as precisely the opposite — as conceding rate reductions to an interest group which had already been granted the iniquitous 'stomach tax'.

When Committee members discovered that the original draft report of October 1906 limited indirect aid to agriculture to such moderate measures, and rather hid them in the text to boot, they were furious. Their anger was surpassed by that of Commissioner Sir Walter Peace, who, in one of those rare moments of Tariff Commission history, even threatened a minority report. More radical members, such as Rouse Orlebar and John Dennis, wanted specific earmarking of 'some part of the proceeds of the new taxes' for agriculture. This would give farmers 'the impression that they are getting some benefit from Tariff Reform'.[54] But, more than that, supporters of earmarking doubtless appreciated that even a low earmarking ratio (say 10 per cent on an anticipated wheat duty revenue of £7–8m, equivalent to the £0.75m cost of rate reductions) would, with the principle established, have afforded farmers the opportunity of exerting pressure to raise the ratio. Furthermore, some on the Committee seemed to regard earmarking as a half-way house towards bounties, which even more would have put the salvation of farmers in their own hands.

Indeed, the Commission's leaders made strenuous efforts to resist suggestions of earmarking and bounties. It was made known that Austen Chamberlain, as an ex-Chancellor of the Exchequer, 'looked very askance' at earmarking, a practice in any case unnecessary since both he and his father thought that increased revenues from Tariff Reform would allow greater subsidies to

[50] For differing analyses of interests on the Commission, see B Semmel, *Imperialism and Social Reform*, 1960, pp 101–4, and A J Marrison, 'Businessmen, Industries and Tariff Reform in Great Britain, 1903–1930', *Business History*, XXV, 1983, pp 148–78.

[51] The Royal Commission of 1894–7 had recommended the removal of three-quarters of the rates on agricultural land, but the Exchequer had subsequently limited the reduction to one-half.

[52] This suggestion, made by A H H Matthews, was based on a distorted interpretation of the recommendations of the Royal Commission on Local Taxation of 1896–1902. Like the Royal Commission's recommendations, the Tariff Commission's proposals were, in the event, much more cautious. See *Agricultural Report*, paras 368–9.

[53] J F Rees, *A Short Fiscal and Financial History of England 1815–1918*, 1921, p 178. A jaundiced cartoon in *Punch* depicted Chaplin transferring a large sack of rates from a massive rural carthorse to an already creaking and overburdened urban ass. Reproduced in P J Perry, *British Farming in the Great Depression 1870–1914*, 1974, p 61.

[54] ACM(VT), 9 October 1906, pp 16–26; 22 October 1906, pp 1–22; TCP.

agriculture out of the Consolidated Fund.[55] There was still considerable support for bounties, but since three of their strongest advocates, Boulton, Peace and Follett, were members of the Commission but not of its Agricultural Committee, heavy-handed chairmanship of the latter by Chaplin ensured that sufficent pressure could not be exerted to re-introduce them onto the agenda. When, at a later meeting, Lord Desborough observed that he 'though there was going to be a great push today for bounties', the secretary remarked cryptically that 'We have disposed of that.'[56] The majority had, quietly and resignedly, come to accept Matthews's view that bounties were 'for the time being ... beyond the scope of practical politics'.[57]

III

Given the difficulty of proposing a wheat duty big enough to provide material benefit to farmers, Hewins and Chaplin sought to recompense them in the barley duty. Physically, British barley output exceeded wheat output in 1890–1904,[58] and little was imported from the colonies, though field trials were under way in New Zealand and the north-west provinces of Canada, whilst India exported 'small quantities' and Queensland had just sent its first ever shipment to London.[59] Hence, imperial preference would be unlikely to erode the benefit to the farmer from Tariff Reform.

P R Gray, of County Kildare, saw the potential of heavy protection of barley counterbalanced by a compensating reduction in the beer duty. Charles Babington, of Watneys the brewers, thought the scheme both acceptable and workable, but it was less easy to satisfy the other drink interests. Alfred Gilbey, mindful of Chamberlain's exemption of maize as a food of the poor in his Glasgow speech, feared that a tax on barley would damage malt whisky distillers whilst benefiting grain spirit distillers. He suggested a compensating increase in the liquor duty on grain whisky to even the balance.[60]

The Committee found it hard to obtain evidence to test the plausibility of such a scheme, since relations between the eleven large UK grain distilleries and the 149 malt distilleries were poor.[61] But it was clear that, to harmonize interests, a tax on barley would have required a reduction of the beer duty and a tax on maize (or a reduction of the duty on malt- relative to grain-whisky). This would have damaged livestock feeders. As Chaplin summarized the position:

> The Barley grower is injured by the exemption of maize from duty, because that will induce a larger use of maize in brewing. On the other hand the exemption of maize suits the feeders. The bacon curers complain of the exemption of bacon from duty, because their best food for bacon, namely barley meal, will be taxed. On the other hand, the duty on barley is the mainstay of the grower of grain because, while the duty on wheat will erelong be rendered ineffective by the increase of wheat from the Colonies, very little barley comes from the Colonies at present.[62]

Taxing bacon and maize, to secure the important tax on barley, would have hit at the exemptions promised in the Glasgow speech.[63] Thus, Chaplin suggested a duty on barley imported for brewing but not on lighter, low quality, feed barley. The pig breeder would have his grievance removed, both his product and his feed remaining untaxed. But such a scheme was unacceptable to the bacon curer, Mitchell Harris, who had always been opposed to the exemption of bacon in the Glasgow scheme.[64] He doubted that bacon still constituted an

[55] ACM(VT), 22 October 1906, p 20; TCP.
[56] ACM(VT), 9 November 1906, p 4; TCP.
[57] ACM(VT), 22 October 1906, p 25; TCP.
[58] B R Mitchell and P Deane, *Abstract of British Historical Statistics*, Cambridge, 1962, pp 86–7.
[59] Sir Jacob Wilson to Chaplin, 28 April 1904; C76(I), TCP. William Frankish to Hewins, 2 May 1904; C-1304, TCP. C Babington to Hewins, 3 November 1905; C-1836, TCP.
[60] P R Gray to Hewins, 16 June 1904; C-582, TCP. C Babington to Hewins, 3 November 1905; C-1836, TCP. Gilbey to Hewins, 25 January 1904 and 20 October 1905; C-203, TCP.
[61] Gilbey to Hewins, 19 July 1905; Sir Thomas Dewar to Hewins, 12 October 1905; Hewins to Gilbey, 19 October 1905; C-203, TCP.
[62] Unritled typescript dated 3 August 1905; in C-76(II), TCP.
[63] TCM(VT), 11 July 1906, p 35; TCP.
[64] *Agricultural Report*, para 1111.

important food of the poor, in view of the recent rise in imports of frozen mutton and cheap Argentine beef. Furthermore, taxation of pork would merely intensify foreign competition in Britain's untaxed bacon market.[65]

This forcible declaration of protectionist intent impressed Agricultural Committee members, though at the joint meeting of Commission and Committee the non-agricultural Commission members were less receptive. Only after consultation with Arthur Wilson Fox, whose reports for the Board of Trade had originally stressed the importance of bacon in the diet of farm workers,[66] were Hewins and Chaplin prepared to concede that even in rural areas labourers were increasingly substituting cheap imported meat for bacon.[67]

The Committee was less willing, however, to introduce a distinction between malting and feeding barley. Though Babington had declared this perfectly possible, given that brewers already supplied the necessary returns to the Board of Trade, Matthews feared the possibility of evasion, whilst Hewins had received intelligence that a similar differentiation in the German tariff of 1905 had already proved unworkable.[68] Recommending a duty on barley equivalent to that on wheat, the *Agricultural Report*, as finally published, was to state blandly that the introduction of a differential would 'depend . . . upon many technical considerations which would have to be worked out by official experts'.[69]

Thus Chaplin's scheme, whereby exemption of bacon and maize would be permitted by a differential duty on barley, and that thereby barley might be subject to a much higher duty than wheat to compensate for the acknowledged inadequacy of the wheat duty, was abandoned. Gray's suggestion of 4–8*s* per quarter on malting barley[70] could scarcely have been applied to feeding barley, since, at prices of 25*s* per quarter or less,[71] this would have meant a duty of 16–32 per cent when, on other farm produce, the Committee was discussing and recommending duties of 5–10 per cent. Even with a 5–10 per cent tax on bacon, there was not the latitude for compensating barley feeders that changes in the liquor duties would have provided for the compensation of brewers and malt distillers.

From the farmer's point of view, however, the dropping of the proposal for a high barley duty at least had the advantage of bringing bacon and maize into the net of taxation — he could take comfort in a sort of residual blanket protectionism. Several Committee members were unhappy about the decision to subject maize to duty, Dennis even considering the Committee 'pledged' to honour Chamberlain's original proposal,[72] but the determined Harris, now supported by Gilbey, was able to ensure that even Chaplin's suggestion that maize be taxed more lightly than other cereals was cast aside.[73]

IV

Given the Agricultural Committee's protectionist sentiments, its tariff recommendations (Table 1) were only a moderate escalation of Chamberlain's Glasgow proposals, the most significant area of advance being the taxation of colonial produce. This moderation was partly ensured by the Tariff Commission establishment's victory in defeating bounties and earmarking and in keeping the wheat duty down to 2 shillings, and by the decision not to recommend a high duty on malting barley. It cannot be argued, however, that these decisions established a precedent for similarly moderate (5–10 per cent) duties on meat, dairy and market

[65] TCM(VT), 11 July 1906, pp 34–40; TCP.
[66] See, eg, Board of Trade, *Report on Wages, Earnings and Conditions of Employment of Agricultural Labourers in the UK*, Cd 346, 1900.
[67] ACM(VT), 31 July 1906, pp 32–5; TCP.
[68] ACM(VT), 9 October 1906, p 30; TCP.
[69] *Agricultural Report*, paras 382, 394.
[70] Gray to Hewins, 16 June 1904; C-582, TCP.
[71] *Agricultural Report*, Table 7, para 72.
[72] TCM(VT), 11 July 1906, pp 44–5; TCP.
[73] ACM(VT), 31 July 1906, pp 36–9; 9 October 1906, p 30; TCP.

TABLE I
Recommendations of the Agricultural Committee (Provisional Scale of Duties)

	General Tariff	*Preferential Tariff*
Wheat	*6d* per cwt (*c* 2*s* per qr)	*3d* per cwt (*c* 1*s* per qr)
Barley, Oats, Rye, Maize	Duties equivalent to those on wheat	Duties equivalent to those on wheat
Wheaten and other flour and meal	1*s* 3*d* per cwt	Subject to negotiation with the Colonies
Animals and meat, including bacon	General level to be 5%	
Dairy produce including poultry & eggs; Market garden produce including potatoes & hops; Hay & straw	Specific duties equivalent in general to from 5% to 10% *ad val*: though in particular cases some duties when calculated may be found to be lower and in others rather higher than these limits	

Source: Agricultural Report, para 394

garden produce, since these were little discussed and there was already a consensus on meat (though not on live versus dead meat)[74] well before the wheat question was finally settled. This suggests, therefore, that even the more heavily protectionist sentiments on the Committee were relatively satisfied with 5–10 per cent on such products.

Indeed, the replies to the questionnaires printed in the *Agricultural Report* suggest that farmers were relatively well disposed to 5 per cent on meat. On wheat there was considerable diversity. 309 replies thought the 2*s* duty beneficial to agriculture though many felt that the main benefit would lie less in the price effect than in the stimulus to milling or in greater price stability. Thirty-nine thought a 2*s* duty useless unless combined with reductions in agricultural taxation or production bounties. 187 farmers felt that 2*s* would be of little or no benefit, either because they feared a rise in feed prices or because they accepted the Tariff Reform argument that colonial imports would expand to negate the effects of the duty. Forty-one explicitly opposed exemption of colonial wheat, and 123 suggested that higher duties were necessary, 5–10*s* being commonly suggested. But replies on a 5 per cent meat duty were more favourable. The Committee printed 207 claiming this would be beneficial, and recorded another 158 of the same opinion. Thirty-one farmers thought a meat duty of little value unless combined with a reduction in agricultural taxes. Only seventy-five thought that 5 per cent on meat would be of no benefit at all, and, though a further eighty-two thought 5 per cent not sufficient, even here the suggestions were less extreme than in the case of wheat, 10 per cent being the most commonly cited figure.[75]

But, in spite of recommendations replacing colonial exemption by colonial prefer-

[74] On the matter of discriminating between imports of dead meat, live cattle for slaughter, and store cattle, the Committee exhibited confusion, partly because of badly designed questionnaires and ambiguous replies, and partly because of a division of opinion on the Committee. See TCM(VT), 11 July 1906, pp 28–31 and ACM(VT), 22 October 1906, pp 39–43; TCP. For Austen Chamberlain's confusion on reading the *Agricultural Report* (relevant paras 385, 1894–1991), see his *Politics from Inside*, 1936, p 159. On the general history of the agricultural lobby against live cattle imports, see A H H Matthews, *op cit*, ch 2.

[75] *Agricultural Report*, paras 1532–1696, 1772–1893.

ence, measures to revive the milling trade, the inclusion of bacon and maize, and a proposal to reduce agricultural rates, it is clear that the Committee hardly thought it had improved the Glasgow policy sufficiently to restore agriculture's fortunes. Their overriding objective was to help win the initial political acceptance of Tariff Reform. They could bear the brickbats hurled at them by farmers who argued that the proposed duties would not raise prices because colonial imports would increase, since these were the very arguments that they, as Tariff Reformers, were using to convince the much larger non-agricultural electorate. Furthermore, many on the Committee saw its tariff schedule as only a beginning. It was a frequent Free Trade accusation that tariffs, once introduced, tended to rise,[76] and the private discussions of the Committee would, if made public, have provided some justification for the taunt. Even Chaplin thought that, under a Unionist government, public opinion and government favour might swing back towards the unloved farmer, and make 'a little bit more' possible later on.[77] William Frankish urged that the Committee's recommendations should not be so extreme as to 'prejudice other Interests than Agriculture. Our Duty and Interest is to get these small Duties established and leave the rest to the future.'[78]

The recommendation of substantial 'non-fiscal' measures to aid agriculture (usually less non-fiscal than they appeared) was politically as difficult as the recommendation of higher tariffs. John Dennis's vision of 300 sugar refineries, at a capital cost of £15 m, totally displacing Britain's sugar imports,[79] depended at the very least on the existing revenue duty on sugar remaining in force, together with a government guarantee that, should commercial production be established in the UK, the home excise duty then imposed would be kept as low as permissible under the Brussels Convention.[80] But Lord Denbigh, well-known for his experiments at Newnham, had failed in persuading even Balfour's administration to give such an undertaking, and he feared that a Liberal government would reduce or abolish the countervailing duty on bounty-fed European beet sugar established after Brussels.[81] Tobacco was a similar case. As Tariff Commissioner Sir Charles Follett, retired Solicitor to HM Customs, wrote, a duty of 'many times its value' on imported tobacco coupled with an abolition of the home excise duty was 'almost too fundamental an attack on our present fiscal system to be brought in in this casual way'.[82] Furthermore, the Tariff Reformers were hampered by Chamberlain's offer of removing the sugar duty and part of the tobacco duty, along with other revenue duties, as a quid pro quo to the consumer for taxes on other foodstuffs. Initially enthusiastic, even Chaplin lost his resolve.[83]

Even where non-fiscal measures were not subject to fiscal constraints, there were equally intractable problems. The Commission establishment sought to avoid alienating the railway interest, favouring a recommendation that the Board of Agriculture be empowered to assist farmers bringing complaints before the Railway and Canal Commissioners.[84] But several members, led by Dennis who had had personal experience of a fruitless appearance before this tribunal, thought the legal

[76] Marrison, 'Development of a Tariff Reform Policy', *loc cit*, p 226.
[77] ACM(VT), 9 October 1906, p 35; TCP. See also remarks of C J Phillips and A H H Matthews in ACM(VT), 22 October 1906, pp 35, 41–2; TCP.
[78] Frankish to Hewins, 12 October 1906; C-1304, TCP.
[79] 'Sugar Production in the UK', 3 May 1904; copy in C-135, TCP.
[80] The Convention allowed for a differential of *2s 6d* per cwt. With the revenue duty (in 1904) at *4s 2d*, this would have required a minimum excise duty of *1s 8d* per cwt.
[81] Denbigh to Chaplin, 27 August 1906; C-76(II), TCP. Denbigh, 'The Possibilities of British Sugar Manufacture' (pamphlet, 1906).
[82] Follett to Hewins, 5 November 1906, C-633, TCP. See also ACM(VT) 31 July 1906, p 29, and 9 October 1906, p 28; TCP.
[83] Chaplin to Hewins, 16 October and 10 November 1906; C-76(II), TCP. Also Charles Lyle to Hewins, 11 January 1910; C-1154, TCP.
[84] As argued in Haygarth Brown's minority report in *Report of the Departmental Committee on Railway Rates (Preferential Treatment)*, Cd 2959, 1906, LV, p 41, paras 31–3.

definition of discrimination under the 1894 Railway and Canal Traffic Act was inadequate. Dennis's complaints of excessive rates and favourable treatment of imports on trunk lines leading from the ports mirrored the disquiet of the rural community[85] and had been endorsed in many of the replies to the questionnaires. To Dennis, the question of discrimination was inseparably linked with the more general issue of the level of freight rates on agricultural produce, and in the Railway Commissioners he discerned the expected Board of Trade bias in favour of the 'wealthy, powerful and highly organised railway interest'.[86]

Sir Vincent Caillard, who had minor railway interests himself, gave the standard defence that imports arrived in large, well-packed consignments. Hewins, trying to conciliate both sides, argued that the situation was probably justifiable economically, but was not on that account desirable. Basing railway rates on costs incurred was, he realized, impossible ('The railway system is administered as a whole. It is impossible . . . to say what was the cost to the railway company of bringing me up from Putney this morning to Waterloo'), but he did advocate local organization of farmers and joined with Chaplin in suggesting a conference between railway managers and agricultural representatives.[87] These suggestions, subsequently incorporated into the Committee's final recommendations,[88] were received coolly by Committee members, partly because they were tainted with a co-operative flavour that most regarded as useless and partly because they tended to postulate an economic rationalism on the part of the railways that members were unwilling to concede.

Perhaps to try to propitiate members for the inadequacy of these 'non-fiscal' proposals, Chaplin subsequently sought approval for associating the Committee's *Report* with Jesse Collings's Land Purchase Bill (England and Wales), intended to grant low-interest loans to tenants wishing to purchase their holdings.[89] The Committee shared his enthusiasm in attempting to forge a link between Tariff Reform and Collings's bill, which was thought 'extremely popular' in rural areas:

> . . . there is nothing in the world would bring a new fiscal policy [ie Tariff Reform] more completely to the front, and to the minds of the country, than a large addition of smallholders all over the kingdom. (Hear, hear.)[90]

Subsequently, land reform along such lines was to become a more central part of Tariff Reform policy towards agriculture,[91] and no doubt many Unionists hoped such a bill would 'cut at the very root of Socialism' and compete successfully against the Liberals' Land Tenure Bill.[92] But, in terms of the narrower issue of a subsidy, it might be noted that Collings's bill would not have committed a Tariff Reform government to large public expenditure. After an initial outlay of some £12m, the fund would have revolved, the longer-run cost being measured by the differential between the 3¼ per cent rate on loans to farmers (as specified in the bill) and the rate at which the government borrowed.[93] Even had this differential been (an unlikely) 3 per cent, the recurrent cost would only have been some £⅓m *per annum*.

[85] See P J Cain, 'Railways and Price Discrimination: The Case of Agriculture, 1880–1914', *Business History*, XVIII, 1976, pp 190–204; *idem*, 'The British Railway Rates Problem, 1894–1913', *Business History*, XX, 1978, pp 87–99; A H H Matthews, *op cit*, ch 7.

[86] ACM(VT), 31 July 1906, pp 5–12; TCP.

[87] *Ibid*, pp 13–14; ACM(VT), 22 October 1906, pp 8–16; TCP.

[88] Local organization was to involve state assistance to chambers of agriculture to establish co-operative methods of handling.

[89] Similar to Balfour's Land Purchase (Ireland) Act of 1903, the bill had originally been conceived as a way of reducing rural depopulation by encouraging smallholding, but had been modified until it provided for a maximum advance of £9000, enough to buy 450 acres at average land prices in 1906.

[90] ACM(VT), 22 October 1906, pp 35–7; TCP.

[91] A Sykes, *Tariff Reform in British Politics 1903–1913*, Oxford, 1979, pp 199–201, 214, 263–4, 274–5.

[92] J L Green (Secretary of the Rural Labourers' League) to Chaplin, 9 October 1906; C-76(II), TCP. Collings was President of the League.

[93] This would seem a sensible basis for calculating the cost even if such a scheme had been financed out of the revenue from new duties.

V

The vagueness of the presentation of the 'non-fiscal' recommendations in the *Agricultural Report*, and the preference exhibited for loans rather than outright subsidies, minimized their potential impact within the overall plan. The Commission establishment had avoided recommending that orgy of spending of the new protective taxes in direct aid of agriculture that several members sought openly, and all perhaps desired.[94] But it had introduced the concept of agricultural subsidies into the arena of Unionist policy and politics, and it had done so without thwarting Chamberlain's plan for compensating reductions in revenue duties. Coupled with the advances over Glasgow in the tariff schedule, especially the inclusion of colonial grain and bacon and maize, these changes sought to placate those of the agricultural interest who were derisive of the size of the duties, fearful of the spectre of increased colonial imports, and contemptuous of agriculture's subordinate role in Tariff Reform.

Hewins was jubilant at the 'magnificent reception' of the *Report*, informing W S Fielding, Canadian Minister of Finance, that it disproved the assertion that British farmers were hostile to preference.[95] The Chamberlain family joined in the air of celebration.[96] And there is little doubt that, though the advocates of bounties had been defeated, most Tariff Commission and Agricultural Committee members felt that, in the prevailing political climate, the *Report* represented a realistic extension of Tariff Reform proposals on agricultural policy.

But in the wider political world the Commission's agricultural policy was less successful. Though Balfour did progress beyond his pre-1906 policy of retaliation on manufactures, Unionist Party consensus on a Tariff Reform policy including food taxes was unstable.[97] Even the Tariff Reform League was divided over the 1*s* duty on colonial corn, and early in 1907 T A Brassey's motion supporting it was lost to Sir Joseph Lawrence's defence of the original Glasgow policy. In 1908 Lawrence was to claim that taxation of colonial wheat had 'never been adopted by the League'.[98] Though some prominent Unionists such as Austen Chamberlain, Bonar Law, Viscount Ridley and Alfred Milner endorsed the 1*s* duty,[99] Tariff Reformers and Unionists were divided over it in the January 1910 election campaign.[100] After this defeat, even whole-hog Tariff Reformers came to doubt the advisability of the 1*s* duty. When Balfour, under increasing pressure, abandoned it in April 1910,[101] his retreat was resisted by Chaplin and Hewins and blamed for 'a great revival of political activity among agriculturalists all over the country'.[102] But (according to one hostile critic) the TRL was in full agreement,[103] and even Austen Chamberlain conceded, since 'We grow so little wheat in these days that even the farmer in most parts of the country is to be reckoned a consumer rather than a producer of wheat.'[104]

Abandoning the 1*s* duty raised doubts about the place of the remaining food duties in Unionist policy. Balfour's conversion of 'what had been a radical approach to the problems of imperial unity into a conservative policy related primarily to domestic affairs',[105] particularly the fight against

[94] An estimated £0.75m pa to finance rate reductions, plus £1m pa to finance Collings's bill (say £0.33m pa recurrent cost plus £0.6m pa to service interest charges at 5 per cent on the outlay of £12m) would have constituted 0.6–0.7 per cent of total government expenditure in 1905–13.

