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*

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Book Reviews

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Two Wiltshire Manors and their Markets

By D L FARMER

Abstract
The accounts of the Glastonbury Abbey manors of Longbridge Deverill and Monkton Deverill provide unusually detailed information of the places where, and the persons with whom, the manors traded. Most of their grain went to markets within ten miles, though more distant markets were used more in years when grain fetched higher prices. Livestock was purchased at fairs further away than most of the grain markets. The majority of wool buyers came from towns within about twenty miles of the manors. Lengthy journeys were sometimes necessary to fetch items like millstones. Much of the manors' trading was informal, and with their own tenants.

WITHIN what geographical range did medieval English manors buy their necessities and sell their produce? The evidence is fragmentary and often contradictory. Many years ago Norman Gras drew attention to the long-distance grain trade suggested by the carrying-services listed in the surveys of manors belonging to the abbeys of Ramsey and Bury St Edmunds, and Professor Miller's study of the Ely estates revealed an even more comprehensive network of *averagia* and *summagia* linking the bishop's manors to London, to regional centres like Cambridge, Norwich and Bury St Edmunds, and to King's Lynn, the great entrepôt from which grain was shipped to London or to northern ports like Newcastle and Berwick.[1] Gras also noticed in the early bishopric of Winchester pipe rolls the records of the bishop's manors in the Thames valley and the Chilterns sending hundreds of quarters of grain each year to his manor-cum-palace at Southwark, which then sold the bulk of what it had received – presumably to the Londoners across the river.[2] A mid-1250s survey of most of the Winchester manors prescribes the obligations of their customary tenants to carry the lord's corn and malt, or drive his livestock, to a variety of destinations: some tenants had to go only to the four nearest markets, others to any markets within the county, whereas others must go to Winchester itself or to London.[3] The custumals certainly suggest an extensive long-distance trade in grain, not only to London but also to major regional centres. Some elements of this trade were indeed in place before the earliest of the manorial accounts, as the arrangements for provisioning Henry II's Irish campaigns testify; other elements persisted after the last series of manorial accounts fell silent, as the accounts of the Peterborough Abbey officials confirm.[4] Among other commodities, there is ample evidence of a long-distance trade in livestock, to towns such as Gloucester as well as to London, and of heroic journeys to fetch millstones from the ports, and one hardly needs to comment on the travels of English and Welsh wool to the collecting points at Boston, London or Southampton before shipment to Flanders or even the Mediterranean.[5]

Yet the long-distance traffic may have been only a minor aspect of grain marketing, and may not have been the major characteristic of the livestock trade or even of the wool trade. London held under 2

[1] N S B Gras, *The Evolution of the English Corn Market*, Cambridge, Mass., 1926, p 21; E Miller, *The Abbey and Bishopric of Ely*, Cambridge, 1951, p 85. Professor Miller kindly supplied me with additional information.

[2] Gras, *loc cit.*

[3] BL, MS Egerton 2418.

[4] Pipe Roll 17 Henry II, pp 84, 88–9, 113, 131; D L Farmer, 'Some Price Fluctuations in Angevin England', *Econ Hist Rev*, 2nd ser, IX, 1956, pp 34–40; J Greatrex, (ed), *Account Rolls of the Obedientiaries of Peterborough*, Northampton Record Society XXXIII, 1984, pp 165, 179, 193.

[5] H P R Finberg, 'An early reference to the Welsh cattle trade', *Ag Hist Rev* 2, 1954, pp 12–13; Merton College Muniments 4496 (for millstones carted from Southampton to Oxford); R A Donkin, *The Cistercians*, Toronto, 1978, pp 144–54.

per cent of England's population, and there were only a few regional centres which could not be fed from their immediate hinterlands. By 1220 the trade Gras reported had ceased: Southwark – at least according to the surviving Winchester pipe rolls – never again sold off surplus grain despatched by the bishop's manors up the Thames. The city of Winchester itself, according to the evidence presented in its civic court, normally got its corn from less than seven miles away – despite the carrying services available on the bishop's manors all over Hampshire.[6] David Postles has concluded that 'carrying services were essentially local in the thirteenth and fourteenth centuries'.[7] Most of the non-resident traders appearing before Exeter's courts lived within five miles of the city; early fourteenth-century Colchester, in a countryside of woodland, marsh and soil fit mainly for rye, obtained its wheat from 'villages up to about eight miles away by road'.[8] As Dr Britnell has demonstrated, the thirteenth century saw a remarkable multiplication of markets in most parts of England.[9] Some of these served as collecting points for supplying cities – as Henley and Marlow did for London, and Sherston and Hawkesbury for Bristol – but most were centres of consumption by the artisans and craftsmen who settled in the new market towns and villages.[10] More markets, surely, shortened the distance produce need travel from manor to customer; on the other hand, the almost-universal adoption of the horse to haul carts brought more distant markets within range.[11] Even within the manorial community there were many who had to buy food, sometimes under the duress of the lord (like the bishop of Winchester's customary tenants on his manors near Taunton), but more often because they held no land, or held too little to support their families. Did the demesnes sell their surpluses to distant markets or to buyers close at hand?