[95] Hewins to Chaplin (telegram), 26 November 1906; C-76(II), TCP. Also Hewins to Fielding, 20 November 1906; Hewins Papers.

[96] Mary Chamberlain to Hewins, 24 November 1906; Neville Chamberlain to Hewins, 25 November 1906; Hewins Papers.

[97] For the best treatment of Tariff Reform within the Unionist Party after 1906, see A Sykes, *op cit*, chs 5–12.

[98] Lawrence to Caillard, 15 May 1909; Lawrence to Hewins, 21 February 1908; C-7350, TCP.

[99] 'Minutes of Committee Proceedings'; TCP.

[100] W E Dowding, *The Tariff Reform Mirage*, 1913, p 108.

[101] N Blewett, *The Peers, The Parties and The People*, 1972, p 160.

[102] G L Courthope, cited in Sykes, *op cit*, p 217.

[103] W E Dowding, *op cit*, p 108.

[104] Chamberlain interpreted the retreat on the 1*s* colonial duty as applying only to wheat, not necessarily to oats and barley. See his *Politics from Inside*, 1936, p 227.

[105] A Sykes, *op cit*, p 217.

socialism and the need for revenue, left food taxes vulnerable to modification on pragmatic grounds, and in November 1910 he accepted the widespread pressure from within the party for a referendum on Tariff Reform. Bonar Law, his successor as leader from November 1911, succumbed in stages to steadily rising pressure centred in Lancashire and Yorkshire, and abandoned food duties as official party policy on 7 January 1913, to give traditional party concerns such as Union with Ireland a greater chance of success.[106]

Though small and vague, the Agricultural Committee's 'non-fiscal' measures did pave the way for a radical Tariff Reform policy on agriculture without food taxes. But they became weaker without the raising of new revenue through food taxes. Furthermore, subsidies had the same radical connotation as protection. Perfectly acceptable to social imperialists like Milner, they were less congenial to those who saw Tariff Reform as an expedient counterpoise to socialism and collectivism. By 1912–13 Unionist policy on agriculture had been reduced to the hope that industrial protection would improve urban markets for farm produce; its appeal to farmers reduced to the plea that agriculture traditionally fared better under the Unionists than the Liberals.[107] There was anger in farming circles over the turnround, much of it orchestrated by Chaplin. As Hewins informed the Unionist Central Office, agriculture would be harmed by 'a purely urban policy of industrial protection'.[108] The Tariff Commission's attempt to rescue Cinderella had been cast aside.

It is debatable whether, in all this, farmers could have presented a more united and stronger protectionist front, or whether, if they had, it would have served any purpose in influencing the Unionist Party. Certainly agriculture's voice, on a national level at least, was weak in the period 1880–1914. James Howard's Farmers' Alliance, founded in 1879, seems to have owed its demise to a split over the tariff issue,[109] whilst similar circumstances apparently prevented the Central Chamber of Agriculture from being more active in fiscal politics in the 1890s.[110] Under the influence of the Earl of Winchilsea, the short-lived National Agricultural Union of 1893 forebore from lobbying for tariffs in spite of a protectionist majority among its members.[111] Indeed, when the Unionists abandoned food taxes in 1913, the party leaders were far more alarmed by expression of local grass-roots rebellion in the farming constituencies than by pressure from any national farming organizations.[112]

Michael Tracy has suggested two elements which led to division in agricultural circles. First, he cites the prevalence of the landlord-tenant system, an argument given slight support by B H Brown.[113] Though there was some concern among farmers to ensure that tenants were adequately represented on the Agricultural Committee,[114] the experience of the Tariff Commission otherwise provides little evidence to support the thesis that landlords and tenants were seriously divided over the tariff question on *principle*. But it is easy to agree with Tracy's more indirect argument that the landlord-tenant system made possible 'a sharing of the burden' through rent reductions and remissions, thus perhaps preventing tenants from realizing quickly the true impact of the opening of the New World, and delaying the clamour for protection.

Secondly, Tracy mentions the Fletcherite division between crop and livestock interests. Yet, if Ireland is included, 47.7 per

[106] See Sykes, *op cit*, and A M Gollin, *The Observer and J. L. Garvin 1908–1914*, 1960, chs 4–11.
[107] See Bonar Law's remarks in 1914, quoted in Sykes, *op cit*, p 284.
[108] Hewins to A D Steel-Maitland, 17 November 1913; Hewins Papers.
[109] A H H Matthews, *Fifty Years of Agricultural Politics*, p 7.
[110] M Tracy, *Agriculture in Western Europe*, 1st edn, 1964, p 60.
[111] B H Brown, *op cit*, pp 150–2.
[112] A Sykes, *op cit*, pp 280–2.
[113] Tracy, *op cit*, p 60; Brown, *op cit*, pp 144–5.
[114] Marrison, thesis, pp 369–70.

cent of the replies to the Commission's questionnaires came from counties north-west of the Tees-Exe line. There is extremely little evidence of livestock farmers opposing a policy of agricultural protection in the Commission's enquiries. It may well be that they were less strongly in favour, but, where there was dissent, it was usually on the grounds of not wanting to be left out, as exemplified by the spirited stand of (non-farmer) Mitchell Harris.[115] It should be remembered that Fletcher's corn–horn dichotomy probably exaggerates the separation of the two sectors, and neglects the various forms of arable–livestock or mixed farming systems prevalent in much of Britain in the late nineteenth century. As Perry remarks, 'Breeder and feeder may be a more significant coupling', but we should not ignore the 'degree of symbiosis' in British farming.[116]

Though agricultural division may have played some part in explaining the weakness of agricultural pressure in the 'Great Depression' period proper, probably more significant by the turn of the century was the common perception among farmers and landlords, breeders and rearers, alike, that their case was politically hopeless.[117] The size of the urban electorate, the uncertain sympathies of farm labourers, and the biblical sanctity of 'cheap bread' all contributed to this perception. Also, farmers feared that industrialists wanted to exclude agriculture from Tariff Reform. This may well have been right, though less for Tracy's reason that manufacturers desired 'cheap food and cheap raw materials' than because they, too, perceived the impossibility of political victory if Tariff Reform included food duties.[118]

This being said, we should not underrate active support for Tariff Reform among farmers. But, before 1903, such support frequently remained local. The often strong sentiment in favour of protection in the local chambers of agriculture and farmers' clubs, recognized by Brown and Sykes but rather overlooked by Tracy, seldom was translated into a central objective of the national farmers' associations. This may be because farmers were less reluctant to debate Tariff Reform among themselves than in a wider arena. Tariff Reform was a difficult debate, a chaos of complex and often baffling economic arguments in which it was easy to be made a fool of. Furthermore, the sixty years since 1846 had led to an ethos in which the Cobden Club and Free Trade League did not hesitate to question the morality, even the sanity, of the protectionist. Given that the poor spent a high proportion of their income on food, agricultural protectionists were particularly vulnerable to such propaganda. Agricultural protectionism flourished more easily in the 'Farmers' Parliaments', the innkeepers' rooms of Hodge's masters,[119] than it did in the lofty debating halls and electrically-lit committee rooms of Westminster.

After 1903, many were doubtless heartened by Chamberlain's assumption of the movement's leadership, and comforted by the knowledge that, for negotiating with the colonies, the preferentialists needed food duties more than duties on manufactures. In London, late in 1903, at the Central Chamber of Agriculture and at the joint annual dinner of the Central Chamber and the Farmers' Club, resolutions were passed overwhelmingly in favour of Chamberlain's policy in spite of some misgivings as to its scope.[120] To all intents and purposes farmers were united. But though their disaffection might have been a source of regret to Unionist leaders as they vacillated on food duties after the 1906 election, the urban vote was the politicians' pre-eminent concern.

[115] See above, p 174 fn 32, and pp 178–9.
[116] T W Fletcher, 'The Great Depression of English Agriculture, 1873–96', *Econ Hist Rev*, 2nd ser, XIII, 1960–1, pp 417–32; cf P J Perry, *op cit*, pp 139–40.
[117] See above, p 172 fn 8; also M Tracy, *op cit*, p 59.
[118] Alfred Hickman to Hewins, 26 April 1906; Hewins Papers.
[119] R Jefferies, *Hodge and His Masters*, 1979 edn, ch 1.
[120] *Sheffield Daily Telegraph*, 4 November and 9 December 1903.

APPENDIX

Members of the Agricultural Committee

R BARTER Dairy farmer and stock breeder, County Cork. Never attended.

J BIGGAR Tenant farmer, Dalbeattie, and breeder of Galloway cattle; chairman of Galloway Cattle Society; vice-president of Scottish Chamber of Agriculture; gave evidence before Royal Commission of 1894–7 (800 acres, 400 in arable rotation, 320 under grass).

P BLUNDELL Lancashire tenant farmer; member of council of Royal Lancashire Agricultural Society; chairman of Fylde RDC.

T BROWN Managing director of West Norfolk Farmers' Manure and Chemical Co, King's Lynn.

H CHAPLIN Conservative MP for Sleaford Division of Lincolnshire (defeated 1906); member of Royal Commissions of 1879–82 and 1894–7; president of Board of Agriculture 1889–92; president of Local Government Board 1895–1900; member of Royal Commission on Food Supplies in Time of War 1904–5; landowner until the 1890s; brother-in-law of the fourth Duke of Sutherland.

W COOPER Wholesale meat salesman; chairman of Cattle and Meat Trades Section of London Chamber of Commerce; sometime tenant farmer.

J W DENNIS Member of family partnership farming in Lincolnshire (4000 acres, 2000 under corn, 1500 under potatoes, 500 under grass) which subsequently diversified into distribution and marketing, Dennis himself opening the Covent Garden business.

W FRANKISH Retired North Lincolnshire farmer (2000 acres, 1600 arable and 400 under grass); member of council of Royal Agricultural Society; vice-chairman of Lincolnshire Chamber of Agriculture; former chairman of William Foster and Co, agricultural engineers.

J M FRASER Large landowner; chairman and managing director of a public company specializing in livestock auctioneering.

Sir W GOULDING Chairman of W and H M Goulding Ltd, manufacturers of chemical manures and chemicals, Dublin.

P R GRAY Farmer, County Kildare (232 acres, all tillage).

W H GRENFELL (later Lord Desborough) Landowner (3200 acres); Conservative MP for Wycombe Division of Bucks, 1900–5; chairman of Thames Conservancy Board; president of Central and Associated Chambers of Agriculture 1907; member of a family of prominent merchant bankers.

J M HARRIS Managing director of Charles and Thomas Harris and Co, bacon curers of Calne, Wiltshire.

R W HUDSON Farmer of 2600 acres in Bucks and Berks; breeder of Aberdeen Angus, Berkshire pigs and shire horses; one of the largest livestock producers in southern England.

G MALCOLM Factor on the Inverness estate of Sir J S Maxwell.

A H H MATTHEWS Secretary of Central Chamber of Agriculture; sometime tenant farmer.

F NEAME Kent hops farmer (1977 acres, 781 arable, rest under grass, hops, fruit and timber); agent for Earl Sondes's Kent and Norfolk estates.

R ORLEBAR Landowner, Beds and Northants; chairman of Farmers' Club; member of council of Central Chamber of Agriculture; president of Bedfordshire Chamber of Agriculture.

C PARKER Resident agent for Duke of Westminster's Cheshire estates; member of council of Royal Agricultural Society.

C J PHILLIPS Deputy chairman of Watney, Combe, Reid and Co Ltd, brewers of London.

O PRICE Welsh landowner and sheep and cattle farmer (1500 acres plus 'extensive sheepwalks'). Never attended.

J STRATTON Tenant of 6000 acres in Hants and Wilts. His family farmed some 30,000 acres altogether.

C D WISE Agent for the Toddington estates in Gloucestershire (1000 acres, mostly fruit with some under grass); member of council of the Fruit Growers' Federation.

Tenant Right: Devonshire and the 1880 Ground Game Act

By J H PORTER

THERE has been a considerable overestimate of the benefit to farmers from the 1880 Ground Game Act since Professor Thompson noted in 1963 that it 'authorised tenants to destroy rabbits and hares on their farm without seeking their landlords' permission'. His generous interpretation has been accepted by successive writers. Thus contributors to *The Victorian Countryside* largely repeat this with approval though Professor Thompson had by then modified his own views for he noted that 'protests against crop damage and loss were reduced but not stilled by the Gladstonian 1881 Ground Game Act'.[1]

Similar assumptions that legislative enactment means effective implementation have been made by political historians. Barker believes that the act was one of the early successes of Gladstone's ministry while E J Feuchtwanger thought it became 'obligatory to include in all land leases a clause leaving it to the tenant to deal with ground game'. Clearly there has not been a close examination of the terms of the act. On one point, however, there is general agreement; the Liberals were seeking the farmers' vote.[2]

The question of ground game was a part of the wider question of tenant right which was 'of all the issues within the agricultural community that agitated the British farmer during the reign of Queen Victoria . . . the most durable and significant'. Tenant right took on a new militancy with the flood of cheap imports after 1873 and in the general election of 1880 the Liberals captured an increasing share of county seats. McQuiston has concluded that 'The struggle over compulsion . . . demonstrated that rural England was no longer bound together, if only superficially by the deference of the tenant and the benevolence of the landlord.' This view has recently been challenged by J R Fisher who has not only concluded that statutory tenant right was essentially irrelevant to agricultural progress but also that 'At no point in the nineteenth century did the agricultural community seek to challenge the nature of the existing social and political structure of rural England' and that any opposition of yeomen and tenant farmers to landlords was shortlived not because of dependence but from their perception that in most circumstances they shared a common interest. This is directly challenged by Mutch's recent work on Lancashire where he concludes that farmers wanted a share in the leadership of rural society, that their organizations developed in the 1890s on a class basis and that the hostility of landlords showed how seriously they took the threat to their authority. It was evidence of the continued fragmentation of rural society.[3]

[1] F M L Thompson, *English landed society in the nineteenth century*, 1963, pp 141, 196; D C Moore, 'The Gentry', p 392; T W Beastall, 'Landlords and tenants', pp 436–7; F M L Thompson, 'Landowners and the rural community', p 460; R Carr, 'Country sports', p 483, all in G E Mingay (ed), *The Victorian Countryside*, Vol 2, 1981. P J Perry, *British Farming 1870–1914*, Newton Abbot, 1974, pp 87, 134.

[2] Michael Barker, *Gladstone and Radicalism*, Hassocks, 1975, p 13; E J Feuchtwanger, *Gladstone*, 1975, p 199; D A Hamer, *John Morley*, Oxford, 1968, p 140; *The Political correspondence of Mr Gladstone and Lord Granville 1876–1886*, Vol 1, Oxford, 1962, p 166.

[3] J R McQuiston, 'Tenant Right: farmer against landlord in Victorian England 1847–1883', *Ag Hist*, 47, 1973, 95–113; P J Perry (ed), *British Agriculture 1875–1914*, 1973, XXIX–XXXVI; J R Fisher, 'Landowners and English tenant right 1845–1852', *Ag Hist Rev*, 31, 1983, pp 15–25; J R Fisher, 'The limits of deference: agricultural communities in a mid-nineteenth century election campaign', *Journal of British Studies*, 21, 1981, pp 90–105; Alistair Mutch, 'Farmers' Organisations and agricultural depression in Lancashire 1890–1900', *Ag Hist Rev*, 31, 1983, pp 26–36.

In the light of contemporary and current controversies over tenant right the purpose of this article is to examine the attitudes of the aristocracy, gentry and tenant farmers of Devon towards the Ground Game Act; to see if Devon's rural relationships were retaining their cohesion or subject to fragmentation, and to examine the Act's implementation in Devon through a study of prosecutions for breaches of the Act before the County petty sessions. It will be argued that the opinions of those in authority expressed on the question of tenant right and on the 1880 Act in particular made it unlikely that the Act would give any considerable measure of relief to tenant farmers.

I

The economic and political issues emerged during the debate on the 'Hares and Rabbits Bill' introduced by Sir William Harcourt after the election. In the dying parliament P A Taylor, Liberal MP for Leicester, had introduced a resolution calling for the dramatic amendment of the game laws which he regarded as part of 'the old feudal principle of class privilege' by which the landlord permitted vermin to feed on the tenants' crops. Rabbits, he felt, should be classed as vermin and treated as such. Strong objection to the proposal came from Sir Walter B Barttelot (Sussex W) and Earl Percy (Northumb N). They objected that such a measure ignored country feeling, would attract thousands of trespassers from the towns to the detriment of crops and discourage gentlemen from taking an interest in local affairs if their sporting pleasures were removed.

After the election in April had returned a Liberal administration Harcourt introduced his bill (Bill 194) 'for the better protection of land against injury to crops from hares and rabbits'. At each stage of its progress through Commons and Lords the Bill was attacked by those who saw it as hostile to the landlord's interest. The original bill would have given any tenant the right to kill hares and rabbits on their own land without restriction and with no power to divest the right. It was strongly supported by John Bright, and by James Howard (Beds County). For radicals like Henry Labouchere and P A Taylor, however, the measure was too limited. They wished it to be extended to all game since winged game also damaged crops. Harcourt must have feared that such a wide measure would have upset his own Liberal landowners as well as the Conservatives and he agreed to modifications in the opposite direction, to limit shooting and trapping and to exclude common land.[4]

Liberals like H R Brand of Stroud, while sympathetic to reform of the game laws, were opposed to interference with freedom of contract as 'there was no practical inequality between landlord and tenant'. Conservative critics such as Sir Henry Selwyn Ibbetson (Essex W) feared that the consequence would be discontent and that farmers would use poachers as their agents. Indeed Sir Walter Barttelot, rather perversely, thought it would turn all labourers into poachers. It was also pointed out that keepers would have an impossible task if guns were discharged in all directions and further, said Lord Elcho, civil disobedience might occur if the ownership of guns were to become too widespread. Similar arguments were advanced by other Conservatives, such as Admiral Sir John Hay, Ruggles Brise, Newdegate and Stanhope. They and Henry Chaplin also opposed the principle of confiscation of a right without compensation and felt the aim of the bill was not to promote good husbandry but vote catching. The amended bill received its third reading on 27 August 1880, still opposed by Newdegate, Barttelot and Chaplin. It was further amended in the Lords at the instigation of Redesdale and Ilchester but the changes were rejected when the bill returned

[4] *Hansard*, Commons, 2 March 1880, 160–206; 27 May 1880, 594–608; 10 August 1880, 798.

to the Commons. The Royal Assent was given on 7 September.[5]

The contributions to the debate by Devon members were generally hostile; their objection also being that the Bill would interfere with 'freedom of contract'. The one exception was Viscount Lymington, the Liberal member for Barnstaple and a South Molton justice. Lymington devoted his maiden speech to defending the bill for he believed that 'the Bill would insure arrangement being dictated by mutual advantage, and not compulsory and one sided as was too often the case . . . hitherto the landlord had an important advantage over the tenant, that he stood in a vastly superior position for making a bargain . . .' Surprisingly the only intervention by that idiosyncratic Liberal Sir Thomas Acland was to 'hope that nothing would be done hastily to destroy stag hunting'.[6]

More typical was the response of Devon's members who represented the Tory interest; in particular Sir John Kennaway and Sir Massey Lopes. Kennaway, who had 4045 Devon acres, believed that 'this measure as introduced, was a tremendous interference with what had been the law and custom and habit of country life . . . the Bill would destroy much good feeling between landlords and tenants and in that way might do more harm than good'.[7] Sir Massey Lopes of Maristowe with 11,977 acres feared that if sporting rights were taken from the landlord and given to the tenant then either of two things would happen. The tenant would kill all the ground game and so all sport would be lost, or the farmers and their sons would so prefer the sport that they would neglect the farming. In either instance the landlord would lose his sport. He also took the opportunity to praise his own estate management on light land particularly suitable for rabbits, as 'he found that by giving the tenants the right of netting and ferreting the rabbits all the year round, and trapping them during three or four months of the year, there was no property of the same extent so free of ground game'.[8]

Two minor interventions in the debate were made by Sir Stafford Northcote. He attacked the government as merely wanting to appear friends of the farmers so as to 'throw odium on the Conservative side of the House' and later regretted that the Bill interfered with freedom of contract which he believed should only be interfered with when injurious to third parties.[9] In all the argument over 'freedom of contract' the Conservative defenders of that principle assumed an equality of bargaining power between the two parties, just as the higher judiciary assumed an equality between employer and employee in industrial accident cases, an assumption which was of material advantage to the employer.[10]

II

The debate in the county reflected the speeches in the Commons, a debate which became increasingly acrimonious. As early as 1864 the question of tenant right and the rabbit had arisen when the grand jury at the Devon County quarter sessions complained about the use of county policemen to watch preserves[11] but it was a decade later that the question generated more inflammatory statements as economic conditions worsened for the farmer and the Liberals sought the farmers' vote. The *Devon Weekly Times* was at the radical end of Liberal thought and it launched an attack in March, 1874: 'The constitution of the present government is all against the farmers of England . . . the rabbits rejoice.' Moreover

[5] *Ibid*, 29 July 1880, 1681–1711, 10 August 1880, 798–858, 11 August 1880, 877–952, 19 August 1880, 1583–1699, 25 August 1880, 394; Lords, 30 August 1880, 635; Commons, 3–4 September 1880, 1268–9.

[6] *Hansard*, Commons, 29 July 1880, 1692–4, 20 August, 1880, 1820. Acland held 15,018 acres in Devon: *Return of Owners of Land 1873*, c1097, 1875, Vol 1. All other holdings quoted are from this source.

[7] *Hansard*, Commons, 10 August 1880, 815.

[8] *Ibid*, 843.

[9] *Ibid*, 10 August 1880, 843, 20 August 1880, 1820.

[10] P W J Bartrip and S B Burman, *The Wounded Soldiers of Industry*, Oxford, 1983, *passim*.

[11] *D(evon) W(eekly) T(imes)*, 28 October 1864.

this general attack was linked to the practice of a local landlord and politician: 'Then there is the Judge Advocate and Paymaster General of the Government, Mr Cave . . . at Sidbury. Is it true that . . . no farmer is allowed to carry a gun to destroy a rabbit? . . . There is no tyranny greater than landlordism. The farmers know it . . . Yet they vote Tory to a man.'[12]

This was the recurrent theme of the paper's editorials, the criticism of national policy and its linking to a local Tory landlord. Thus in May 1874, 'In the farms of Bicton, Woodbury, Christow, Mamhead and Sidbury . . . rabbits are the farmers' plague. By what law can property be claimed by one man in an animal which feeds everywhere?' and 'Our landlords may be characterised as game and rabbit merchants, carrying on trade on false pretences, and with capital not their own.'[13] The editor claimed there was a third party interest which overrode the principle of freedom of contract for 'The land of a county is given to the people of that county to maintain them, and not that it may be used for sport. Any practice or power that materially diminishes or prevents the proper supply of food calls immediately for legislative interference as much as stealing, arson or murder.'[14]

Equal vehemence was expressed from the opposite side by Sir Massey Lopes, Sir John Kennaway and Earl Fortescue; each supported the existing disposition of economic power in speeches made in 1874.[15] An unusually direct confrontation occurred at the Devon Chamber of Agriculture's meeting in Exeter in April 1875 when a Mr May of Bramford Speke read a paper in favour of tenant right and the consequential interference with freedom of contract. He was strongly criticized by both Lord Fortescue and Sir Thomas Acland. Fortescue reiterated that he 'did not think it desirable that contracts between adults of full age should be rendered impossible unless there was some very strong and urgent public reason for doing so'. Those farmers attending the meeting showed on this occasion little sign of deference for they subsequently voted 16 to 12 in favour of May's proposals.[16]

During discussion on the Bill which became the Agricultural Holdings Act of 1875 the question of tenant rights became more sharply focused. The *Devon Weekly Times* continued to attack both landlords and tenants. Nothing in the Act dealt with the depredations of game and 'It shall bind the tenant to the most stringent conditions as in a Sidbury lease' while Sir Massey Lopes was attacked for claiming to support the bill but not adopting its conditions on his own estate. The editorials were laced with personal abuse; Lopes was accused for being like 'his money grubbing ancestor' and Sir Stephen Cave of Sidbury was 'like the ancient Egyptians he worships vermin' for he too had told his tenants that their leases would be unchanged by the Act. Equally criticized were the tenants who voted Conservative: 'If the tenantry of England will insist on supporting the landlords in their parliamentary pretensions they will be treated as serfs and laughed at as fools.'[17]

Leaving aside party political abuse the 1875 Act did not provide a remedy for game grievances and tension intensified in 1877. Initially it seemed that the preservers would dominate the debate when Sir Lawrence Palk was elected Chairman of the Devon Chamber of Agriculture. Palk had an estate of 10,109 acres in Devon and the *DWT* 'welcomed' his election: 'His wholesale trade in rabbits peculiarly qualifies him for the post. We have heard that he and Lady Rolle are the biggest rabbit merchants in the West of England. The endowment of the

[12] *DWT*, 6 March 1874. A further attack was made on Cave on 22 January 1875: 'while such leases as the Sidbury leases exist no farmer is safe in his tenancy'.
[13] *DWT*, 22 May 1874.
[14] *DWT*, 5 January 1875.
[15] *DWT*, 26 June, 16, 23 October, 18 December 1874.
[16] *DWT*, 9 April 1875.
[17] *DWT*, 19 March, 25 June, 3, 17 December 1875, 21 April, 21 May 1876, 14 May, 15, 25 June 1875, 21 April 1876.

Bishopric of Cornwall is the embodiment of rabbits . . .'[18] However, when in January the general meeting of the Devon and Cornwall Chamber assembled at Devonport under the presidency of George Soltau-Symons JP it condemned the 1875 Act as useless and a joint meeting of the two chambers in October overrode the strenuous opposition of Sir Lawrence Palk, who was presiding, and carried unanimously a resolution of J D Pratt of the Devon and Cornwall chamber that tenants needed better security and an end to the landlord's right to game. Pratt was speaking from personal experience; he had formerly farmed at Sprattshays, near Exmouth. J C Moore Stevens, a Tory justice from Torrington, had objected that 'Landlords and Tenants were to be the only persons in the county who were not to be permitted to make contracts between themselves' and Francis Drummond Fulford, JP, of Great Fulford, Exeter, went so far as to say he would evade such legislation.[19]

The question continued to dominate discussion. During 1879 Sir John Walrond told Tiverton farmers there was no need for 'sweeping laws' to change the position of the landlord; while Earl Morley told the Chudleigh Farmers' Association that the landlord needed security just as much as the tenant. The same group were advised by Sir John Kennaway to 'all pull together'. At Fremington Ploughing Society Sir Thomas Acland considered the issue and conceded that letting out the shooting to strangers and their keepers caused genuine grievance.[20]

As the debate on the eventual Ground Game Act progressed it became an issue in the East Devon election of that year. Col W H Walrond was adopted as Tory candidate to succeed Sir Lawrence Palk and become junior member to Sir John Kennaway. In his address to electors Col Walrond claimed that the landlords' aid to distressed tenants 'shows that there still exists an attachment between landlord and tenant, as there did before agitators came round trying to stir up class against class'. At Moretonhampstead he asserted that 'between landlord and tenant there ought to be perfect freedom'; he was supported by the Rev H G Hayter Hames, rector of Chagford and veteran chairman of the Crockernwell bench, a scourge of poachers. The Liberals hoped their candidate, Col Sterling, would gain support by promising to support the tenant's exclusive right to ground game. To illustrate the point he cited the case of Woodbury farmer Benjamin Butter Bastin who was driven out by rabbits and who regularly complained in the Liberal press that the landlords' monopoly meant no freedom of contract. Sterling, however, failed to sway the voters from their traditional allegiance; the final vote was Kennaway 4501, Walrond 4457, Sterling 3847.[21]

In the face of growing tension between landlord and tenant the Chamber of Agriculture sought a compromise and when it met in May 1880 under Fortescue's presidency, the proposal was adopted 'That no contract should be binding which deprived the tenant of the right to kill ground game on his farm *in any way he pleases*. This committee, by the foregoing resolution do not wish in any way to limit the right of landlords to reserve to themselves the concurrent right of killing ground game.' In permitting the tenant to kill ground game in any way the proposal would have gone further than the eventual Ground Game Act. Sir Massey Lopes too modified his position; also in May at Totnes he said he would not object to seeing the power to kill ground game shared by landlord and tenant (though he did not say in what proportion this power should be divided) but he feared that if all the rights were given to the tenant he might find the breeding of rabbits more profitable than

[18] *DWT*, 26 January 1877.
[19] *DWT*, 27 October, 2 November 1877.
[20] *DWT*, 7 November, 5 December 1879. Examples of the last point may be found in Section III.
[21] *DWT*, 2, 9 April 1880. See also J H Porter, 'The Revolt of the Field: The Devon Response', *Southern History*, 7, 1985, pp 163–78.

breeding sheep. The next month Sir Stafford Northcote confided in his diary his plans for the Commons debates: 'I must speak early, declaring myself personally ready to vote for one of the Whig amendments, and enlarging upon the importance of upholding the doctrine of freedom of contract, in view especially of the formidable invasions of the rights of property with which we are threatened . . . eg in the matter of rent.'[22]

The original Hares and Rabbits Bill introduced by Sir William Harcourt would have given the tenant the concurrent right to kill ground game without restriction and would have voided any lease which prevented it. The Ground Game Act was a much weaker version of the original bill; even so it was denounced and its evasion urged by the Conservative *Exter Flying Post*: 'The Ground Game Act would vitiate and suppress the right of private contract between landlord and tenant, a legislative sample of Radical tyranny, that can be set aside and nullified by indirect means, which will baffle detection by any local court.' The usually conciliatory Sir Stafford Northcote seemed in distress when he told Torquay Conservatives the Act 'was mischievous in that it was aimed at the one object of bringing discord between classes. The principle of the bill was to bring disagreement between landlord and tenant.' Viscount Lymington denied this charge when speaking to the Witheridge Farmers' Association; he believed that where relations were good the Act would not be needed but it would help farmers where the game was virtually a second rent.[23]

Sir John Kennaway and Sir Massey Lopes now found they could agree with the Act; the former told Chudleigh Farmers that he 'heartily agreed' with it and 'had always desired that the property of the tenant should be protected against the ravages of ground game'. Sir Massey went so far as to say he had never opposed the bill, but only a part of it, and that now the use of the gun was restricted he was happy. 'He thought that was reasonable and would be appreciated by farmers, in whom the love of sport still existed, but of which such an unlimited use of the gun would soon deprive them.'[24]

The fact that the two knights felt the Act was reasonable would hardly increase its appeal to the editor of the *Devon Weekly Times*. In 1876 he had written: 'The law of England belongs primarily to the people of England, and any custom or law that diminishes or checks its producing power is an abuse to be removed . . . vermin must be kept under, and it is a pity that landlordism by its tyranny should reduce itself to the level of the vermin that ought to be destroyed.' Liberals were told their vision was equally obscured by landlordism and in 1879 the editorial message was revolutionary: 'Property is the creation of law, and what law has created it can uncreate to the extent of declaring that arrangements prejudicial to the welfare of the state shall no longer be continued . . . The lesson landowners have to learn is that they have not the absolute right to do what they will with their own . . .'[25]

III

The Ground Game Act gave to the occupier concurrently with others so entitled the right to kill and take ground game (hares and rabbits), but subject to many limitations. The principal restrictions were that only one person besides the occupier was permitted to use firearms and only members of his resident household or regular employees or one other person specifically employed could take it by other permitted means. Each had to have an authorization in writing to be produced on request. Existing tenancy

[22] *DWT*, 21 May 1880; Andrew Lang, *Life, Letters and Diaries of Sir Stafford Northcote, first Earl of Iddesleigh*, Edinburgh, 1891, pp 324–5.

[23] *EFP*, 20 October 1880, *DWT*, 1 October 1880. For the principal restrictions in the Act see below, section III. For the original bill see BPP (194) III, 371 and *Hansard*, Commons, 27 May 1880, 594–608.

[24] *DWT*, 29 October, 12 November 1880.

[25] *DWT*, 10 March 1876, 27 July 1877, 5 December 1879.

contracts had to run to their expiry, which could be a matter of years, existing closed seasons remained in force and firearms could only be used in daytime. Additionally traps could only be set at rabbit holes and poison was expressly prohibited.[26]

The number of restrictions in the Act and the attitudes of the County politicians and justices already outlined suggest that the Act might be restrictively interpreted in Devon. In the context of game prosecutions as a whole the Act is of minor importance but does provide a key to the changing relationship between farmer and landlord. An analysis of the petty session reports of the *Devon Weekly Times* from 1880–99 shows a total of 6289 prosecutions for game and fishery offences; of the 3238 cases where the occupation of the defendant was known 290 were farmers or their sons. In this context the ninety prosecutions of farmers, their sons and labourers under the Ground Game Act may at first sight appear insignificant; in practice they are a microcosm of the conflict between tenant and landlord over game and specifically illustrate the conflict over tenant right.[27] Furthermore the pressure of prosecution for the poaching of ground and winged game by the preservers continued.

TABLE I
Annual prosecutions in Devon: Ground Game Act

1880	0	1885	4	1890	5	1895	4
1881	6	1886	2	1891	0	1896	8
1882	1	1887	1	1892	6	1897	4
1883	20	1888	1	1893	1	1898	7
1884	6	1889	3	1894	2	1899	9

There were farmers who were immediately eager to use the Act to suppress the rabbit. Thus in 1881 farmer James Moore of Bittadon, deciding that the new Act permitted him to take the game, invited three fellow farmers to a shoot. However, his existing lease had not expired, the game was reserved to the landlord and so the Barnstaple bench fined each £5 and costs with the alternative of one month's hard labour. Similarly in 1883 farmer Kennard invited a large number of Okehampton tradesmen to shoot rabbits at Okehampton Park in November; he too discovered the shooting was still reserved and twelve were convicted under the Act.[28]

The strict interpretation of the terms of leases remained a steadfast policy of the county benches when considering breaches of the Act. For example although William Balcher claimed the right to kill game under the Act, in December 1883 the Wonford bench, sitting at the Castle, Exeter, found he had just stepped over his boundary and so convicted him. Two years later two labourers were each fined 18*s* 2*d* at Moretonhampstead for although they had the occupier's written permission his old lease had not expired. At Honiton an unexpired lease caused equal difficulty for the Sumption family. The keeper to Lady Drake prosecuted Mary Sumption under the Act, complaining that 'her husband had poached and now she has taken to it'. Her husband came to court to protest and to support her; but to no avail, she was fined 10*s* inclusive of costs.[29] In 1887 James Rowe was particularly unfortunate when he invited other farmers to come and shoot over his land, for the right still lay with the shooting tenant, T Beadle JP, and his landlord was Col Chichester who sat on the same bench.[30] The lengths to which strict interpretation could go are indicated by a case before the Crockernwell bench in 1890. Farmer James Grendon invited three neighbouring farmers of South Tawton and Drewsteignton to rabbit on his land. His old lease which had reserved the game had expired but his new

[26] Ground Game Act 43 & 44 Vict c47 1880.

[27] I am grateful to Caroline Dabrowska and Gill Skinner for data processing assistance. The newspaper reports are more reliable, for Devon, than the Registers of Summary Convictions, DRO QS 11/4–13, for identifiable game cases in the Register total 4966 for 1860–99 and it is clear that some magistrates were lax in making returns.

[28] *DWT*, 25 November 1881, 30 November 1883.

[29] *DWT*, 4 January 1884, 6 November 1885, 15 January 1886.

[30] *DWT*, 25 November 1887.

lease had not been signed so the bench convicted him with a nominal fine of 1*s*.[31]

Farmer James Harding regularly gave a known poacher named Samuel Lendon permission to shoot over his farm and this enraged the shooting tenant who told him he must stop; he refused. Consequently the shooting tenant prosecuted Lendon for game trespass. Though Harding claimed the right, Lendon was not in his service or employed as a trapper and so the Wonford bench convicted Lendon in 1890 with a fine of 20*s* and 17*s* 6*d* costs.[32] In another case the shooting tenant who shot over Henry Cleeve's farm at Kenn prosecuted him for setting traps in the open. Cleeve openly admitted the offence to the Wonford justices in 1897 for the rabbit holes were not on his farm; the rabbits came off the neighbouring Haldon hills and so he had either to set traps in their runs or shoot them. He was fined 17*s*. The following year a small allotment holder of Dawlish was also fined after he had set traps just over his boundary.[33]

The setting of traps other than at rabbit holes was the most common offence against the Act committed by farmers, their sons and agents. Thus Daniel Love of Axmouth was caught by the keeper to W T Hallet JP in May 1881. Farmer Love denied the offence and had the temerity to tell the bench that their fellow magistrate's prosecution was malicious. As it was their first case brought under the Act the bench said they would be lenient and imposed 10*s* and costs. Two years later farmer Thomas Elliott of Holne committed the same offence but trapped a pheasant, to the distress of Sir Robert Torrens JP who prosecuted and the Ashburton sessions imposed a heavy penalty of £3 10*s*. In 1884 at Dartmouth Enoch Wyatt of Mount Boone farm set traps (to catch rats) and was prosecuted and fined; so too was Domenico Bailey in 1887 and again in 1889 which cost him £4 and costs altogether. At Malborough in 1896 Edward Prowse set over 100 traps in the open and was prosecuted on the evidence of the local constable as a warning to others. Two farmers' sons had been prosecuted in 1890 for setting traps in the open on their father's instructions. He came to court to protest that 'the rabbits were eating everything'. After another farmer's son had been acquitted by the Honiton division in 1893 a tenant farmer complained to the *Devon Weekly Times* that rabbit-preserving landlords set out to harass tenants who took their rights under the Act.[34]

Not having written permission could catch either the farmer's son or his employee. Thus Alfred Denner of Sidmouth, a farmer's son, was successfully prosecuted at Ottery in 1885 and when in 1884 labourer George Summerhayes produced his written authority from the occupier the Honiton bench chaired by Lord Sidmouth flatly refused to believe it and fined him 20*s* for trespass on Lord Sidmouth's lands. Two other convictions for not having written permission were also recorded before the Axminster and Crediton benches in that year.[35]

Farmers' employees and trappers were more commonly convicted for not setting traps at rabbit holes. For example the Totnes sessions in 1882 fined a Dittisham trapper £2 4*s* 3*d*, a case before the Wonford bench cost an Ashton trapper 16*s* and a Dunsford trapper 20*s* before the Crockernwell sessions in 1883 where another trapper paid 20*s* in 1886. That same year two Woodbury trappers were also convicted.[36] The prosecutions continued till the end of the decade when Seale Smerdon was successfully prosecuted at Honiton. In the eighteen-nineties there is some evidence of an increasing desire to prosecute under the Act.

[31] *DWT*, 7 February 1890.
[32] *DWT*, 27 December 1895.
[33] *DWT*, 28 May 1897, 18 November 1898.
[34] *DWT*, 10 June 1881, 26 January 1883, 29 August 1884, 10 June 1887, 8 November 1889, 2 October 1896, 5 September 1890, 3 November 1893.
[35] *DWT*, 8 May 1885, 11 January, 22 August, 5 September 1884.
[36] *DWT*, 13 October 1882, 30 March, 7 December 1883, 1 October, 19 November, 17 December 1886.

In 1892 William Cousins was convicted at Ilfracombe while James Hoare of Doddiscombeleigh managed to trap a spaniel and paid 35*s*. Lustleigh trapper Samuel Squires paid £2 13*s* 5*d* at Ashburton in 1895. The Crockernwell sessions had a clutch of cases over 1895–6, convicting Samuel Hill, Thomas Hearn, Samuel Hill and James Courtier.[37] Some had narrow escapes. William Gammon of Braunton managed to prove the traps were in the *slope* of the fence while George Yeoman of Broadclyst remained unconvicted because the keepers could not prove they were his traps.[38]

Such escapes were rare. Charles Gay was convicted of setting fifty traps in the open in 1896; he told the constable 'all trappers do the same'. Two trappers of Ide were also caught that year and in 1898 trapper Charles Gore of Bampton paid a £2 fine. Over 1898–9 a Bickleigh labourer, two from Braunton and trappers at Kenton and Moretonhampstead were also convicted. Obviously this was an important restrictive clause in the Act. There is also a suggestion that the county police were becoming more involved in initiating prosecutions. The matter of 'rate-financed gamekeepers' was a contentious topic. Thus when the Wonford bench tried John Gay for setting traps in the open at Netherexe on the evidence of Constable Hannaford the tenant defended Gay and told the bench that neither he nor the landlord objected to the traps, that Hannaford was trespassing and that neither landlord nor tenant had given permission for the prosecution. The bench fined Gay 2*s* 6*d* and costs, a relatively nominal fine but with costs it would probably amount to a week's wage.[39]

[37] *DWT*, 8 November 1889, 22 July, 29 December 1892, 7 February 1894, 28 June, 10 May, 16 August 1895, 6 November 1896.
[38] *DWT*, 14 February 1896, 29 January 1897.
[39] *DWT*, 2, 16 October 1896, 15 April, 28 October, 16 December 1898.

IV

Thus, contrary to previous claims, the Ground Game Act of 1880 provided no remedy for the depredations of ground game where the tenant had a landlord who was a strict preserver. In particular the limitation of traps to rabbit holes was a serious restriction as rabbits were most readily trapped in their runs and it is clear that trappers continuously breached this clause with the willing connivance of the farmers and occasionally even of a landlord. The attitude of the county's leaders before the Act was passed suggested they would be unsympathetic to defendants and this has now been shown to be the case. The debate over the issue in the Chambers of Agriculture suggests an increasing fragmentation of the rural interest and prosecutions under this Act reveal the continuing underlying tensions between landlord and tenant over ground game in Devon. Whether the Liberals gained electoral advantage in Devon from the passing of the act remains unclear. In the 1874 election seven Liberal MPs were returned to the Conservatives' eleven; in 1880 the result was eight and nine respectively but the two seats lost by the Conservatives were urban seats in Exeter and Plymouth. The result in 1885 was six seats for the Liberals and seven for the Conservatives. However, an analysis of the eight rural county constituencies (that is excluding Devonport, Plymouth and Exeter) shows the Liberals to have 54 per cent of the vote to the Conservatives' 46 per cent.[40] It would, however, be unwise to attribute that to the passing of one Act.

How far Devon's experience provides a guide to the experience of other counties must at present remain an imponderable, for an analysis of petty session decisions for the late nineteenth century has not been undertaken for other counties. There is, however, evidence that the 1880 Act

[40] *McCalmonts' Parliamentary Poll Book*, eds J Vincent and M Stenton, Brighton, 1971.

continued to be in contention, for important leading cases were tried in the High Court in 1900 and 1910, for example, and the Act was amended in 1906 to relax the restrictions on occupiers taking ground game on unenclosed moorlands with effect from 1 January 1907.[41]

[41] *Oke's Game Laws*, 5th edn, 1912, pp 96–118; Ground Game (Amendment) Act 1906 6 Edw 7 c21.

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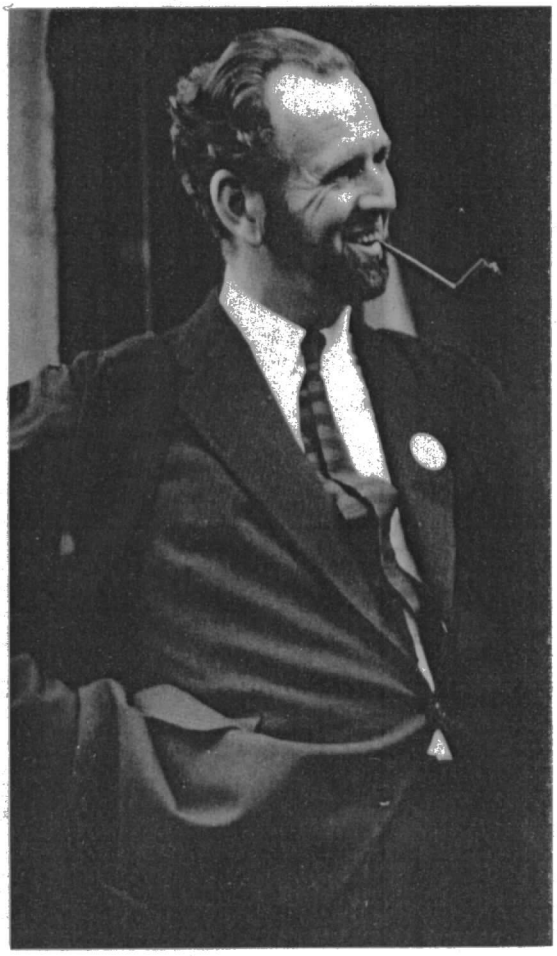
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OBITUARY: SIR JOHN HIGGS, KCVO, FSA (1923–86)



The death of Sir John Higgs on 5 June 1986 marked the end of an era for the British Agricultural History Society, for John was not only the first Secretary of the Society (from 1952 to 1964) and a distinguished President (from 1974 to 1977) but he was also one of the leading spirits and organizers behind the formation of the Society. He will be sadly missed.

John Higgs had a remarkably varied and interesting career culminating in his appointment as Secretary and Keeper of the Records to the Duchy of Cornwall in 1980 and later as Acting Treasurer to the Prince of Wales' household. He died in harness still introducing innovations and new ideas into the administration of the Duchy to which he had become devoted.

Born in Birmingham on 1 September 1923, the son of a successful manufacturer, who later developed agricultural interests, John was educated at Oundle School and Emmanuel College, Cambridge, where he obtained his BA in agriculture in 1943. After wartime work with the National Institute of Agricultural Engineering's Farm Mechanisation Survey, he joined the Oxford University Agricultural Economics Research Institute as a research assistant in 1946, and remained there until 1948, when he moved to the University of Reading as a Lecturer in Farm Mechanisation. Now began a very creative period in his life. A visit to Denmark had stimulated his interest in the earlier history of farm technology and had led to an awareness of the urgent need to collect and record the fast-vanishing remains of the material culture, and when possible the social customs, of an older rural England, which was undergoing accelerated change. It was entirely due to his initiative that the Museum of English Rural Life was established at Reading University in 1951, although he got a good deal of support from colleagues like Prof Edgar Thomas (later to become the first Treasurer of the BAHS) and many others.

John became the first Keeper of the Museum and established its unique method of recording objects, which has been widely adopted and was used by Margaret Rule in her recent remarkable rescue of the sunken Tudor warship, the *Mary Rose*. His distinction was recognized in 1974–5 by his appointment as President of the International Association of Agricultural Museums. Almost coterminously with the foundation of the Museum John took part in the discussions in 1951 with George Fussell, W G Hoskins, H P R Finberg and others which led to the formation of the British

Agricultural History Society in 1952. Almost inevitably he was elected its first Secretary, and much of the Society's early success was due to his enthusiasm and energy, as well as his wide contacts in agricultural as well as academic circles: for John was already farming in Warwickshire at this time.

In 1952 he became Lecturer in the History of Agriculture at Reading and Warden of Whiteknights Hall, and remained at Reading, expanding his ever-widening range of interests until 1957, when he moved to a Lectureship in Agricultural Development at Oxford University. In 1961 he was elected Fellow and Estates Bursar of Exeter College, and remained associated with that College for the rest of his life.

During the 1960s his interests in rural social development widened to include Europe and the Third World and he began to work increasingly closely as a consultant with the United Nations Food and Agriculture Organisation (FAO) based in Rome, where he had a flat. In 1963 he directed the UN Study Group on Rural Social Development at Leicester University which gave rise to the book *People in the Countryside, Studies in Rural Social Development* which he edited in 1964. Consultancies in southern Italy, India, Libya, Sudan, Ethiopia, Kenya, Uganda, Lebanon and Iraq followed in rapid succession and in 1971 John gave up most of his duties in Oxford and moved temporarily to Rome as Chief of the Agricultural Education and Extension Service of the Human Resources, Institutions and Agrarian Reform Division of the FAO. In 1974 he was promoted to be Deputy Director of the Division, and continued to be intensely active in consultancies and missions, working in Argentina, Chile, Peru, Jamaica, Mexico, Algeria, Egypt and Tunisia, as well as maintaining his African and Near Eastern links.

While all this was going on he was also expanding his British farming interests with a large farm on the Oxfordshire Cotswolds at Enstone and an even larger one in the Scottish borders at Arkleton in Dumfriesshire. In 1979 he was invited to join the Council of the Duchy of Cornwall, and in 1980 he succeeded to the Secretaryship. The numerous estates and villages included in the Duchy gave John an opportunity to try to put into practice some of the ideas which he held on the development of rural society. He always favoured a modern, progressive agriculture and recognized that this would lead to a reduction in the labour force; but he also struggled against rural depopulation, believing that wherever possible small industries and services should be established in villages in order to maintain population levels which could sustain a full social and cultural life in villages and small country towns. Several imaginative conversions of redundant Duchy farms into industrial and commercial workshops have gone far to give life to this idea. As further stimuli to these aims John founded the Arkleton Trust in 1978 to encourage new approaches to rural development and education; and also served as a trustee of the Ernest Cook Trust.

John published many reports and papers for the FAO on problems of agricultural development and structural reform, which are too lengthy to list here, but he will be remembered by agricultural historians for his book *The Land, A Visual History of the Land in Britain*, published in 1964, which pioneered the combination of illustrations and text to illuminate the course of agricultural history.

In 1986, he received the knighthood of the Royal Victorian Order from His Royal Highness the Prince of Wales, with whom (in the words of his obituary in *The Times*) 'he worked in close harmony in the field of integrated rural development, conservation and land management. In the all-too-short space of five years his contribution to the Duchy of Cornwall was remarkable. His wise and able presence will be very greatly missed.'

MICHAEL HAVINDEN

Book Reviews

N HIGHAM, *The Northern Counties to AD 1000*. Longman, 1986. xv + 392 pp. 34 plates; 42 figures. £22.50 (hbk), £12.50 (pbk).

Higham's Northern counties are those of the later border. Before AD 1000 it is not the unities of border status but the similarities and distinctions imposed by geography which are significant. The Pennines divide Cumbria, linked to the Irish Sea and Galloway, from areas east of the Pennines, whose contacts were with SE Scotland and Yorkshire. The 5000 year time span reveals the changing impact of these links; the perspective of a 'longue durée' is a great advantage.

The pastoral economy of the region, possibly involving transhumance, is identifiable from mesolithic times, and although cereal cultivation became widespread, pastoralism remained the basis of the economy. Until the late third millennium BC, Cumbria was the more populous area and a flourishing pattern of exchange of Langdale axes linked it south and east. A combination of pastoralism involving widespread clearance and increased precipitation levels produced extensive upland soil erosion and created conditions during the last millennium BC which inhibited natural reforestation. Abandoned cairn-fields of stone-age farmers show the retreat from the fells beginning by 1000 BC. Continued erosion and valley infilling subsequently produced ever sharper contrasts in the local environment. East of the Pennines agricultural advance was more consistent; lowlands were more extensive and rainfall levels lower. By the last millennium BC population pressure here was affecting settlement and social structure. Settlements were defended whilst a military élite and hill forts protected farmland and grazing rights.

Higham stresses the fundamental importance of climatic variation, population change and human activity in the agrarian pattern. The indigenous élites evolved, and collapsed, in relation to these, yet, like incoming Romans and Anglo-Saxons, had a minimal impact on agriculture. Metals, for example, scarcely penetrated the agrarian economy of Cumbria before the Roman era, despite their use at the highest social levels. The local Roman economy was artificial and collapsed on their withdrawal. Neither the Roman interlude nor the arrival of Anglo-Saxons creates more than a hiccup on the pollen diagrams. Yet the indigenous élites were responsible for the large-scale organization of human resources from an early date, and political factors became important again during the historical period. The north, for example, failed to share the development of coin and economic change experienced by southern England in the tenth and early eleventh centuries. Higham rightly connects this with long-term poverty, but political developments were proving a major stimulant further south, and the marginal nature of this area in relation to the emerging kingdom of England may already be important.

Higham's time span has necessitated heavy reliance on recent reappraisals, producing anomalies which at the least required more discussion. In prehistory immigration is rejected in favour of local adaptation as the motor of change. The Anglo-Saxons are allowed a minimal impact. In both cases this follows vigorous current reassessments. Yet one incoming group, the Vikings, are allowed extensive significance in Cumbria and parts of Durham, a possible interpretation within the contentious area of Viking studies, but here based on questionable use of place-names and a slightly disturbing acceptance of wapentakes as necessary signs of Viking influence. The range of evidence, technique and period demanded especial attention to communication. The book unfortunately abounds in technicalities ('lithic assemblages' may merely annoy, 'string graves' demand explanation) and its argument is easily lost amidst the welter of detail. It will be a pity if this limits the impact of this genuine attempt at regional assessment.

PAULINE STAFFORD

KATHLEEN BIDDICK (ed), *Archaeological Approaches to Medieval Europe*. Studies in Medieval Culture XVIII, Medieval Institute Publications, Kalamazoo, Michigan, 1984. ix + 301 pp. n.p.

This book prints fourteen papers delivered at the Sixteenth International Congress of Medieval Studies at Kalamazoo in 1981. The title is something of a misnomer in two respects. More than half the volume, including the four most substantial papers, concerns England and Wales rather than Europe as a whole; and the definition of 'archaeology' is notably broad. The latter is not necessarily undesirable — indeed the editor's introduction states that the aim of the collection is to demonstrate the breadth of modern archaeological work and the diversity of methodologies employed in a field now heavily influenced by other disciplines, particularly anthropology. But it is worth noting that the first three essays (by G R J Jones, David Hall and Oliver Rackham) which comprise a section somewhat grandiloquently entitled 'Organizing Space and Managing Resources', and a later paper by H S A Fox, might all be more accurately described as 'landscape history' than archaeology. All draw their data from written sources (and in Rackham's case, studying medieval woodland, also from botanical evidence). None refers to an archaeological report in their footnotes.

Inevitably therefore, the reader is faced with a mixture, varying both in conceptual approach and in quality. Some papers are complete in themselves, as for example those of Jones and Fox. Others represent a summary of work done on a larger scale elsewhere, to which the reader will probably need to refer (as that of Rackham), or of work in progress, as that by Richard Hodges, 'North Sea Trade before the Vikings'. This last paper might well have been omitted; not because of any intrinsic worthlessness, but because it has already been superseded by the author's own more extended treatment elsewhere. To a historian with a limited knowledge of archaeology (such as this reviewer) the most interesting essay would probably be that of Fox — the longest in the volume. Its theme is the role of livestock within the Midland three-field system — which the author sees as crucial in preserving the ecological balance of the land. Stated so baldly this is hardly a very surprising conclusion, but the author develops his theme very persuasively, pointing out that the notable absence of pasture in Midland England by the thirteenth century was not necessarily as serious a factor in livestock management or ecology as might at first sight be supposed. Some instructive comparisons are made with other areas, and Fox keeps to the forefront how the system worked in practice, and not just in theory. There are, too, other papers of very real interest, particularly the first three in the book, already cited. Jones, for example, returns in greater detail to a subject on which he has already written, the multiple estate in north Wales. Hall shows how early modern maps may be used to identify medieval field arrangements. However, given the disproportionate space devoted to Britain, it is unfortunate that the contributions dealing with mainland Europe are not just physically but intellectually slighter. That by TeBrake on South Holland is indeed really concerned with the prehistoric and Roman periods, and hardly refers to the Middle Ages at all. The brief paper by Stephen L Dyson, based on the Wesleyan University field survey of the *Ager Cosanus* north of Rome, again reveals more of the classical period — its medieval component boils down to the excavation of a single *castello*. Dyson is however quite right to suggest that judicious excavation can greatly enhance the value of a surface survey. Perhaps the most useful of these pieces is the description of recent German medieval archaeology by Walter Janssen, which, while limited in conception, provides a valuable guide to a wide range of current endeavour and its literature.

If there is a unifying theme in this collection it is that of man's impact upon the natural ecology. This is well evinced in those papers which draw upon the natural sciences, as those of Rackham and (particularly) Pamela Crabtree, who studies the animal bones from the Anglo-Saxon site of West Stow in Suffolk. But the theme is less happily pursued by those papers, all by North Americans, which seek to examine 'political ecology'. As much time is spent parading the virtues of interdisciplinary endeavours as practising them. A combination of over-theoretical methodology and semi-literate jargon is likely both to confuse and infuriate the reader. Schematic models may well be of very real use, but they must be clearly explained; and the difficulties inherent in their creation must be firmly tackled, particularly with regard to the data on which they are based. In the concern to present archaeology as a complex cognitive discipline, there is an ever-present danger of divorcing it from its proper evidential basis. Despite having myself taken part in a settlement survey, I found much of Walter Berry's paper on similar work in southern Burgundy incomprehensible, full of questionable assumption and clumsy exposition.

The introduction implies that this volume will be the first of several which will be produced by further meetings to explore the interdisciplinary aspects of medieval archaeology. An important part of their function must be to encourage historians who have hitherto been chary of such a field to explore it more fully. But this will best be achieved by a scrupulous concern for clarity of exposition. There are some good things in the present volume, but a clearer focus, and more ruthless editing, would have considerably improved it.

G A LOUD

J R BALDWIN and I D WHYTE (eds), *The Scandinavians in Cumbria*. Scottish Society for Northern Studies, Edinburgh, 1985. vi + 167 pp. Maps; 16 plates. £6.

The Aspatria vestry houses a pre-conquest carving. The nineteenth-century Vicar, a Viking enthusiast, interpreted it as the lower half of a phallic figure sacrificed to Odin. Upturn it and you get a praying Christian, arms upstretched. In the study of the Vikings in Britain, those determined to discover dense settlements of pagans have discovered them — in place-names, settlement patterns, sculpture. The more sceptical and specialized modern scholar finds the sparse and ill-dated evidence more ambiguous. In this admirable collection of essays many a phallus has turned into a badly weathered head.

The Vikings probably arrived in Cumbria as a military aristocracy, perhaps as a buffer settlement established by the Strathclyde kings. Their admittedly limited impact on agricultural terminology suggests they, or their followers, stayed on to farm. The settlers were drawn from existing settlements within the British Isles, from the Danelaw, Galloway and the Scottish Islands. But the linguistic evidence which proves this provides no certainty about their numbers nor the areas of their settlement. The lowland coastal strip seems to be the initial nucleus, but by the time they are recorded Scandinavian place-names are widely scattered and loan words apparently concen-

trated in the Uplands. This may indicate a gradual extension of settlement by Vikings, though equally Scandinavian terms, once adopted, may chronicle developments entirely independent of Viking activity.

Such doubts redirect attention towards the indigenous population and the relationship of settlement patterns to economy and land use. The sculpture suggests a strong Anglian tradition, with allegedly 'Viking' iconography indicating a general move from monastic to secular patronage. The Viking intrusion is fitted into the longer history of settlement with strong emphasis on continuity. The 'multiple estate', discussed by Winchester, has become the ancient economic unit, coupling lowland arable to upland pastoral resources and organized from centres like Egremont or Cockermouth. As a model the multiple estate threatens to impose an over-static picture, so that the correctives provided by both Winchester and Whyte are particularly welcome. Both argue for extension of settlement and exploitation within such units, Whyte, for example, demonstrating the conversion of originally temporary shielings into permanent settlements. Where they rely on place-name evidence to date this, their conclusions must be debatable. But Winchester's Scandinavian-named settlements on the edge of the massif are freehold with services distinct from either lowland or 'forest', while Whyte has the secure dating of twelfth- and thirteenth-century documents for some of his permanent settlements.

Place-names suggest that Scandinavians throughout Western Britain were unfamiliar with certain local features of transhumance. They had to adopt the Gaelic word *aergi/erg* to distinguish the shieling close to the home farm used in spring and autumn from their own *saetr/skali*, the temporary summer mountain settlement. Elsewhere in Britain their impact on urban development has been strongly argued, and it is regrettable that more attention was not paid here to the apparent failure of Carlisle to flourish during the Viking period. But certainly in agriculture, where the Cumbrian pattern of transhumance continued to change until the sixteenth century, the role of the Vikings as a motor to change must be reduced.

PAULINE STAFFORD

G PLATTS, *Land and People in Medieval Lincolnshire*. History of Lincolnshire, IV, Lincoln, 1985. xx + 340 pp. 7 tables, 86 figures. 2 appendices. £13.

This is a handsomely produced and well illustrated volume of an unusual kind. No other English county has had a whole volume devoted to its medieval agriculture and society like this.

Unfortunately Lincolnshire is poorly documented. Charters are numerous, but manorial accounts and court rolls are few. There are accordingly some major topics upon which the county has little to offer. The problem of poor information is complicated by the author's reluctance to use existing Lincolnshire studies, notably those of Massingberd, Neilson, Darby and Hallam. This must be the result of determined self-denial. Perhaps the fens are over-represented in the existing literature, though that does not seem a good reason for slighting them in a general survey. It is difficult, too, to approve of the decision not to discuss the agrarian evidence of Domesday Book. This policy of exclusion would be more understandable if the book were packed with new Lincolnshire material, but in fact it is not. The author is heavily dependent upon general truths about medieval society and upon material from other counties. When short of evidence he fills in from other parts of England so that some sections of the book have little Lincolnshire colour.

It must be said in fairness to the readers of *The Agricultural History Review* that this work contains surprisingly little about drainage, deforestation, field systems, arable husbandry, livestock, levels of output and productivity, prices, peasant families and population change. The discussion of demesne agriculture is restricted to a brief account of a single manor (two miles from the Northamptonshire border) between 1260 and 1315 (pp 111–17). An account of regional variations in land use in the last quarter of the thirteenth century (pp 103–11) has a wider catchment than anything else available for the county as a whole, but even here Dr Platts will be criticized for basing his conclusions on ratios of arable to meadow land (Table 4), without presenting figures for pasture.

In fact some of the most interesting sections of the book are amongst those least suggested by its title. The second chapter contains a survey of changes in the Lincolnshire landlord class which is useful for the fourteenth century (pp 27–8, 38–41). There is an account of the legal status of Lincolnshire sokemen (pp 60–2, 67–71). The study of marketing and towns uses some new evidence; there is a list of Lincolnshire markets and fairs which the present reviewer will be using promptly (pp 296–305). And the accounts of urban growth in the twelfth and thirteenth centuries (pp 189–96) and of urban decline in the late Middle Ages (pp 218–29) are useful and topical.

Readers who already know what happened elsewhere will find this a disappointment. On the other hand, the book will be a rewarding introduction to medieval society for a Lincolnshire reader with little general information on the subject, and as such should be welcome in Lincolnshire secondary schools and local history courses.

R H BRITNELL

R H BRITNELL, *Growth and Decline in Colchester, 1300–1525*, CUP, 1986. xvi + 304 pp. £27.50.

This book provides a welcome account of the development of an English town over two centuries. It

is a pleasure to read because we are given a demonstration of the art of economic history at its best. Britnell deploys the evidence of a series of wages, prices, rents, tolls, and a dozen other variables, and constructs a coherent story with apparent ease. The clarity of presentation makes the job look deceptively simple; the author's investment in archival research and subsequent analysis must have been prodigious.

The study is primarily a contribution to urban history. Colchester is portrayed as a sleepy, small town of 3000–4000 inhabitants in 1300, which expanded in the later fourteenth and early fifteenth centuries by producing a grey cloth of middling quality for export to Gascony and the Baltic. It reached a peak of prosperity (with a population of about 8000) in 1414, and then declined for the next century. Changes in the fifteenth century, such as diversification into production of more expensive cloth, the opening up of new markets in the Rhineland, and the growth of a more capitalistic organization, could not save Colchester from contraction. Accordingly the expansion of the late fourteenth century is seen as a transient episode in a long-term history of decline. *En route* to this important conclusion, Britnell treats us to a range of insights into such subjects as the nature of oligarchic government, the costs of cloth production, or the development of the food and drink trades. He enlivens his analysis with occasional telling details, such as the provision for the moothall of *marble* steps, a clear indication of civic pride; and, to illustrate the frictions of town life in the early sixteenth century, we are told of the cry heard in the streets in 1516 of 'Down wyth the bayly'.

Agrarian historians have good reason to use this book, because town–country relations are given prominence, based on much research into manorial records. Britnell is concerned to show the sources of Colchester's food supplies and raw materials, and the places of origin of its immigrants. He arrives at a remarkable conclusion: that there was no 'symbiotic' relationship between the town and its nearby villages, because Colchester was too small to have much influence, and its trading contracts were too wide. Its fortunes were bound up more with those of Prussia (where its cloth was worn), than with Essex. So the Essex countryside declined when Colchester prospered, and continued to decline after 1414. Here Britnell seems to be developing the idea that a town like Colchester (not unlike some Italian cities) could have been parasitic on its rural surroundings. The idea is an arresting one, and deserves to be tested comparatively. This reviewer's initial reaction is to wonder, if Colchester is judged to have been 'small', what adjectives can be used to describe the many English market towns with a few hundred inhabitants? And if Essex villages were in 'decline' in the fifteenth century, how do we describe the state of the countryside of, say, south Warwickshire, with a fifth of its villages in ruins and thousands of acres of former arable in disuse?

This is a stimulating and important book. A minor grumble must be to point out the author's selective reference to 'social' as distinct from 'economic' history. He has some comments on the Rising of 1381 as it affected Colchester, but not on its significance for rural Essex. Colchester's importance as a centre of Lollardy is only hinted at.

CHRISTOPHER DYER

ELLEN WEDEMEYER MOORE, *The Fairs of Medieval England: an Introductory Study*, Pontifical Institute of Medieval Studies, Toronto, 1985. xi + 401 pp. 3 maps; 1 plate. $34.00.

This important study is concerned with the development and functioning of the major English fairs (Boston, Stamford, Lynn, St Ives, Bury St Edmunds, Northampton, Winchester, Westminster) between 1180 and 1340. It is divided into three parts. The first and longest section examines the main features of these fairs — the merchandise traded there, the merchants who came, the organization and administration of trade, the operation of a fair cycle, and the course of change over two centuries. Besides its relevance to trade generally, this section contains valuable details of the English cloth trade. It also contains important observations about the role of guilds in fair organization, and about the Flemish Hansa. The second section uses local records to examine St Ives fair and its impact upon its environment. The third, and briefest, section compares English fairs with those of Champagne. It is argued here and earlier that the commercial importance of fairs was undermined by, amongst other things, changes in the manufacture and marketing of cloth (pp 214–18, 290). The author supports her conclusions with quotations from documents and tables of statistical and biographical evidence.

In the second section, examining the social impact of a major fair in its locality, the author's perception seems to be distorted by her preoccupations. St Ives apparently had a market place in Henry I's reign (*Cartularium Monasterii de Rameseia*, i, 137, 144–5) and a weekly market was explicitly authorized by King John (*Pipe Roll 2 John*, 169). As Dr Moore recognizes in her comparison between St Ives and Battle, the former had features akin to those of a well-established market town (p 247). A weekly market would explain better than the annual fair why St Ives played an urban role in the neighbourhood throughout the year (pp 263–4). Yet no possibility of a weekly market before 1292 is here admitted (pp 249, 278) and one is left wondering why not. St Ives was no doubt a distinctive place because of its fair, but if in fact it was an old market town, as the available evidence would suggest, then the detailed analysis of occupational specialization in chapter 7 ought to have taken this into account.

This objection barely affects the value of the study as a whole. The book makes a major contribution to our

knowledge of English local, inter-regional and international trade. No comparable study of fairs has ever been attempted, despite their long-acknowledged importance in England's international trade. This work plugs the gap, and does more besides. It will become the acknowledged authority on the subject and will probably remain so for a long time. Most everyday details of how medieval trade was conducted are irretrievably lost, and many of the matters about which Dr Moore is uncertain will always be obscure. Something could and should be done to set into context the early development of these fairs and their early rivals. There is perhaps more to be said about the lesser English fairs of the thirteenth century, though for most of these the only surviving evidence is a licensing charter. Further research in English and continental sources will presumably expand the information about visitors to English fairs, and someone will perhaps explain the prominence of Douai and Ypres as sources of cloth (p 30). Reasons for the decline of the major fairs in the thirteenth century will be elaborated in particular cases. And an analysis of the history of the fairs after 1340 remains to be written. But it is doubtful whether any of these developments, welcome though they would be, could shift Dr Moore's book from a list of the standard works on medieval English trade.

R H BRITNELL

M W BERESFORD, *Time and Place: Collected Essays*. Hambledon Press, 1985. xiv + 406 pp. 40 maps; 16 plates. £24.

Maurice Beresford has written so many pioneering books and articles that those who do not know him might be forgiven for wondering whether it is indeed the same man who has worked so profitably on such diverse topics as the nature of dispersed settlement in medieval Cornwall, 'The Beginning of Retail Tobacco Licences, 1632–41' and the origins of back-to-back houses in Leeds. Only the infectious enthusiasm of the prose seems to point to the same author.

But at the start of this collection of twenty-five essays (selection might be a more appropriate word for he has written many more) Professor Beresford provides us with 'An Autobiographical Fragment', which relates the pieces to each other and to his books and which shows how one interest led to another and how his removal from the Midlands to Leeds stimulated an enquiry into the origins of a very different type of environment from that of his childhood and youth. Relating topography to economic history has always been Maurice Beresford's principal concern. He has an unerring feeling for place and the great gift of illustrating the general from the particular. Even the commercial crises and the booms and slumps of the nineteenth century are tellingly illustrated from an uncompleted railway line in Leeds and the chequered history of the terraced rows of the hopefully-named Prosperity Street.

The articles in the collection appear in their original type-setting and have not been altered since their original publication. Three of them first appeared in the pages of this *Review*. The earliest ones stem from the author's interest in the medieval field system of his birthplace, Sutton Coldfield, and from a widening concern with the open-fields, surviving ridge and furrow patterns and early enclosures in the Midlands. From the start, Professor Beresford sought out documentary sources in local and national record offices to help explain the evidence that he could see on the ground. So we have essays on 'Medieval Inquisitions and the Archaeologist', 'Lay Subsidies and Poll Taxes', 'The Common Informer, The Penal Statutes and Economic Regulation', 'Commissioners of Enclosure' and so on.

In the meantime Maurice Beresford was writing those classic works: *The Lost Villages of England* (1954), *History on the Ground* (1957) and *Medieval England: an Aerial Survey* (1958). While collaborating with J K S St Joseph on the latter volume he became interested in the planted towns (successful and unsuccessful) that had left topographical reminders as striking as those of the deserted medieval villages. One of the spin-offs of this new interest was the article on 'Dispersed and Grouped Settlement in Medieval Cornwall'; for the rich documentation for planted towns in Cornwall was matched by that for the rural settlements. He was able to show that the isolated farmstead was not the typical form of settlement in medieval Cornwall; rather, the very small cluster of two to four dwellings had been the original norm. Professor Beresford states that he is as proud of this article as anything he has written, even at book length.

Upon moving to Leeds, his first inclination was to extend his agrarian studies to his new region; Wharram Percy became a major, on-going project. But he also became interested in the impress of former field patterns on speculative building development in Leeds. 'The origins of the East End,' he writes, 'cried out for study and thus I stumbled on the origin of back to back houses, not as the low-grade product of factory masters and speculative builders, but as the homes of members of the town's first building clubs or terminating building societies.' As with his agrarian studies, he searched for records that would help to explain the topography; his two articles on fire insurance records, which are included here, show how such documents can be used to charter urban development and are 'also a reminder that the history of organisations has been as interesting to me as the history of places'.

A book on the topography of Leeds is now with the printer and we can be sure that another great work it will be. Throughout his writing career Maurice

Beresford has not been content merely with a rigorous analysis of his chosen subject; above all, he has made economic history readable. His books are as interesting to amateurs as to professionals. This collection of essays, with its impish asides — 'Napoleon, it is true, had not sailed up the Aire' — will be read with delight and profit by all those who have not had ready access to them in the scholarly journals.

DAVID HEY

A EVERITT, *Landscape and Community in England*. Hambledon Press, 1985. vii + 362 pp. £22.

This volume of twelve essays is concerned with the histories of provincial landscapes, economies and societies as well as worthy individuals and family dynasties. Such has been the breadth of Professor Everitt's scholarly researches into English provincial and local history over the past twenty-five years, much of it on a truly comparative basis. The *raison d'être* of this volume rests on several beliefs and conclusions which are spelt out in a thought-provoking 'Introduction: Landscape and Community in England' (pp 1–9). This deserves to be read independently and ahead of any of the remaining eleven essays constituting as they do the bulk of this volume. There is the belief, for instance, that 'we should study places, localities, counties, and regions . . . for the light they shed on English society as a whole', or 'we need to pay greater attention than we have done . . . to the *indigenous* life of the local communities of England, and to the fact that it stemmed ultimately from different roots from that of the community of the realm', coupled with a desire 'to recapture the local idiosyncrasy of the past'.

Eight of the essays, as indicated in the Preface, are reprints, apart from minor amendments, of what has already been published in various journals or publications, beginning in 1960 but otherwise spanning the 1970s. About a quarter of the book is devoted to regional and landscape themes. The difficulties confronting historians who wish to define what has become 'something of a vogue word in this country', namely 'region', are discussed over the second and third essays, particularly pp 11–13 and 41–2. The second essay (pp 13–40), apart from distinguishing between a countryside or *pays* as a natural region and county or shire as no more than a human creation, considers the rise of the county town 'as a kind of regional capital', with respect to five towns in particular — Exeter, Shrewsbury, Canterbury, Maidstone and Northampton. Overall this is a most stimulating essay otherwise tucked away in the *Transactions of the Royal Historical Society* in 1979.

There is a good mix of regional, landscape and urban themes in this volume, covering patterns of regional evolution in England (pp 11–40); river and wold (pp 41–59); the making of the agrarian landscape of Kent (pp 61–91); the primary towns of England, with respect to urban typology and origins (pp 93–107); 'lost markets' and their aftermath in the lost towns of England (pp 109–27); the English urban inn, indicating several aspects of its history, complete with a valuable Bibliography and a note on primary sources (pp 155–208); and country carriers in the nineteenth century, who played an important role 'in linking town and country, farm and market, and village and railhead together', here being demonstrated the great utility of Victorian trade directories, whereby 'with a little patience, the arid lists of names [therein] can be used to reconstruct an elaborate pattern of routes and services around many an English market town' (pp 279–307). If these studies have one common purpose it is both to offer a wider perspective to individual landscapes and places, and 'to identify some of those general themes in provincial society which transcended regional boundaries'.

Professor Everitt's researches into more than one county community preceding, during and following the English Civil War are well known, but in this volume the emphasis is on 'Suffolk and the Great Rebellion 1640–1660', published as far back as 1960 by the Suffolk Records Society (pp 128–54). Since the roles and contributions of individuals and families are equally worthy of consideration within the overall framework of English provincial history, attention is focused on Philip Doddridge (1702–51), a Northampton Nonconformist minister, and the extent of his impact on 'the Evangelical Tradition' (pp 209–45); on the history of but one example of a pseudo-gentry family, that of the much admired Hanoverian Kentish historian, Edward Hasted (1732–1812) (pp 247–77); and on the importance and influence of family connections and dynasties, built up through ties of intermarriage and descent, as 'an extraordinarily pervasive feature of English provincial society, [which] at the level of academic history . . . has been comparatively little studied', shaping much more than the structure of politics, by influencing the course of regional trade, the evolution of technical skills, the development of many professions, the diffusion of ideas, as well as binding 'the society of town and country together' and exercising effects on farming, industry, retail trades, craftsmanship, Nonconformity, and even the army and the navy. This particular essay (pp 309–30) has not previously been published.

There is much to interest and instruct the historian in this volume which is supported by a detailed index (pp 331–62). It truly reflects the widely acknowledged scholarship and literary skill of its author. It well deserves to stand the test of time as a reference work of value not only to national historians but to all serious local historians irrespective of their location.

A final but not inconsiderable merit of this book is to provide pointers to further avenues of research, such as the decline of traditional industries (p 4); individual

towns as regional capitals (pp 23–40); the need for detailed studies of provincial inns and inn-keepers (pp 155–208); or the rise of extended family dynasties and their political, economic and social influences (pp 311–12).

JOHN WHYMAN

DONALD WOODWARD (ed), *The Farming and Memorandum Books of Henry Best of Elmswell, 1642*. Records of Social and Economic History, new series, VIII, OUP *for* The British Academy, 1984. lxxiv + 347 pp. £33.

Donald Woodward's eagerly awaited new edition of Henry Best's farming book provides further proof of the value of the new series of British Academy 'Records of Social and Economic History'. By providing, for the first time, full transcripts of the farming and memorandum books, Woodward has added very significantly to our Best material, if not quite transforming our perceptions of the source in the manner of Macfarlane's *Josselin*. To the new accurate transcripts, he has added the historian's analysis and an excellent, comprehensive, new glossary compiled by his collaborator, Peter McClure.

The introduction is full and painstaking, if at times as terse as Best himself, and succeeds beyond Robinson's original (1857) edition in setting Best clearly into his social and economic context. Best was a man of quite considerable wealth, a small gentleman farmer, with an estate of upwards of 500 acres of arable and pasture in Elmswell, with additional rights to a sheepwalk in the neighbouring township of Cottam. When the farming book was written, in the early 1640s, Best's farming activities were at a maximum, and were concentrated onto the consolidated flatts of the demesne and some of the semi-consolidated farms earlier let to tenants. The editor's collection in Appendix III of probate inventories has now placed Best into the context of the commercial farmers of Driffield parish, but Best remains exceptional in ways beyond those of his record-keeping.

The farming book exists only as a non-contemporaneous copy, perhaps by his son, of a draft made shortly before his death. It is essentially didactic, probably aimed at John his heir, but also repetitive and uneven. Despite the intimate details provided of livestock husbandry, of bee-keeping, thatching, and of the marketing of produce, Best is not very revealing about his arable farming practices, and these the editor has sought to supply with evidence on fallowing and rotation drawn from probate inventories. This apart, the farming book is unchanged except in detail from the edition of 1857: Woodward enables us to see this outstanding source with absolute clarity, but Robinson had not distorted excessively.

Few will be unfamiliar with the content and flavour of this book, and we all have favourite passages which convey its nature. Best prescribed the qualities of a good tup: 'large and well quartered, of a snoode and good stapple, with a longe and bushie tayle, without hornes, and havinge both the stones in the codde, and lastly neaver under two sheare, nor seldome above five; for beinge over younge, their blood is hotte and the scabbe procured, and beinge over old their radicall moisture is wasted' (p 6). He discussed the best form of haycock — 'the bigger the cocke is, the better it will endure both winde and wette' (p 36); the hucksters and 'tripewives' of Malton who supplied tallow for the greasing of lambs; and the careful respect for the common regulation of grazings which even the lord of the manor of Elmswell had to show. Interesting individuals abound, such as William Simpson of Little Driffield, thresher and shearer (pp 100–01), and the seasonal 'moor folkes' imported to assist with the harvest. We understand details of the Best household economy, such as the composition of their bread — rye, pease, and barley, with wheaten flour reserved for the finer pie crusts (p 109) — and read a series of wonderful prescriptions for the selection of servants: maids were to be 'good milkers' and, for fear of fire, not to be of a 'sluggish and sleepie' disposition; none were to be hired so near their friends as 'to make a theefe'; and, above all, temptation was not to be placed in their way. This farming book, beautifully edited and printed here, remains one of the historical and linguistic treasures of the seventeenth century.

The full edition of the Memorandum Book is valuable but less precious. Best's annual hirings of servants are recorded in detail, with the mixture of money wages, payments in kind, and contract-sealing 'godspenny' that represented their rewards to labour. In 1617, Symond Huson was hired at £1 6*s* 8*d* per annum and the right to winter nine sheep; the shepherd, William Tadman, received £5, his godspenny, and the wintering of twenty sheep; and in 1630, Henry Hunter was paid £2 16*s* 8*d*, the wintering of nine sheep, and 'a pair of old boots' (p 86). The memorandum book contains in addition details of taxes and rates, receipts and payments, medicaments for both stock and kin, and bonds and obligations, and valuably supplements the more notable manuscript.

The majority of individuals named in both documents appear in the excellent brief biographies of Appendix IV, and a wonderful range of words is defined and analysed in McClure's glossary, pp 274–323. Best provides many instances of earliest and latest usages as well as many that should have been sole citations in Murray's *New English Dictionary* [the *OED*]. Among these one finds: 'anchitricoes' (lambs' testicles fried with parsley); 'faggett-marke' (a sign for the number five); 'hoppinge-tree' (the oxpole of a wain); and 'moone-rider' (a ewe that rides with the moon . . . a barren ewe). The Best manuscripts are thus a linguistic as well as an historical treasury. In all, Woodward has bested Robinson's edition in every

way, and provided the agricultural historian with renewed pleasure and insight from an invaluable familiar source.

J A CHARTRES

DAVID W SABEAN, *Power in the Blood. Popular Culture and Village Discourse in Early Modern Germany*. CUP, 1984. x + 250 pp. Illus. £22.50.

This is an unusual book, and something of a *tour de force* for its author. It explores the mental world of peasants in early modern Germany, using the reports of diocesan and urban superintendents, investigating dissension and conflict in their midst. The documents are drawn from the duchy of Württemberg in south-west Germany, a region of small producers, lacking strong class divisions, and generally undisturbed by very present lords. Such regions are not usually well documented. The evidence is not, of course, perfect: it gives only the reported speech of informants, but Professor Sabean inserts a generous quantity of paraphrasings (the explanation of his method is tucked away in footnote 8 on page 221) to show the flavour of the originals. Allowing for all the distortions introduced by literate scribes, Sabean is undoubtedly successful in illuminating social relations and conveying an idea of the undertow of peasant beliefs and opinions.

The six episodes which he explores concern refusals in the 1580s to attend communion, one man's vision in 1648 of an angel in a vineyard and the uproar he caused in his village, a witchcraft investigation in 1683, the problems of an unruly, paranoiac parson, 1696–1710, the murder of another, 1733, and a remedy for foot and mouth disease in 1796 when a village buried its communal bull alive. Many glimpses of social relations are revealed in these incidents, and every reader will be attracted to different corners of a large and colourful canvas. This reviewer was most impressed by (i) the symbolic importance of taking meals with people, which evidently betokened trust between giver and taker and had religious overtones, (ii) by the nature of 'knowledge', which was nothing verifiable in the modern sense, but was rather social knowledge, comprising received notions, rumours, traditions, reports that were generally conflicting, and opinions, and (iii) by the inordinate fear attached to the spoken word and its influence for evil or good. The word, as Professor Sabean explains, was a paradigm of unmediated communication, and had been a central issue in the spread of Protestant belief. Hence 'just as God's word was capable of creating the Christian with sudden force, so the words of the witch were capable of corruption with lightning speed'. Hence the necessity sometimes to stop the mouths of those uttering dangerous thoughts.

The author offers much shrewd and sensitive comment on the cases he recounts. He is very conscious of the role of 'authority' in peasant life, but in the end he does not find a folk culture lying beneath a veneer of civilization, but more convincingly and credibly 'a continuing discourse' between all classes and agents in society. Finally, agricultural historians will catch intriguing glimpses of farming routines, of a middleman going round the villages buying butter and carrying it home on his back, of young women attending spinning bees and gossiping together, and of green nuts drying in the sun.

JOAN THIRSK

NORMA LANDAU, *The Justices of the Peace, 1679–1760*. University of California Press, 1984. xv + 421 pp. £35.40.

Norma Landau has produced a remarkable book, covering the Justice of the Peace from the Exclusion Crisis to the accession of George III, but enlightened by reference to earlier and later sources. The product of very intensive study of Kentish data, it is not so limited in its perspective, and, if logically more circumscribed than the pretensions of its title, provides in a single volume the most powerful revision of the Webbs's defamation of this fundamental eighteenth-century institution. In so doing, she adds considerably to our knowledge of politics in the period, to define the process of transition from the 'patriarchal' paternalism of the seventeenth-century bench, through the party strife of the early decades of the eighteenth century, to the cohesive 'patrician' paternalism of its middle years.

The book falls into four sections, of which the first, 'The Justices' Influence', considers abstractions about their roles, defining the linkages between national and local political institutions, and the use of the Assizes, the Quarter Sessions, and the Petty Sessions as the avenues of the JPs' power. The political conflicts encapsulated by a study of the Ashford Division of Kent, based on the revealing account of Sir Wyndham Knatchbull, are analysed in considerable depth in Part two, 'The Justices and the Parties', which develops and extends Dr Glassey's analysis of the partisan manipulation of the Commission of Peace between 1680 and 1725. Thereafter, particularly under Lord Chancellor Hardwicke, and confirmed by the 'treaty' of 1745, the bench became less partisan, and significantly lower in the number and social status of its active membership, as the lesser gentry and the clergy became the backbone of the new administrative class. Judicial association helped such JPs to cohere, despite the objections of the Duke of Bolton that 'gentlemen of estates don't care to be put on a level with these people'.

Landau's third section, 'The Work of Kent's Justices', promises the most immediate interest to the agrarian historian, and here she is again painstaking in her analysis of the work of the single justice, petty sessions, and quarter sessions. While the organizational and political assessment is exemplary, it is here

that social and economic historians will find the emphasis on structures rather than functions most disappointing. Though a minority, the 'trading justice' was a reality of urban society, but in the countryside the single justice was inclined gradually to resort to the new petty sessions, rather than act as the informal arbiter of his local community. Petty sessions too gradually acquired many of the devolved duties of economic regulation from Quarter Sessions, notably the licensing of badgers and the regulation of wages. Quarter Sessions therefore evolved as the apex of local administration, hearing appeals in settlement cases and so on, and, for Kent at least, are potentially misleading as the basis for the analysis of regulation. Landau's final section, 'The Image of the Bench', completes the work with the assessment of the social and political composition of the bench, and attitudes to it. The whole is supported by valuable statistical appendices.

This is a major work, now an indispensable guide to the major local institution of authority in eighteenth-century rural society. Its focus remains the structure and operation of the JP as institution, not an evaluation of the impact of their regulatory functions. In that, at least, the Webbs still demand a replacement. By modern standards, this book is luxuriously printed. Despite its concentration on Kent, which leaves lingering doubts as to its generality, even though the author has attempted some comparative analysis, this valuable and attractive book will be essential reading for any student of eighteenth-century England.

J A CHARTRES

JULIAN WISEMAN, *A History of the British Pig*. Duckworth, 1986. ix + 118 pp. Illus. £12.95.

This book is both fascinating and disappointing. As an account of the development of British pig breeds from the eighteenth century to the present day it is detailed, interesting, and apparently reliable; as a history of the British pig it is incomplete.

After an introduction which touches on the domestication of the pig, and two short chapters covering the period from the Anglo-Saxons to the seventeenth century, the main part of the story begins with the large, late-maturing, lop-eared, usually white, unimproved British pig of the early eighteenth century. This was derived from the European wild pig, *Sus scrofa*, although Dr Wiseman can shed no further light on the question of how it developed from the small brown bristly domesticated pig illustrated in medieval manuscripts. Its hardiness and foraging ability became less important with the increasing availability of stock feeds in the eighteenth century, and this increased the incentive to introduce bloodlines originating in the earlier-maturing, lighter-boned wild pig of South East Asia, *Sus vittatus*.

Thereafter the book explores the effects of this introduction. There was a great proliferation of breeds: Dorset alone had the Gold Tip, the Dorset Black and the Black Dorset (which were not the same). The confusion of names and types was considerable. Dr Wiseman devotes five pages and two pictures to sorting out what is meant by the term 'Berkshire'. Show pigs were bred to enormous size (sometimes over 1000 lb) and excessive fatness, a trend which was eventually ended by the development of the Wiltshire cure in the 1860s. The subsequent dominance of the Large White was not seriously threatened until the introduction of the Landrace in the 1950s. Finally came the abolition of boar licensing in 1972, which allowed the production of modern hybrids such as the Camborough.

The detailed discussion of breed development and of the work of major breeders is not matched by much material on pig keeping by farmers or labourers. There is little on prehistoric pigs, or pig housing, or regional differences before the later eighteenth century; indeed, most of the material on the pre-eighteenth century pig seems to be drawn from the familiar secondary literature. There is little detailed analysis of the significance of pigmeat in the total meat market in the nineteenth and twentieth centuries, or of the way in which the market for pigmeat or the profits from pig production changed, and so affected farmers' decisions.

The reason why these questions are not discussed may be that Dr Wiseman has relied on agricultural textbooks and technical reports, mostly of the nineteenth and twentieth centuries, for his evidence. He has apparently used no documentary evidence, nor has he relied much on recent work by agricultural historians. Nevertheless he has produced a thorough account of the development of pig breeds in the last two hundred years, and an excellent source of reference for anyone interested in the history of a particular breed. What he has not produced is a history of the British pig.

PAUL BRASSLEY

L A CLARKSON, *Proto-industrialization: The First Phase of Industrialization?*, Studies in Economic and Social History, Macmillan, 1985. 71 pp. £3.95.

The concept of proto-industrialization, when first formulated, held out the promise of explaining the emergence of industrialization. By analysing the nature of industrial production before the factory — in terms of its agrarian roots, its demographic components and social structural features — proto-industrialization was designed to provide a framework within which to understand the transition to modern industrial capitalism in western Europe.

While the essential features of proto-industrialization had been expressed in a number of important works before Mendels's seminal article of 1972, the

subsequent proliferation of empirical studies and critical essays has done much to obfuscate what initially seemed to be an attractive and straightforward explanatory tool. Indeed, the focus of the initial debate has become lost.

In this very welcome recent addition to the series of *Studies in Economic and Social History*, Professor Clarkson steers a clear path through the labyrinthine literature of the past fifteen years. His useful historiographical introduction traces both the conceptual and empirical antecedents of proto-industrialization within the context of the debate on the genesis of industrial capitalism.

In the body of the pamphlet, Clarkson identifies the main features of proto-industrialization which *could* lead to the development of factory-based industry. Proto-industrialization was characterized by craft production for extra-regional markets, by by-employment, by the creation of a market for food encouraging commercial agriculture and by the expanding role of the town in the organization of industry. Clarkson draws on an impressive array of empirical studies to argue that while proto-industrialization was indeed sometimes transformed into factory industry, it was equally likely to disappear. He particularly criticizes the model for its failure to explain satisfactorily this de-industrialization. Clarkson pursues his assessment of the proto-industrial model by testing the links between cottage industry and factory industry as originally specified by Mendels. Again he highlights inconsistencies in the theory and exceptions to be found in the empirical literature.

While the debate surrounding proto-industrialization has clearly been lively and it has stimulated research and heightened our appreciation of the social and demographic implications of European economic growth, it has brought us only a little closer to a general theoretical understanding of the transition from agriculture to industry or from feudalism to capitalism. Clarkson's synthesis arrives at the broad conclusion that descriptively proto-industrialization captures many of the features of industrial life of western Europe before the Industrial Revolution, but that conceptually it contains too many limitations and contradictions.

Thus, Clarkson has produced a remarkably clear and fair assessment of the concept of proto-industrialization and of the debate as it has developed. He makes sense of the diffuse and often confusing literature that informs the debate and has completely fulfilled the objectives of the series.

KATRINA HONEYMAN

Studies in Irish Economic and Social History: 1, D Fitzpatrick, *Irish Emigration 1801–1921*, 1984, 51 pp; 2, W E Vaughan, *Landlords and Tenants 1848–1904*, 1984, 48 pp; 3, Sean Connolly, *Religion and Society in Nineteenth-century Ireland*, 1985, 69 pp; 4, David Johnson, *The Interwar Economy in Ireland*, 1985, 50 pp; all published by the Economic and Social History Society of Ireland. £1.95; IR £2.50 each.

In 1971, Louis Cullen introduced his new textbook with the comment that Irish economic history was still in its infancy. This represented a happier state of affairs than existed in 1962 when a reviewer could remark, 'every Irish schoolboy is aware that, over long stretches of Irish history, there is one great gap: namely, economic history'. So successful has been the infant's growth that it is now extremely difficult to keep abreast of the rapidly expanding literature and the Economic and Social History Society of Ireland has responded to this situation by commissioning a series of pamphlets on major themes in Irish history for use in sixth-forms and universities. The series offers a review by a specialist of the present state of historical knowledge and a critical bibliography.

The pamphlet as a literary form has a long and distinguished history, not least in Irish political life. Its employment in the teaching of economic history is of more recent origin and some regard it as a mixed blessing. When the Economic History Society started its series much head-shaking took place. Pamphlets would make life too easy for students; they would deter students from reading original works; they would smother rather than stimulate intellectual curiosity by pre-packaging knowledge; and — worst sin of all — they would be a vehicle for the expression of partiality and prejudice rather than balance. According to this view pamphlets, like cigarette packets, ought to carry a government health warning. Whilst every historian can no doubt quote a favourite instance of the misuse of pamphlets, particularly in examination regurgitation, the fact that the Economic History Society's series now numbers over forty volumes suggests that it meets a proven need. As with any other form of literature, how pamphlets are used depends a great deal on the student and a great deal more on the teacher; whether they are used at all depends on the calibre of the author, the relevance of the topic for the syllabus and perhaps above all in these financially pinched times, on the price.

On all three criteria the new Irish series scores well. All the pamphlets are extremely well written and cover topics of major importance. At £1.95 (sterling)/£2.50 (Irish) they are excellent value, better it must be said than their British counterparts now are. Whether their very reasonable price is due to lower printing costs in Ireland or to the exercise of strict editorial control by Messrs Dickson and Roebuck, the general editors, is unclear (the fact that the pamphlets are all more or less the same length perhaps suggests the latter), but they deserve to command a ready and wide sale. It is, however, surprising to find that the price has been embossed on the cover: is the Society making itself

hostage to fortune or do the editors know something about the future rate of inflation which the rest of us don't? I think we should be told.

Whilst Ireland's predominantly agricultural economy means that all of the pamphlets contain material of interest to agricultural historians, they will probably find most to interest them in Vaughan's pamphlet on landlord–tenant relations and in David Johnson's review of the inter-war period, part IV of which discusses agricultural policies in the Free State and Northern Ireland.

Landlord–tenant relations have been the subject of a great deal of re-examination in which the picture of predatory landlord and exploited tenant has been significantly altered. Vaughan, whose own research has made a major contribution to this revisionism, begins the pamphlet with an explanation of how the malign view became established. It is good to see, in a series partly designed for use in schools, that he includes school textbooks in his survey of the literature. Given their longevity this is a highly commendable practice. The next three sections explain the limits to landlord power, the evidential difficulties of assessing features of tenure such as rents, evictions, agrarian crime and tenant right, and whether oppression can be measured. The discussion of oppression benefits greatly from the inclusion of some imaginative relative standards of a sort that are ideal for teaching purposes: evictions were, for example, less frequent than industrial accidents in British factories or floggings in the British army. There is, however, one aspect of the traditional picture of Irish landlordism where the novice reader is likely to feel the need for further explanation and that is investment behaviour. Vaughan switches rather abruptly from discussion of tenant right to investment and the statement that 'it is doubtful if the sort of improvements made in England would have been of much use in Ireland' will leave students puzzled; nothing is quite so fixed in student minds as the idea that 'improvements' are *per se* a good thing. The final sections discuss the causes of the Land War of 1879–82 and their relationship to the land question. These offer a most useful introductory tour through the prodigious amount of historical writing on the Land War and provide a neat resolution of the revisionists' conundrum: 'how .. could the land system have caused the Land War if most landlords were not harsh?'

Whilst land *questions* are perennial landlordism is not, at least not in Ireland, for the Free State abolished landlordism in 1923 and Northern Ireland in 1925. David Johnson's interwar pamphlet lacks the sense of controversy and historical exploration that enriches Vaughan's, but that is because facts are less in dispute and the period less popular for research. Given that this is so, there was a case for writing a pamphlet that contained more speculation and highlighting of areas where further research is needed. Speculation is not entirely absent in, for example, the discussion of the economic consequences of partition but more would have been welcome. Johnson's overall approach is to consider interwar Ireland under general headings rather than dealing separately with Northern Ireland and the Free State. This approach is particularly rewarding where agriculture is concerned because of the common developments, north and south, until the introduction of protection in 1931/2. The key policy was quality regulation and Johnson argues that both governments achieved considerable success in the short run; this conclusion relies, however, on a single criterion, namely the growth of agricultural exports from 1925 to 1929. After 1932 policies diverged, though agriculture in both parts of Ireland experienced the disruptive effects of the international depression. Northern Ireland gained from the union through protection and subsidies; the Free State did not and was subjected to penal duties during the Anglo-Irish 'Economic War', a dispute which Johnson believes had damaging long-run consequences for southern Irish cattle producers by permanently reducing their share of the British market. Divergence is also Johnson's concluding theme, for from 1938 to 1947 national income in real terms rose by 84% in Northern Ireland and only 14% in the South. Living standards, similar on both sides of the border around 1930, were nearly 75% higher in Northern Ireland by the late 1940s, a gulf that had important political implications.

Differences in living standards on an international scale are the background to Fitzpatrick's pamphlet on Irish emigration from 1801 to 1921. Some eight million people emigrated between these dates and their movement has generated a vast literature. Fitzpatrick's task of synthesis is probably the most demanding. He performs it with apparent ease and includes some new statistical material (for teaching purposes it would have been useful to have had this in tables as well as in graphs and charts). The pamphlet consists of three sections: profile, determinants, and consequences, and includes a glossary of terms such as cohort depletion and stem family, a helpful feature which later pamphlets dealing with 'technical' topics might usefully copy.

While emigration became part of the expected cycle of life, the passage of Irish men and women through life was closely attended by religion. In pure educational terms, as a topic which has considerable relevance to current events, Sean Connolly's pamphlet on Religion and Society in Nineteenth-century Ireland could be argued to be the most valuable of the series. Religious institutions, beliefs and practices have an apparently concrete form when viewed at a moment in time; history, when applied by someone as skilled as Connolly, can be a remarkable solvent. Connolly offers a balanced, instructive and detailed analysis of the three major denominations: Catholic, (Anglican) Church of Ireland, and Presbyterians, though neither

minor denominations nor the 146 souls who disowned all religious labels in the 1861 census are ignored. Parts of the pamphlet, mainly where theological differences are discussed, do assume quite a degree of prior knowledge. Experience of trying to explain even quite basic differences in forms of church government suggests that such knowledge cannot be taken for granted, at least amongst third-year students in a provincial English university. Higher levels of religious observance may make this less of a problem in Ireland.

In a series which has got off to an excellent start it may seem churlish, even trifling, to record one reservation about the bibliographies. However, as the series is aimed at schools as well as universities it is worth remembering that school libraries are much less well endowed. Budgets and teachers' time are both more limited. Accordingly it would be worth considering either limiting the bibliographies to a number of key texts or, if exhaustive lists are required, asterisking the items most suited for school use and supplying the name of the publisher as well as the price of the volume. Some understanding also needs to be reached about critical comment: it is doubtless true that Crotty's book, *Irish Agricultural Production*, 'contains brilliant insights, though on occasions goes off at tangents', but does that really assist a newcomer to the subject?

RON WEIR

RICHARD J EVANS & W R LEE (eds), *The German Peasantry*. Croom Helm, 1986. xiii + 305 pp. £22.50.

Preceded by Ian Farr's excellent historiographical survey, this important collection of ten essays on aspects of German peasant society and economy since the mid-eighteenth century includes only one already published (and that in German). The emphasis throughout is upon the 'critical deconstruction' of the terms 'peasantry' and 'community', in analyses of conflict within rural society, and of the impact of broader social change generated both within and without peasant society. In particular, the contributors are critical of the conception of the 'peasantry' as an object of history, as a traditionalist residue of historical processes, and are concerned to present that social group as an agent of change.

A particular merit of the collection is that it is the first ever English-language presentation of some of the outstanding work of agrarian historians living and researching in the German Democratic Republic. As a generalization one cannot but agree with Farr's contention that the last generation of scholarship in the area of modern agrarian history in the Federal Republic (although some notable exceptions spring to mind) 'compares distinctly unfavourably' with that emanating from the 'other Germany'. This reviewer, in particular, owes an enormous debt to GDR agrarian historians. Some of these are represented in this collection. The work of others, such as Rudolf Berthold, Hans-Heinrich Mueller and Gerhard Heiz, ought to be more widely known in the English-speaking world.

A number of factors have influenced scholarship in the Federal Republic in a direction that has not on the whole proved particularly fruitful. There has been the inherited influence of G F Knapp from the nineteenth century, and subsequently of Friedrich Luetge, which emphasized legal forms rather than actual practices in such areas as property rights, customs of inheritance and the lord–peasant relationship, upon which research concentrated.

Agrarian historians in the GDR have not totally escaped the pervasive influence of the juridical approach. The contribution on 'Peasants and Markets' from Hartmut Harnisch, for example, could be said to dwell too long on contrasts of legal status amongst the peasantry of East-Elbian Prussia. He does, however, present a comprehensible survey of the rather complex origins and development of the so-called 'Second Serfdom' in eastern Germany, and he correctly emphasizes the role of the growth of the market in that process of expropriation of peasant land and increase of labour services.

The pervasive influence in Central Europe since the nineteenth century of *Volkskunde* (a hybrid of ethnology, folklore and cultural anthropology) had, at least until quite recently, a negative influence upon actual understanding and interpretation of rural society and economy. Practitioners of *Volkskunde* concentrated overwhelmingly upon detailing surviving customs and artefacts, the relics of 'peasant' culture, without analysing their societal functions. The results of this effort have at least ensured the survival of recorded evidence. This has formed the basis of some outstanding work, as in the case of that of Ulrich Bentzien (also of the GDR) on Mecklenburg, and represented here by several essays; *viz* Hainer Plaul's study of 'The Everyday Life of Rural Labourers in the Magdeburg Region, 1830–1880', Christel Heinrich's 'Peasant Customs and Social Structure' (which also deals with the Magdeburg region, in the 1920s), Wolfgang Kaschuba's 'Peasants and Others' (on a village in south Germany, also in the 1920s), Utz Jeggle's 'The Rules of the Village' and Regina Schulte's 'Peasants and Farmers' Maids'. In the past, however, much of this *genre* effectively mythologized the 'peasantry' and contributed to the 'Blood and Soil' ideology of National Socialism and the ultimate political ascendancy of the Nazi party.

Finally, although in recent years social history as such has been revolutionized in the Federal Republic, very little of this effort has been devoted to the study of rural social groups. Partly under the influence of 'modernization theory', the peasantry has been perceived of as an element of the traditional survivals

that allegedly account for Germany's delayed achievement of the 'modernity' of a liberal-democratic capitalist (ie American-style socio-political) order. Contrary indications are contained in Cathleen S Catt's contribution on 'Farmers and Factory Workers', a study of social change in a Palatinate village between 1840 and 1880.

Farr's contention is questionable that 'East German scholarship has clearly been invigorated by its unequivocal location within Marxist-Leninist orthodoxy.' This ideological basis undoubtedly imparted a stimulus to the study of significant issues and developments, not least on account of Lenin's lifelong interest in the peasant question. This embraced in particular the Prussian road of transition from feudalism to capitalism in agriculture and the class analysis of the peasantry, as well as obviously the analysis of class conflict in rural society. (Somewhat paradoxically, however, the one contribution to this collection on the role of peasant unrest in the genesis of serf-peasant emancipation in Prussia is provided by the American scholar William W Hagen, in his 'The Junkers' Faithless Servants'.)

Marxism also provided a methodology that inevitably drew GDR historians away from a narrow interest in legal forms. Nevertheless, at least in its Stalinist variant, Marxism-Leninism narrowed the vision and perspective of historians. It tended to replace reality with ideological conceptions of what reality ought to be. Here one only needs to mention the denunciation, followed by studied neglect until recent years, of the ideas of von Thuenen.

In recent years at least there has been considerable debate amongst agrarian historians in the GDR, including (in particular) on the background to the agrarian reform process in Prussia from the early nineteenth century (in which Harnisch is a participant). With such debate has come a considerable increase in our knowledge and understanding of the development of rural economy and society in Germany. Perhaps these debates ought to have been accorded a more prominent place in the present collection, instead of the emphasis on *Alltagsgeschichte*. Nevertheless, the editors and the publisher are to be congratulated for making available some of the achievement of GDR scholarship to those unable to read German.

JOHN PERKINS

ERIC RICHARDS, *A History of the Highland Clearances, Volume 2: Emigration, Protest, Reasons*. Croom Helm, 1985. x + 543 pp. 3 maps. £25.

Professor Eric Richards, in the first volume of *A History of the Highland Clearances* sought, in his own words, 'to establish a broadly agreed document of the clearance story'. There can be little doubt that, with a massive collection of evidence, he succeeded. We must agree that the expansion of large-scale sheep farming through the Highlands brought evictions that were widespread, long-continuing, growing to massive scale, often effected regardless of consequences and sometimes wantonly cruel. But, as we find in the present volume, the matter cannot end there. Out of these happenings, capable of documentary proof, has grown the myth of a golden age destroyed by the single force of the brutal dispossession of the people at the hands of a few powerful, money-seeking, and cruel men, resulting in the total demoralization and immiseration of the remaining population. In the testing of the myth by analysis and factual accumulation controversy has raged, and shows no signs of diminishing. There are indeed good reasons why the search for clear knowledge and agreement was bound to be hard. The Highlands from the later eighteenth century have been in the grip of a root and branch transformation. The changes have struck to the very roots of society, carrying along the common people, and have destroyed old values and comforting forms of social organization. Moreover, the emotional climate that has been generated by the diaspora and dislocation has made calm and patient investigation additionally hard to sustain.

Now, Richards, in a volume which he says is to be 'analytical, speculative and argumentative', faces a task even more daunting than he did in its predecessor. He essays first of all to reduce to intellectual order the writings that have proliferated over the two centuries of this controversy — writings that have been characterized by crossed purposes, varying criteria, conflicting political ends, and which have often consisted in raising grandiose conclusions on a thin basis of facts. Examination, one by one, of an array of writers of very disparate views might be expected to be dull, diffuse and uncoordinated. Yet Richards concentrates the arguments wonderfully. He is adept at bringing out the central argument in each of his subjects, even when he seems to be in personal disagreement; he is critical but never unfair. General themes emerge as the arguments of one generation link with those of the next. Even before there had been extensive clearances two main schools of thought and attitude were forming. First there were the 'improving ideologues' who saw nothing but ill-adapted efforts, and consequent poverty, in a society still struggling with feudal imposition, and who wished to open the Highlands to individual enterprise within a system of well-defined property rights and of relations determined by specific contract. They were, in truth, justifying the clearances before the fact. The other, the 'historicist', position saw unique values in the older society, values that had to be sustained mainly through personal relationships defined by tradition. For a time, even as the clearances proceeded, the first school was clearly dominant and if some among them viewed sheep-farming with some foreboding, even more did

they abhor feudal residues. With the failure of early hopes for development, with the manifest disruption of the clearances, and with the undeniable decline in social life, the historicists began to dominate. Controversy did not end but it became now an argument between those who saw the clearances as the main, or possibly the only, cause of social deterioration, and those who ranked this among other factors. For long, argument was conducted on the basis of a slim body of known facts. However, the Napier Commission, in its report of 1884, brought up much new evidence from unusually humble sources and in the twentieth century the full range of the disciplines of the social sciences has been turned on the legacy of the clearances. Even so, academic investigation has not brought calm and some have continued to regard rummaging through the general facts of highland social development as irrelevant to, and distracting from, the cardinal development — clearance of land.

The section on emigration makes explicit, with great analytical clarity, a fundamental question that underlies most of the arguments of this volume. Contingent and passing causes, including the outbursts of particularly numerous clearances, are balanced against the deep-running, impersonal causes, such as, in particular, the natural increase of population.

This is the problem with which the author engages fully in the last section. Here we get, in a close-knit analysis, his own view of the importance, in the whole sweep of highland history, of the clearances and of the men who enforced them. In his exposition of economic developments he shows how many and strong were the forces that were to reduce the highland population to such misery. Some of these were generated in the wider economic world or represented social currents that could not be checked or much influenced by individual action; the full solution of the problems of the tenantry was beyond the capacity of even the most powerful of landlords. The movement of certain key prices, the arrival of factory-made wares that drew the people more and more into a money economy, the demographic surge (susceptible to only marginal control), the availability of the potato: each of these had great consequences and none came because of individual intervention. The question, then, is how strong, in relation to these other factors, were the clearances. Certainly, the landlords can be seen as themselves reacting to outside forces and to that extent the clearance policy could be said to be economically determined and independent of individual personality. However, it is hard to deny Richards's view that landlords were able to affect substantially the capacity of their tenants to sustain themselves in independence and reasonable comfort; and the record shows how different could be the reactions of particular landlords to the encompassing circumstances. The wayward chances of individual character did matter. On the whole, the landlords failed their tenantry and made the highland tragedy the greater not only by the occasional violent and cruel action but also, with a few exceptions, by inept procrastination, by squandering money when it was plentiful and by delaying remedy till final catastrophic solutions were forced on them.

This then is a triumphant concluding volume to a definitive work. It is perhaps even more impressive than its predecessor because it handles material that is so much more difficult to reduce to logical and readable exposition and in its difficult task it is entirely successful. It does not, of course, settle all problems but it defines the areas of certainty and clears much of the confusion on the points that remain to be argued.

MALCOLM GRAY

NICK LYONS (ed), *The Farmworker in North-West Lincolnshire*. Scunthorpe Borough Museum in conjunction with Humberside Education Committee, 1984. Part I, Commentary and Documents; Part II, Illustrations. iii + 98 pp; iii + 24 pp. £6 each volume.

The agrarian and social history of Lincolnshire has been exceptionally well served by professional historians, including among others, Beastall, Grigg, Holderness, Obelkevitch, Olney, Perkins and Russell. The volumes under review do not pretend to advance scholarly knowledge, which is not to say that specialists will fail to find anything of value when perusing them. Rather, the objective is to produce a package of primary sources in facsimile, suitable for classroom use. The series of which it forms a part is intended to help teachers of local studies, or history, who might find difficulty in setting aside the time to trace suitable sources and to prepare the background material necessary to interpret them.

In part I the editor commences with a thirty-five-page commentary on the diverse and frequently indirect sources which illuminate the farm worker and his style and standard of life in the nineteenth century. This section covers work and wages, hiring fairs, housing, the poor law, friendly societies and social relations. In essence, the standpoint taken is that of J A Clarke who concluded that the condition of Lincolnshire labourers was 'undoubtedly of a superior order as compared with what it is in most agricultural counties, but to say it is "good" is a matter which admits of hesitation' ('On the Farming of Lincolnshire', *JRASE*, X, 1851). The commentary is well written and shows an impressive acquaintance with the secondary literature, especially for Lincolnshire, while extensive footnotes give ample assistance to readers who might wish to follow up various points in detail. The twenty extracts which follow are derived partly from standard sources such as the Children's Employment Commission of 1867, but are varied with, eg, first-hand accounts of a case of arson, a

wagoner's account book, settlement examinations, contemporary descriptions of smallholdings in Axholme and various tracts addressed to the labourers, each accompanied by a brief explanation. Part II is in a generous A3 format and comprises, again with comments, twenty-four handsome illustrations which are individually detachable for wall-mounting. Some of them are documents (farm labour accounts, a gang-master's licence) or posters (Waltham Statute Fair), although the majority are photographs dating from *c*1880–1910 of farm operations, groups of workpeople and village scenes.

Nick Lyons has made an excellent job of this presentation and the publishers deserve warm commendation for their enterprise and imagination. Recently, Wilson and Hadwin have drawn attention to the way in which the study of economic and social history by young people over sixteen has declined and is likely to shrink further with the subject often being treated as dispensable by administrators or head teachers in an age of educational cuts (*Econ Hist Rev*, XXXVIII, (4), 1985). Publications such as these have a vital part to play in firing the interest of young people, thereby arresting and hopefully reversing such unfortunate tendencies.

W A ARMSTRONG

JONATHAN BROWN, *The English Market Town*. The Crowood Press, 1986. 176 pp. 1 graph; 65 illus. £12.95.

The interest which urban historians are currently showing in small country towns makes this general study of such communities between the mid-eighteenth century and the First World War a timely one. The market town was the link between the countryside and the larger towns and cities, acting as the meeting point for buyers and sellers of farm produce; its trade reflecting the nature of the local rural economy. It also served as the distribution point for the services, goods and, through seasonal hiring fairs, the labour which the farming community required. From these two primary functions, the market town had developed a number of others which were related to them, especially industries which processed the produce of its hinterland and those, such as engineering, that developed from the farmers' needs for equipment. It also became a focus for cultural activities through the pleasure fairs and festivals, the provision of libraries, sports and places of entertainment, nefarious and otherwise.

Such towns were dependent on the prosperity of the rural population and the recession in arable farming in the late nineteenth century considerably reduced the amount of business handled by the corn markets. Developments in industry also made an impact, for the small-scale industries in the market towns found it difficult to compete with the much greater enterprises in the larger towns and burgeoning industrial cities and had to specialize in order to survive. Improvements in road and water transport and, above all, the coming of the railways, quickened communications, thereby greatly enlarging the potential hinterland of a market town. These factors combined to substantially reduce the number of such towns and, despite the development of marketing functions by new industrial, railway and resort towns, there were 45 per cent fewer places with markets in the 1880s than there had been in the mid-eighteenth century, a decline which was part of a much longer-term trend. It was the small market towns without any specializations which went to the wall, while those in which services had become concentrated continued to prosper.

The author competently manages the difficult task of writing a general account of this kind, although he seems more at home amongst the corn markets of the south than in the livestock fairs and markets of the highland zone. Without being sucked too far into the definitional quagmire, his object is to describe those market towns which were neither on the verge of losing their status nor those that had developed into industrial or communications centres, yet some illustrative examples employed can scarcely have been described as primarily market towns. Perhaps more space could have been given to demographic changes and some degree of analysis and tabulation of occupational structures would have highlighted the varied and changing natures of the communities under scrutiny. The illustrations, many of them from the Museum of English Rural Life's collections, are generally well chosen and appropriately placed in the text, but the index is woefully incomplete.

STEPHEN PORTER

CELIA MILLER (ed), *The Account Books of Thomas Smith, Ireley Farm, Hailes, Gloucestershire 1865–71*. Bristol and Gloucestershire Archaeological Society, Bristol, 1985. xlv + 196 pp. £14 (inc postage).

Thomas Smith (1792–1872), whose farm records Celia Miller has meticulously edited, was, until 1869, the occupier of two farms near Winchcomb, on the Cotswold fringes of Gloucestershire. In that year he surrendered the larger of them, probably for economic reasons, although old age is also a possibility. In her Introduction, Dr Miller summarizes the agricultural methods pursued on the Smith holdings during the closing years of the mid-Victorian 'golden age', and indicates the kind of information which can be gleaned by agrarian historians from similar records kept by other farmers. She has used census returns and trade directories to identify members of the farm labour force, and also the tradesmen with whom Smith dealt. Unfortunately the records only relate in detail to one of the two farms he cultivated, so a complete reconstruc-

tion of his financial and marketing arrangements is not possible. But contemporary complaints about high rentals would seem to have been justified on the evidence of these accounts, since they regularly absorbed a third or more of Smith's total expenditure.

Three different kinds of farm accounts have been reproduced. They are the general account book, covering the period 1865–71, and showing, in detail, income and expenditure on one of the farms; that farm's wage book, also covering the years 1865–71; and finally the labour book for 1869–71, which itemizes the daily duties of individual workers. The two latter volumes, taken in conjunction, show not only the farm's husbandry pattern, but the contribution made by each employee, and, normally, the remuneration he or she received. Thus, to take a random example, during the week ending 25 September 1869, William Randall, general labourer, was engaged for three days in breast ploughing, and for one day each on cidermaking, 'thrashing', and 'sundries'. But in the wage book he is shown as paid for only two days' work during that week. Then, on 13 October, a payment of £1 16*s* 3*d* is recorded for 'Randalls settled Breast Ploughing'. This leaves one day's labour unaccounted for. Perhaps it was expended on Smith's second farm, for which detailed records have not survived. Randall's wife was also employed during the week ending 25 September, for a wage of 4*s*. The labour book shows she was occupied for three days in picking up fruit, one day in cidermaking, presumably alongside her husband, and two days at thrashing. This single example indicates both the range of information offered by these records, and its limitations.

The general account book, among other particulars, throws valuable light on the farm's marketing policy, although it also has puzzles of its own. Throughout, an annual outlay of £50 on 'market expenses', and £50 on 'extra wages' is recorded. These sums did not vary even when Smith surrendered one of the farms in 1869, and Dr Miller is unable convincingly to explain their real role.

Overall this carefully edited volume is a useful case study of mid-Victorian farming in one corner of Gloucestershire. Such material illustrates not only the farming methods, marketing strategy, and labour requirements of the individual farmer, but serves as a valuable corrective to the broad generalizations sometimes made by historians on agricultural practices in the period. Thus Dr Miller reminds us of the limited value of many published 'average' weekly wage rates at a time when piecework earnings or, conversely, pay losses through being laid off, could affect significantly the personal prosperity of every worker. In itself the study is too restricted in scope to permit of any wide application of its findings. But taken in conjunction with comparable surveys from other parts of the country, as these become available, it will contribute towards a more accurate assessment than we currently possess of farming practices and labour conditions in the mid-Victorian countryside.

PAMELA HORN

L RICHMOND & B STOCKFORD, *Company Archives: The Survey of the Records of 1000 of the First Registered Companies in England and Wales*. Gower, 1986. xxi + 593 pp. £45.

This sizeable volume is the fruition of a project planned by the Business Archives Council in the late 1970s to survey the records of the oldest surviving English and Welsh companies on the Register of Companies. The starting point for the project was a list of the 1200 companies which were registered between 1856 and 1889, and were still extant in 1980. These were the survivors of an original population some twenty-five times larger, that is, the survivors represent only 4 per cent of the 30,334 companies registered between 1856 and 1889. For a variety of reasons, including errors in the register and the failure of companies to respond to the survey, the initial list was whittled down to 674 companies who form the 'core' surveys in the book. These companies are not, as Professor Payne stresses in his introduction, a statistically representative sample of nineteenth-century business; indeed, 'the mere fact of their survival makes them unusual'. The project team also conducted another 1000 surveys of companies, institutions and partnerships associated with the 'core' companies, making the whole survey the largest ever undertaken in the UK. It was clearly a monumental task and generates some superlative statistics; for example, the surveyors visited some 900 locations and recorded archives occupying over 27,000 feet of shelf space.

The entries for each of the 'core' companies include basic registration data, a summary of the company's history, a description of its archive and a list of publications or manuscript histories relating to the company. Given that one of the minor irritations of research in business history is the inordinate amount of time that can be spent trying to establish the basic facts about firms other than the one being studied, the summary histories are of considerable value in themselves. So too are the references to manuscript histories when these are seldom kept even in copyright libraries.

Professor Payne's analysis of the original activities of the 674 'core' companies shows that only fourteen or 2.1 per cent were engaged in agriculture, forestry and fishing. 'John Bull Ltd, Farmers' may not be much in evidence but this does not mean that the survey has come up with little of interest to the agricultural historian, for if one moves from the farm gate and adopts a broader definition of agriculture to encompass the processing and marketing of produce, the manufacture of agricultural and horticultural

machinery, and the supply of fertilizers and feeding-stuffs then, on a rough count, some forty-six of the 674 'core' companies had a relationship with agriculture. Such enterprises include the Ashford Cattle Market Co Ltd, registered in September 1856, and the first entry in the volume, the Farmers Manure Co Ltd, incorporated in 1864 'to manufacture manure under the best scientific principles', John Boyd & Co Ltd, horsehair weavers, and the Dairy Supply Co Ltd. Perhaps most noticeable of all are the numerous breed societies — Shorthorns, Herefords, Shire Horses, Jersey Cattle, Shropshire Sheep and Red Poll Cattle — whose protection of pedigree dictated the preservation of records.

The book is extremely well indexed and at £45 deserves to find a place on library reference shelves.

RON WEIR

RICHARD G WILSON, *Greene King: a Business & Family History*. The Bodley Head & Jonathan Cape, 1983. xiii + 338 pp. Illus. £12.50.

For a nation long devoted to the drinking of its barley, Britain has been relatively poorly served by historians of beer and brewing. Mathias's model study of the eighteenth-century industry has yet to be followed by analysis of equivalent weight of the years after 1830, and virtually no business histories have sought or attained a level beyond that of the panegyric. Neither of the principal exceptions — Lynch and Vaizey's *Guinness* and Hawkins's *Bass* — is the product of the researches of a professional economic historian; the first stops just at the most interesting point of growth; and both relate to major national enterprises. Richard Wilson's study of Greene King is thus uniquely valuable as the carefully-researched and wittily-written analysis by an economic historian of a local East Anglian brewery detailing the growth of a firm from the merger which created it in 1887 to the major independent regional enterprise in the 1980s.

Forced by the relative scarcity of pre-twentieth-century sources to cast his net wide, the author has set out his analysis of the business in the context of the histories of the several families which owned and ran it, principally the Greenes, the Kings, and the Lakes. In families which produced Graham and Hugh Greene, and Christopher Isherwood, we see the other striking personalities that built the business before and after the merger: the real founder, Benjamin Greene III; his expansionist third son, Edward; the parsimonious farmer, Fred King, to whom a *pair* of kippers for breakfast smacked of extravagance; and the two Lakes, father and son, who took the management from the merger of 1887 to the end of the Second World War. The reader is also permitted to glimpse the entrepreneurial failures, the failed farmers, steam-yacht fanatics, foxhunters and politicians spawned so plentifully in these junior ranks of the beerage. Brought to the trade fortuitously, Benjamin III ran plantations in St Kitts through his son, Benjamin Buck, who later became a major Indian Ocean shipper and one of the most successful later nineteenth-century Governors of the Bank of England.

If this book in consequence abounds with these larger-than-life characters, it is also an important study of the growth of a small Bury St Edmunds brewery into a major regional enterprise, mainly between 1887 and the late 1960s. Created by a merger forced by the financial pressures of competitive acquisition of public houses, this family firm adopted limited liability from the beginning, although apart from the early use of motor lorries for distribution around 1908, continued commercial success in the difficult years before 1914 seems not to have been based upon participation in the 'scientific revolution' so often ascribed to the industry in the period. More interesting still is the success with which Greene King maintained their independence during the merger wave after 1959, initiated by the entry of Taylor into the UK market and Clore's abortive bid for Watney. Greene King's skill lay in maintaining dividends to preserve independence, even whisking Wells & Winch of Biggleswade from under the shadow of the Whitbread umbrella in 1961. In all, the author has overcome the limitations of deficient early source material to make a very significant addition to our knowledge of British brewing and, in a wider sense, to the collective biography of some unusually interesting landed East Anglian families. Both as a contribution to the history of the industry, and as a study of landed society based on Bury St Edmunds, this book will interest the agricultural historian.

J A CHARTRES

A FENTON, *The Shape of the Past, 2: Essays in Scottish Ethnology*. John Donald, Edinburgh, 1986. vii + 184 pp. £12.

Essays in Scottish Ethnology represents a second volume of reprinted essays by A Fenton, the first being reviewed in *Ag Hist Rev*, 34, 1986, pp 109–10. This particular collection covers a more prescribed range than the first, dealing with draught oxen, the use of seaweed as a manure, paring and burning, and the cutting of peat and turf. Despite their somewhat marginal position in studies of the British past, ethnological problems can offer the satisfying prospect of integrating documentary, archaeological and linguistic evidence. As one would expect from such a distinguished practitioner, these essays display such versatility to good effect.

Possibly the most interesting essay is that dealing with draught oxen. In it, Fenton discloses the interesting paradox that whilst the replacement of oxen by horses in lowland areas over the eighteenth and nineteenth centuries was viewed by contem-

poraries as an improvement, it was a switch that had occurred earlier in upland areas, with horse-ploughing being widespread in Highland Britain by the sixteenth century. There are also valuable comments on the size of ploughteams. He concedes that large teams of eight or more animals were present, but argues that often 'teams' comprised alternating shifts of, say, four animals. Following on from this review of draught oxen is an essay on ox yokes, in which the apparent variety of prehistoric yokes — though mostly of the head yoke type — is contrasted with the greater uniformity of wither yokes over the medieval period. Apart from a thoroughly worked essay on the use of seaweed as a manure, the remaining essays all deal with the cutting of turf or peat, either as a husbandry practice or for fuel. Quite apart from the care with which he reconstructs the regional varieties of implement or practice, what strikes one about Fenton's approach is the rich array of vernacular terms which he has rescued. In his essay on Fetlar, for instance, we are told that the panniers or kishies used for carrying the peat were tied with hyogs or bands. When being made, hyogs themselves were bound with a yarn or twine called the simmont. In the process, one end of the simmont was held in the hand and the other around a tooth, the latter being called the kishie-makin' yackle! One is persuaded that despite its length and richness, Joseph Wright's *Dialect Dictionary* can only have been an impoverished sample of what really existed in the past.

To a degree, this is a less satisfying volume than the first. The essays are less interpretative and more descriptive, with interesting problems being defined but not pursued. The lack of range is also a weakness. Indeed, though some essays are usefully reprinted from foreign journals, the reviewer is surprised that such a specialized volume was considered commercially viable. Yet this said, it does illustrate the wealth of data that remains to be gleaned from an ethnological approach to the past.

ROBERT A DODGSHON

IVÁN BALASSA and GYULA ORTUTAY, *Hungarian Ethnography and Folklore*. Corvina, 1984, with preface by Alexander Fenton. 819 pp. 232 figs; 319 photographs; 68 coloured plates. No price given.

In a perceptive article which appeared in *Current Anthropology*, 1968, the Hungarian scholar Tamas Hofer drew attention to the contrast between European ethnology and American anthropology, the former studying its own back yard, conscious of historical influences and development, and offering scholars the possibility of a career in a museum, institute or university in their own country where their studies could continue on a prolonged basis. Anthropology on the American — and one might have added British — pattern had a penchant for the exotic, sent its scholars abroad to engage in intensive fieldwork among strange peoples, and eventually launched them on an international career often far removed from the object of their study. The bulky volume under review exemplifies the former tradition and testifies to the vitality of ethnological study in Hungary. It is a translation (very competently executed) of a book published in Hungarian in 1979 and in German in 1982 which draws together the work of several generations of scholars in order to present a coherent picture of Hungarian ethnography. In the words of the authors, two of the country's most eminent ethnologists, 'we have undertaken to inform experts and interested laymen alike about what our discipline has concluded regarding the traditional culture of the Hungarian people'. To achieve this aim they have attempted 'a general synthesis without becoming immersed in smaller, or what we judge to be less significant, details'. A valuable bibliography (containing references to English or German abstracts of the works cited) considerably assists the specialist seeking further knowledge in his own field, and establishes the solid basis of scholarship on which this synthesis rests.

As in other European countries interest in ethnography and, in particular, folklore, may be traced back to the Romantic Movement, the agricultural improvers frequently providing documentary evidence about the farming methods they were so anxious to sweep away. The celebration in 1896 of the millennium of the Magyar Conquest of Hungary inaugurated a period of increasingly scientific investigation centred on the Ethnographical Museum, the Hungarian Ethnographical Society and associated journals. The full recognition of ethnography and folklore at university level came in the nineteen-thirties with further developments under the auspices of the Academy of Sciences after 1950 leading to the employment at the present day of 170 full-time ethnological researchers. Open-air museums and archives (including the Historical Archives of Agricultural Tools), atlases and encyclopedias reflect the extension of the provision for scholarship in this field in modern Hungary. Even better known to the laymen outside Hungary is the work of Béla Bartók and Zoltán Kodály in the recording of folk music. The volume under review includes an outline history of this ethnological development which is supplemented by Alexander Fenton's excellent preface.

In a comprehensive work of this kind one of the main problems is that of organizing the abundant material and presenting it in a readable form attractive not only to the specialist but also to the general reader. The authors have recognized that the main strands in their intellectual tradition, namely material culture and folklore, provide a suitable basis for the two major sections which they have entitled 'material anthropology' and 'cultural anthropology' respectively. A third section, rather shorter in length, under the

heading 'social anthropology', links the other two, its relative brevity, as the authors suggest, reflecting its neglect in Hungarian ethnology. None of these headings corresponds strictly to western usage but the arrangement serves to indicate the main thrust of the discussion and the general direction in which Hungarian ethnology is developing as a balanced intellectual discipline. The introduction of a section on social structure also enables the authors to deal with the question of social change underlying material and intellectual culture (to adopt another term which they employ). The time dimension can easily be overlooked in a general work concerned with achieving a representative coverage of the field: it is easy to step into describing a changeless 'ethnographic present' located sometime in the recent past. That the authors have succeeded in avoiding this pitfall is due not only to the strength of historical awareness in Hungarian ethnology but also, in no small way, to the fact that field-research has continued unabated. At one end of the spectrum there is a discussion, in the introduction, of the archaeological antecedents of traditional culture; at the other end an interesting analysis (in an epilogue) of the role of folk culture in contemporary socialist society. The main emphasis of the book however is on the intervening centuries.

Agriculture is dealt with mainly under the rubric 'acquiring raw material from flora and fauna', subdivided into 'food gathering', 'farming', and 'animal husbandry'. Farm implements, amply illustrated in photographs and line-drawings, are seen in the light of the development of farming methods and the introduction of new plants for cultivation. Agricultural techniques and related folk belief are emphasized at the expense of statistical data, in keeping with the ethnographical approach. A section on 'alimentation' carries the discussion over into the preparation of food. The organization of farming on the other hand is treated separately under 'social anthropology' with an excellent discussion of the various categories of peasants and agricultural labourers. Work customs and songs of rural workers and servants form part of the discussion of the 'cultural anthropology'. Although at first sight the treatment may seem fractionated it has the virtue of presenting the material in a social and cultural context.

The volume under review may be recommended as a readable, comprehensive and up-to-date survey of Hungarian ethnography augmented by a full bibliography. Would that there were comparable works for other European countries in as accessible a form for the English reader.

TREFOR M OWEN

HARRY W PAUL, *From Knowledge to Power: The Rise of the Science Empire in France, 1860–1939*. CUP, 1985, ix + 415 pp. £32.50.

All too often, historians of science have restricted themselves to the realm of ideas. In recent years however an effort has been made to place scientific research within specific institutional and social contexts. Harry Paul's objective is to examine the development of university science in France and its relationships with industry and agriculture.

The period he concentrates upon in effect saw the creation of the modern university with its faculty engaged in the interdependent activities of teaching and research. The initial stimulus during the Second Empire was a growing belief in governmental, and to a lesser degree entrepreneurial, circles in science as the essential means of modernization. This resulted in the commitment of resources in order to avoid falling behind in the international 'science race'. Defeat in 1870 added to the sense of urgency. Rapid expansion, the growing complexity and expense of scientific research, and the establishment of specialized research institutes, inevitably raised problems of funding. Not until 1901 did the State accept a permanent commitment and transfer part of its profits from the lucrative betting monopoly into scientific research. Eventually, in 1939, after complex bureaucratic changes the CNRS was established to administer what had by then — due to the stimulus of war, the development of areas like aviation and 'big' physics, and the desire in the 1930s to escape from the Depression — become a considerable 'science empire'.

A constant of government policy throughout these years was an obsession with applied research. However, although the universities and research institutes were frequently criticized for an excessive interest in research apparently unrelated to national economic needs, the major failing appears to have been that of businessmen, who, save in the newest industries in which scientists had a creative role from the beginning, such as chemicals and electricity, either lacked the resources or were simply unwilling to invest in research and development. In practice nevertheless some extremely fruitful collaboration had been established with regional industry and agriculture, most notably by the faculties of science of Paris, Lille, Nancy and later Grenoble. For university researchers this was a vital means of attracting both local funding and students.

In the sphere of agriculture, which particularly interests us, research and related teaching was relatively insignificant in comparison with industry-related programmes. Certainly individuals of the stature of Berthelot and Pasteur were involved, and a crisis such as that caused by Phylloxera could serve as a major impetus to research. In general however French agriculture sought salvation through protection rather than innovation. A small number of élite institutions like the École de Grignon near Paris (1828), the Institut National Agronomique (1848–52, 1876), the faculty of science at Bordeaux specializing in agricultural chemistry (from the 1850s) and partic-

ularly interested in vines and pines, and that of Paris, which from the 1890s supported large-scale studies in plant physiology, trained an average of 800 students in the 1876–91 period. Their major contributions were probably to agricultural industry and thus indirectly to farming proper. Thus the extraction of sugar from beet was made more efficient, encouraging cultivation of a plant which required careful soil preparation and heavy fertilization, the latter provided to a large degree by the growing number of cattle fed on pulp from the sugar mills. This improvement of the land of course subsequently led to increased wheat yields.

Although these activities stimulated 'a considerable amount of trickling-down from research to agricultural practice', this is a process Paul fails to analyse beyond noting the structural obstacle of small-scale peasant farming. The chapter on agriculture is in fact his weakest. What should one make for example of 'the bilious Marxist Jules Guesde said that "the only way to make the peasants fecund is rape", but in place of this Stalinist agricultural technique the French art of slow seduction was preferable and more fertile' (p 211)? This chapter represents at its most extreme a more general failure to adequately conceptualize the problem of the relationships between science and the economy.

ROGER PRICE

K HERRMANN, *Ackergiganten*. Westermann, Brunswick, 1985. 176 pp. DM 59.00.

In this lavishly illustrated book Dr Herrmann, a leading representative of the younger generation of agricultural historians in the Federal Republic of Germany, presents an outline of the historical development of the tractor and related agricultural machinery. The result is a highly readable work that is at the same time a serious contribution to our knowledge of the evolution of agricultural technology. On the whole the text is not subordinated to the photographs, which are drawn from a range of German and other sources. Relatively complex aspects of technology are explained — and explained well, with the assistance of diagrams — rather than avoided.

The coverage is worldwide, including North America and the Soviet Union. There is even a section on tractor developments in Mussolini's Italy. (Here, for once, the subject does appear to be somewhat tangential to the theme and merely a vehicle for presenting some fascinating photographic material.) However, the orientation is decidely towards German developments. This, in combination with the broader context that the author attempts to cover within such a limited space, results in a somewhat distorted picture of the history of tractor technology. Germany was not as important in this area as the author would have his essentially German readers believe.

Some of the specifically German technological developments discussed are of interest to agricultural historians in general. There is, for example, the response to the American challenge in the form of the motorplough, where the cultivatory equipment formed an integral part of the tractor. This appears to have been particularly due to the pioneering work of Robert Stock, who produced machines of this type from 1908 onwards. Although persisted with into the 1920s, it proved a mistaken direction: not least on account of the slightest sideways movement of the machine affecting the evenness of the furrow.

Interesting material is also presented on the interwar efforts to adapt the tractor to the predominantly peasant agriculture of Germany. Here the greatest degree of success was achieved by the Lanz 'Bulldog'. Part of the appeal of this heavy-oil two-stroke tractor to peasants stemmed from the necessity to employ a lamp to heat the ignition system for a few minutes before starting the engine. Apparently, this established a rapport between man and machine akin to the grooming of horses. By this means the psychological transition from draught animals to the tractor was considerably facilitated. It was it seems by no means uncommon to come across peasants talking to their 'Bulldogs' as they were wont to do to horses.

JOHN PERKINS

D H AKENSON (ed), *Canadian Papers in Rural History*, V. Langdale Press, Gananoque, Ontario, 1986. 375 pp. $ Can 19.95.

The fifth volume of Canadian Papers in Rural History consists of fifteen articles which, though extremely varied in character, nevertheless fall into three groups: specialist studies based on statistical techniques, similarly specialized ones derived from more traditional sources, and discussions of a more general character. The most general of all is not specifically concerned with Canada at all but rather with the contribution to the study of natural grassland regions made some thirty or forty years ago by the important, but rather little-known, Kansas historian, James C Malin. In his paper Robert P Swierenga argues that beside developing innovative quantitative methods to examine the demographic and agricultural patterns of grassland regions, Malin 'integrated the study of history and natural ecology as no other modern scholar has done', and that his pioneering work in the systematic study of human behaviour over time provides 'the basis of the "new rural history", breaking free from the traditional study of politics and *élites*'.

Also broad, at least in its implications, is the study of class interests in the development of cooperation among fruit growers in Lincoln county, Ontario, in the period between 1880 and 1914. There follow five articles basically concerned with land settlement — in southern Ontario, in the Okanagan Valley, the great

clay belt of Ontario and Quebec, and two others concerned with the seigneuries of Quebec. These five articles are especially notable for their detail of investigation and analysis, their discussions of sources, and their application of statistical techniques, as well as illustration by diagrams and maps.

More traditional in character are two studies of the origins of emigrants to Canada, from the Scottish highlands and from the islands off the west coast of Ireland; and Robert S Dilley uses secondary sources in a novel way by applying a technique of content analysis to travellers' accounts of early Upper Canada. The politics of the Upper Canadian Orangemen and their bid for Irish ascendancy in the years 1836–40 is the subject of a paper by Hereward Senior. Also included in the volume are two personal reminiscences, of herring fishing off Co Antrim, and of farming in a pioneer settlement in Manitoba in 1907. As Donald H Akenson, the editor of the volume, remarks, rural history, modern sophisticated analytical techniques notwithstanding, 'at its heart is about the life of individual people'. The reminiscences included here, though slight in content, evoke the reality of what life was like in the rural past.

Lastly, the volume is rounded off by a presentation of a computer-cartographic analysis of the census and agricultural production data for Ontario, and by the second part of a chronology of municipal boundary changes in central Ontario, covering the Home District for the years from 1792 to 1984 — both valuable sources for historians pursuing local investigations.

This is, therefore, a highly heterogeneous collection of essays, displaying a variety of approaches to rural history, old and new, and apart from the value of the techniques that are demonstrated, it has the merit that almost anyone who picks it up, even though not a specialist in Canadian history, will nevertheless find much of interest between its covers.

G E MINGAY

THE WELSH HISTORY REVIEW

Editor: Kenneth O. Morgan, The Queen's College, Oxford

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G AVELLA-WIDHALM *et al* (ed), *Lexikon des Mittelalters*. Artemis Verlag, Zurich and Munich. Vol 3, Fascicules 1–6, Codex–Drache. 1128 pp, 1984–5. Each fascicule DM39.

The lexicon appears rapidly at a slightly enhanced price. In it the following articles, with bibliographies up to 1984, will interest our readers: Copyhold, Cornwall, Dach, Dalmatien, Dänemark, Dattel, Dauerackerbau, Deich-und Dammbau, Deutschland, Dienstsiedlungen, Distelgewächse, Ditmarschen, Domäne, Dorf (90 columns), Dost.

D J DAVIS

JOHN WELLER, *Grangia & Orreum. The Mediaeval Barn. A Nomenclature*. Bildeston Booklets, Bildeston, 1986. 44 pp. £5.

This study lists and defines the varied words of varied origins in the mediaeval vocabulary on barns, their component parts, their contents, operation and equipment, from the *grangia* or *berne* itself via *medietas* (middle bay), *ostium* (entrance) and *straminis* (straw thatch) to *garbes in tassum* (stacked sheaves) and *vange* (shovels). The considerable body of information assembled and collated from published and thesis sources makes a useful and welcome contribution to our knowledge of the mediaeval barn and, more generally, to our knowledge of the mediaeval farmstead. The study also raises a number of problems for future research. But unfortunately the value of this contribution is decreased by weaknesses in form and content.

The material would have made a useful glossary. It is, however, presented in a discursive and illogically chaptered treatise that includes a rather casual digression into certain phases of barn history, quoting Roman practice and Continental developments without establishing their relevance to the mediaeval English barn which is apparently Mr Weller's main concern. More seriously, the absence of Godefroy from the list of dictionaries and of Davenport and Hart & Lyons from the general references suggests a literature-search less than adequate even for a confessedly interim study. So does the erroneous belief in the universal incidence of waggon access in barns, which ignores 'packhorse husbandry' and leaves open the interesting question whether the Buckland Abbey barn which Marshall saw being adapted to the needs of wheeled transport was anything more than an isolated curiosity. And surely a publication of this type requires an index.

NIGEL HARVEY

W G HOSKINS and DAVID HEY, *Local History in England*. 3rd edition, Longman, 1984. xvi + 301 pp. 62 illustrations. £12 (hbk); £5.95 (pbk).

This third edition of Hoskins's bible for the local historian has been modified with the assistance of David Hey, and provided with a substantial number of new illustrations, many recognizably reflecting Dr Hey's own work. At the risk of appearing heretical, it must be said that this injection of young blood does not fully disguise the odd creaky joint in a book that is now showing its age. In all, there are relatively few major additions to the text of the second edition of 1972, although the 'Select Bibliography', pp 281–90, has incorporated new references up to 1983. Even as a guide for the amateur this means that the coverage of the Census or the provincial newspaper looks a little thin and dated (pp 37–9), as do discussions of the Land Tax (pp 43–4) and pre-Census population (pp 198f). Some useful entries have been excluded from the bibliography in the interest, one presumes, of conciseness. It is, however, useful to see the substantial revision of the section on enclosure in the light of Michael Turner's work and of volumes IV and V of *The Agrarian History of England and Wales*; of that on droving (pp 115–16); and the addition of a short new section on 'Family History'. Somewhat disconcertingly, the old error has been carried forward from the second edition, such as the notorious triple 's' on p 42. The net effect of the revisions made in this third edition is therefore to revise but not fully rejuvenate this still indispensable guide to local historians. Despite Hoskins's disclaimer, it is a book of value to the professional as well as the amateur. Its range of illustrations has been extended and improved, even if some old favourites — the Welsh Road and Mastiles Lane — have disappeared, and most, like the Yorkshire weaver's cottage, have been provided with descriptive captions of much greater detail. This book remains excellent value for those in any way interested in local historical sources and methods and, as it should, continues to reflect Professor Hoskins's happy blend of the conversational with the didactic laced liberally with scepticism. For those who do not possess earlier editions, it should be an essential purchase.

J A CHARTRES

R A DONKIN, *The Peccary — with Observations on the Introduction of Pigs to the New World*. American Philosophical Society, Philadelphia, 1985. viii + 152 pp. 16 maps; 11 figures; appendix; bibliography. $20.

Much of this book is a compendium of facts and citations on this American wild animal.

Part I succinctly describes the distribution, habitat, and biology of the peccary. There are three types, one recently discovered in the Chaco, and, of significance later in the book, they are notorious crop raiders in the humid tropics, devouring manioc, maize, sugar-cane, bananas, and other cultivated plants. The author notes that in spite of the voluminous literature — and his bibliography is a superb one — peccaries have been little studied as social beings.

Part II discusses the peccary in its relationships to humans. The animals have been eaten, sacrificed, and traded. Captured juveniles have been raised and fattened, and kept as pets. They are widely hunted and trapped, and there is a large native American vocabulary associated with them (see also the Appendix). Peccaries supply meat, teeth, bone, hides, and bristles for human use. In this chapter there is a seven-page essay on the introduction and pioneering role of European and African domesticated pigs, animals which have confused the study of peccaries since their arrival in the Americas. Taboos, and hunting prohibitions and restrictions associated with the peccary are varied and widespread.

The last two sections of the text, 'Towards Domestication' and 'Animal Domestication in the Humid Tropics', are the most interesting theoretically. Donkin guesses that peccary crop raiding, and the raising of captured juveniles for meat or as pets, were probably preludes to domestication, but points out that there has been little domestication of animals in the humid tropics, and that peccary litters are small, and thus '. . . the long-term advantages of breeding in captivity would not be readily apparent' (p 98). In any event, the sequelae of Old World intrusion and conquest, and the competition of the more prolific pig since then, probably terminated any advance towards domestication.

MURDO J MACLEOD

DAVID PAM, *The Story of Enfield Chase*. Enfield Preservation Society, Enfield, 1984. 168 pp. Illus. £6.95.

The author's work on the local history of his area of Middlesex will be familiar to many readers of the *Review*, and this book covers the Chase, 9000 or more acres of woodland and pasture, lying twelve to fourteen miles from London, from the formal definition of its boundaries by Geoffrey de Mandeville, *c*1136, to its enclosure by Act of Parliament in 1777. Despite constant pressures from encroachment, this long history of freedom from settlement remains marked in the modern map as a zone of suburban open space extending from the eastern terminus of the Piccadilly Line. The chase became an estate of the Duchy of Lancaster in 1421, and thenceforth the author enjoys a vast wealth of survey, rental, and court records to make this an abnormally well documented local history. Throughout, the countervailing demands of deer, sheep, and pigs, of timber, underwood and coppice, and of the Duchy, its tenants, the sub-tenants and the encroaching cottagers, are well described, with plentiful use of these rich archives. Agrarian historians interested in forests as economic resources, in the population pressures of the sixteenth and seventeenth centuries, in the Commonwealth land sales, the Black Act of 1722, and parliamentary enclosure will all find this book of interest, even if it is in some ways disappointing. It is narrow in its perspective, and uncomfortable when departing from its tunnel to view the wider historical field. This is all too clear, for example, in its discussion of the Black Death and its aftermath (pp 19f). Yet in the information on wood and its bark, and the lively if sometimes quirky narrative, this is a useful book, and one with value well beyond that of the geographical confines of its subject. It is generally well produced, although some of its maps, when reproduced from manuscripts, are grey and lack sufficient definition. It is completed with some well-chosen illustrations, index and glossary.

J A CHARTRES

J D MARSHALL, *The Old Poor Law 1795–1834*. Second edition, Macmillan, Studies in Economic and Social History, 1985. 57 pp. £3.95.

A generation of historians had cause to be grateful to the elegant analysis of Dr Marshall in the first edition of *The Old Poor Law 1795–1834*. He provided a lucid introduction to the work of Blaug and others who emphasized the necessity of placing the administrative mechanisms of the poor law within a wider economic and social context. The pamphlet helped to create an agenda for research on the Old Poor Law in the years between 1968, the date of the first edition, and 1985, when a much-needed second edition appeared.

In this second edition J D Marshall has brought to a wider readership more recent work, including that of Baugh (on the flexible response of poor relief to the changing shape of the poverty problem), of Huzel (subjecting to critical scrutiny Malthusian ideas on the connection between allowances and population growth), as well as the theoretical analyses of McCloskey, and the iconoclastic stance of Williams.

It is unfortunate that in this second edition much other recent work goes undiscussed, and without even a reference in the bibliography. Students will not be alerted, for example, to the work of Cowherd or Himmelfarb (on the ideological background); of Brundage or Dunkley (on the political context of local reform); of Holderness or Banks (on settlement); or of Thomas or Lane (on medical developments).

As a guide to recent research this second edition is therefore inadequate. Indeed, by continuing to produce two pamphlets on the poor law, each with a cut-off date of 1834, this valuable series of Studies in Economic and Social History effectively makes it difficult for an adequate review to be made of the central issues historians have been examining — the continuities and discontinuities of the 1834 act.

ANNE DIGBY

CELIA MILLER (ed), *Rain and Ruin: The Diary of an Oxfordshire Farmer, John Simpson Calvertt, 1875–1900*. Alan Sutton, Gloucester, 1983. 285 pp. Illus. £8.95 (hbk); £4.95 (pbk).

John Simpson Calvertt entered farming at Alford, Lincolnshire, in 1852 after agricultural pupillage from 1847, but moved to a Crown tenancy on the Oxfordshire stonebrash in 1875–6 to farm on a larger scale. Published here are extracts from the last two volumes of his diary, covering the period 1875–1900, the years of his large-scale farming and his semi-retirement, from 1894, to the smaller Langley Farm in favour of his son. Calvertt was a mixed farmer, growing corn and vetches, and producing beef cattle and sheep, a local Poor Law guardian, an active Conservative, and a passionate foxhunter. His diary is therefore of considerable interest as an insight into the mental world of a substantial farmer oppressed by falling grain prices and the vicissitudes of the weather, and, rather less effectively, into his personal and farming economy. Despite these 'depression' years, his life was very comfortable on 1500 acres, and Calvertt travelled regularly for both business and pleasure besides hunting three times a week in the season. Interspersed with the record of carnage — foxes, pheasants, ducks, rabbits, pigeons, and even peregrines — is a cavalcade of Victorian personalities and events, from W G Grace and Lily Langtry to the Zulu and Boer Wars, and the diary presents the continuingly intelligent observations of the author. He was a humanitarian in his responses to the collapse of the 1897–8 engineers' and other strikes, splendidly scathing in his comments on the windfall gains made by Lord Churchill in his sale of Cornbury in 1897, and delightful in his constant quest for the right meat to accompany champagne — pheasant 'suited' but boar's head did not (p 159). While Calvertt's acerbic comments on the budgets, on the weather, on crops, and on prices are useful information for the agrarian historian, this is not, in this selection, quite from the top drawer of diarists. Calvertt provides an excellent read, but is not outstanding as a source on farming. In this nicely-produced and well-annotated edition, Calvertt comes to life as a substantial Victorian farmer, rather than as an outstanding source on Victorian farming.

J A CHARTRES

EILEEN ELDER, *Lincolnshire Country Food*. Scunthorpe Borough Museum and Art Gallery, 1985. 114 pp. 1 map. No price given.

'Rabbit tender, rabbit tough / Thank the Lord we've had enough', ended an Edwardian child's mealtime grace in the Wolds of Lincolnshire. The way in which 'enough' was conjured out of the household's pig, cow, and garden — as well as from the general storehouse of the countryside — is told in the first part of this well-researched and attractively illustrated book. Its subject is 'the ordinary working people' of Victorian and Edwardian Lindsey in north Lincolnshire. 'Nothing was wasted but the squeal' was the proud boast of the women who processed the family pig. Their everyday aim was equally economical: to provide 'good fill-belly' for hungry labourers, and exploit seasonal produce to vary the monotony of a restricted diet.

The old recipes which form the second part of this book show how these aims were accomplished. Since these have been handed down in Lincolnshire families, not all of them are generally practicable today; this reviewer cannot claim to have tried out those for rook pie, stewed eels, or pickled samphire! Others are more accessible, however, and include delicious recipes for Lincolnshire plum bread and Whitsuntide cake.

Both cooks and historians will find much of interest and enjoyment here.

ANNE DIGBY

OLIVE SHARKEY, *Old Days and Old Ways: An Illustrated Folk History of Ireland*. O'Brien Press Ltd, Dublin, 1986. 171 pp. Illus. £11.95.

The O'Brien Press has published many interesting books including Henry Glassie's classic study of an agricultural community in Northern Ireland — *Passing the Time*. Unfortunately this book is not in the same league. The book aims to be 'an illustrated folk history of Ireland' and it certainly contains a large number of illustrations. Unfortunately many of these are incorrectly described, a chaff cutter being described as a turnip slicer, a cast iron stack stand being described as used in 'areas liable to flooding' for example, leading a reader to wonder how accurate are the descriptions of less common items from different parts of Ireland. The sources of illustration are not clear and museums as far apart as Killarney, Kingussie in Scotland and Singleton in Hampshire are mentioned as having been visited as sources of drawings.

The text is of similar quality and it is obvious that at times the writer has been compiling information which she has not fully understood. As a source book of nostalgic quotes and agricultural history misunderstandings it may become a classic:

'Water from the bog streams was always crystal clear and lovely to drink';

'The sickle is outstanding because one can use it for a

whole day without feeling unduly tired';
'Steam Power in the 1920s brought considerable changes';
'Generally swing ploughs had no wheels';
'No two ploughs will be exactly the same, even though there were hundreds of each type made.'

Definitely not a book for the serious student of either agricultural history or folk life, though it may have some relevance on how folk stories develop.

JOHN GALL

ELSA MORROW, *A History of Swanley Horticultural College*. The Agricola Club and Swanley Guild, Wye College, Ashford, 1984. 83 pp. 15 plates. £1.25.

This short history is a chronology of Swanley Horticultural College from its foundation in 1889 until it was amalgamated with Wye College in 1946. Many of the short descriptions of academic successes, staff changes, new buildings, student entertainments, distinguished visitors, fund-raising, shows and exhibitions, lectures and courses, and ex-students' careers will be of interest mainly to former pupils and staff. The book gives some impression, however, of an institution which with high academic standards and dedicated members of staff helped to elevate the status of horticultural studies to degree level and, in the late nineteenth and early twentieth centuries especially, to improve and forward the position of women in Britain.

Photographs of the grounds, staff and students complement the text and a sixteen-page facsimile of the original prospectus reveals the wide practical and theoretical syllabus offered by the original foundation.

MALCOLM THICK

Bristol & Gloucestershire Archaeological Society

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Notes on Contributors

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DR T A ROWELL graduated in environmental biology at Oxford Polytechnic. His subsequent researches have been in the fields of nature conservation management and historical ecology at the University of Cambridge, and land restoration at the University of Nottingham. He is currently with the Nature Conservancy Council surveying the practical and scientific aspects of the management of fens and bogs for conservation purposes.

DR JOHN R WALTON is a lecturer in geography at the University College of Wales, Aberystwyth. He has researched and published on various aspects of agricultural innovation during the eighteenth and nineteenth centuries. His current research projects include an exploration of the status of fuel in the household economies of Britain since 1500.

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DR J H PORTER is a senior lecturer in economic history at the University of Exeter. He has contributed a chapter on 'Social Structure and Social Change' to the forthcoming volume 6 of the *Cambridge Agrarian History of England and Wales*, 1750–1850 and is at present working upon poaching and social relationships in rural Devonshire.

THE BRITISH AGRICULTURAL HISTORY SOCIETY

Articles and correspondence relating to editorial matter for the *Agricultural History Review*, and books for review, should be sent to Dr J A Chartres, Editor, *Agricultural History Review*, School of Economic Studies, The University, Leeds LS2 9JT.

Correspondence about conferences and meetings of the Society, and about more general matters, should be sent to Dr M Overton, Secretary BAHS, Department of Geography, The University, Newcastle upon Tyne, NE1 7RU.

Correspondence on matters relating to membership, subscriptions, details of change of address, sale of publications, and exchange publications should be addressed to E J T Collins, Treasurer, BAHS, Museum of English Rural Life, The University, Whiteknights, Reading, Berkshire.

Correspondence on advertising should be sent to Dr R Perren, Department of Economic History, University of Aberdeen, Aberdeen AB9 2TY.

Notes and Comments

ANNUAL CONFERENCE AND AGM, 1986

After an interval of twenty-five years the Society returned to Seale-Hayne College of Agriculture in Devon, from 7 to 9 April 1986. The conference opened with a paper from Dr Graham Haslam, Archivist to the Duchy of Cornwall, on the history of the Duchy in Devon. The following day Freda Wilkinson and John Hitchings led an excursion through the snows of Dartmoor to visit two Duchy farms at Pizwell and Runnage. On Tuesday Dr Bruce Campbell gave a paper on the geography of seigneurial agriculture in medieval England, and Mr Colin Holmes spoke on the development of agricultural advisory services in England and Wales in the twentieth century. The evening saw a departure from the established conference practice as a round-table discussion on Volume V of the *Agrarian History of England and Wales* chaired by Mr M A Havinden replaced the normal paper. On the final day three early modern papers were presented; by Dr M Mylechreest on the career of Thomas Knight, Dr P Edwards on horses in the early modern economy, and Dr P Glennie on agricultural changes in Hertfordshire.

The 34th Annual General Meeting was held on 8 April. Professor Mingay was elected as President of the Society, Dr Collins was re-elected as Treasurer and Dr Overton re-elected as Secretary. Dr Chartres was re-appointed as Editor of the *Review*. Following a ballot Dr J V Beckett, Mr D Byford, Dr B M S Campbell, and Dr M E Turner were elected to the Executive Committee.

Mr M A Havinden, Chairman of the Executive Committee, presented the Committee's report. Membership of the Society stood at 880 on 1 January 1986, with fifty new members joining the Society giving a net increase of thirty-five over the year. The 1987 Spring Conference was to be held in Portrush, Northern Ireland and it was intended to find a venue for the 1988 Spring Conference in East Anglia. The 1986 Winter Conference was again to be held jointly with the Historical Geography Research Group and was to have the theme of 'Agricultural Censuses and Statistics'. Mr Havinden also reported that in conjunction with the President and Secretary he would write on behalf of the Executive Committee to urge English Heritage to schedule Braunton Great Field in Devon as an Ancient Monument.

The Treasurer presented the audited accounts of the Society to the meeting which once again showed that the Society's balances remained healthy although subscription income fell far short of the printing and distribution costs of the *Review*. The accounts were adopted and thanks expressed to the Treasurer and his assistants Mr Arkell and Miss Beazley.

The Editor reported that Volume 34 part 1 of the *Review* was of record length with 128 pages. The flow of articles was generally satisfactory although more were needed covering the period 1500–1800. A consolidated index to the *Review* is in preparation and should be published in 1987.

At the conclusion of the meeting thanks were expressed to Seale-Hayne College for their hospitality and to Mr Brassley for organizing a most successful conference.

WINTER CONFERENCE, 1986

Booking forms for the 1986 Winter Conference to be held jointly with the Historical Geography Research Group of the Institute of British Geographers on Saturday 6 December 1986 at the Institute of Historical Research, Senate House, Malet Street, London WC1E 7HU, should be inserted in this issue of the *Review*. The theme of the Conference is 'Agricultural censuses and statistics'. Additional booking forms may be obtained from Dr M E Turner, Department of Economic and Social History, University of Hull, Hull HU6 7RX.

SPRING CONFERENCE, 1987

The Society's Spring Conference is to be held at the Northern Counties Hotel, Portrush, Northern Ireland from 6 to 8 April 1987. The full programme and booking forms will appear in the next issue of the *Review* but preliminary information should be inserted in this copy of the *Review*.

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Vol. XXII 1986

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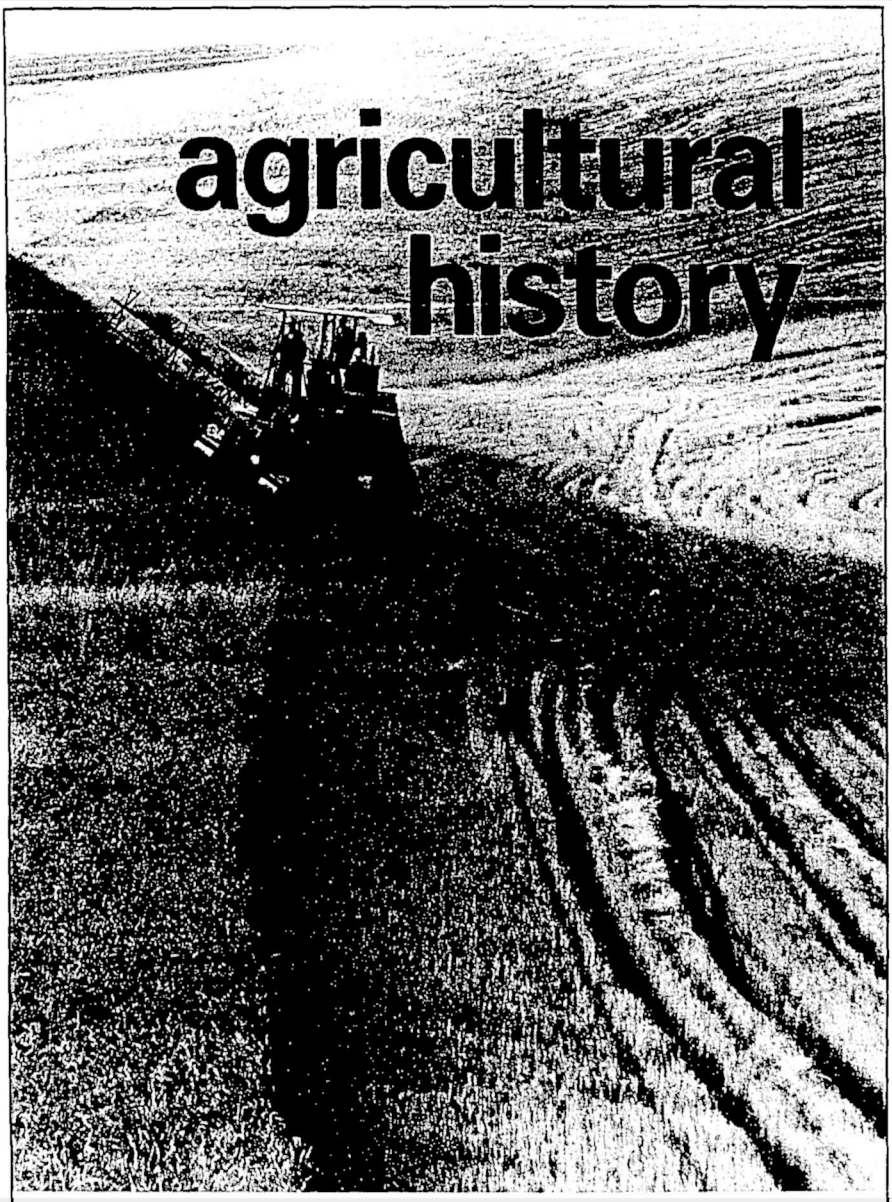
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The Agricultural History Review

EDITOR: J A CHARTRES
SCHOOL OF ECONOMIC STUDIES, THE UNIVERSITY OF LEEDS
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The *Review* is published twice yearly by The British Agricultural History Society and issued to all members. Single copies may be purchased from the Treasurer for £4. Back numbers to Vol 20 (1972) are £1.50 per issue, except for the Supplement to Vol 18 (1970), *Land, Church, and People*, which is £2.

Contributions and letters on any aspects of the history of agriculture and rural society and economy should be sent to the Editor. Articles should not normally exceed 8000 words in length, but, very exceptionally, manuscripts of up to 15,000 words can be considered. Proposals for Supplements, of length intermediate between the long article and the book, normally not exceeding 30,000 words, should also be sent to the Editor. Intending contributors are advised first to obtain a copy of the *Review*'s 'Notes for Authors and Reviewers' from the Editor. The Society does not accept responsibility for the opinions expressed by contributors, or for the accidental loss of manuscripts, or for their return if they are not accompanied by a stamped addressed envelope.

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