In fact, the manorial accounts, surviving in their thousands and so informative on many aspects of the medieval economy, are usually reticent on what happened to the marketable harvest surpluses. It may even be hard to tell what was marketed and what was not. Accounting practices allowed the reeve or bailiff to claim fair market value for the corn, malt and livestock supplied to the lord's household, and often one cannot be sure which 'sales' were of this fictitious nature. Some accounts describe other transactions as made *in foro* or *in nundinis*, but without naming the market or the fair; others state the place, but do not say whether the deal occurred in the town's market, or at its annual fair, or was entirely private and informal. It is rare, though, for a *compotus* to give any information at all about the purchaser or the destination to which produce was carried or driven. There are a few well-known exceptions: Professor Harvey has shown how the Merton College manor of Cuxham, whose tenants had sworn in 1279 that they were not obliged by manorial custom to carry to any destination except Wallingford, Henley and the neighbouring manor of Ibstone, almost always sent its wheat the nine miles or so over the Chiltern escarpment to Henley, the great inland port where much of London's grain was bulked before shipment down the Thames.[12] In contrast, Merton's manor of

[6] D Keene, *Survey of Medieval Winchester*, Oxford, 1985, p 270.
[7] D Postles, 'Customary carrying services', *Jnl Transport Hist.* 3rd series 5 (No 2), 1984, p 15.
[8] M Kowaleski, 'Local Markets and Merchants in late Fourteenth-Century Exeter', unpublished PhD thesis, Univ of Toronto, 1982, p 329; R H Britnell, *Growth and decline in Colchester, 1300–1525*, Cambridge, 1986, p 44.
[9] R H Britnell, 'The proliferation of markets in England, 1200–1349', *Econ Hist Rev*, 2nd ser, XXXIV, 1981, pp 209–21.
[10] Gras, *op cit*, p 165; A Harding, (ed), *Roll of the Shropshire Eyre of 1256*, Selden Society 96, 1980, pp 161–2; R H Hilton, 'Medieval Market Towns', *PP* 109, 1985, pp 7–11.
[11] J Langdon, *Horses, Oxen and Technological Innovation*, Cambridge, 1986, p 96.
[12] P D A Harvey, (ed), *Manorial Records of Cuxham, Oxfordshire, c.1200–1349*, London, 1976, p 607 and *passim*.

Holywell had an obvious market hard by, among the bakers and brewers of Oxford, and it almost never sent its produce to a more distant market. The reeve of Combe (Hants) in the summer of 1307 made seventeen journeys to the markets of Newbury and Andover (respectively eight and ten miles away) to sell the manor's grain; Kennet (Cambs) in the 1270s sent wheat and large quantities of barley to Bury St Edmunds, ten miles distant.[13] In 1352/3 the bishop of Winchester's Wiltshire manors carted large amounts of wheat to Southampton for sale (at a high price) to the king.[14] But the bailiff of the small Essex manor of Langenhoe sold its surplus almost entirely to the people of Colchester four miles away, and Westminster's manor of Birdbrook, too far away to play any regular part in supplying the abbey's own needs, sold its produce in Richard II's reign to its tenants and villagers and to the people of the hamlets and small towns nearby on the border of Essex and Suffolk.[15]

I

In most cases these glimpses of a variety of marketing patterns span only a few years. The most continuous and comprehensive records of manorial trade may well be those in the *compoti* of Longbridge Deverill and Monkton Deverill ('East Monkton') in south-west Wiltshire. Both manors belonged to Glastonbury abbey, and their revenues were assigned to the abbey chamberlain.[16] They were too far from Glastonbury to be a convenient source of the monks' grain and malt. The chamberlain therefore ran them for the maximum cash income they would yield, and kept them in hand long after Glastonbury and other estates had leased out virtually all their other manors. For some fifty years before the Black Death the manorial accounts frequently state the destinations to which the Deverills sent their grain, and occasionally name the buyers; for a shorter period the *compoti* also name the buyers of wool, and intermittently over a much longer period they record the fairs at which the manors bought and sold livestock and the places where they obtained hay and similar needs.

The manors lie about two miles apart in the upper Wylye valley, which is narrow and steep-sided between the downs at Monkton Deverill but more open at Longbridge Deverill. Direct journeys between the Deverills and any of their markets except Warminster necessitated climbing over the 500-foot contour; journeys over downland to the southern markets were more strenuous than to those in the west. The modern landscape is largely man-made: Longleat Park occupies much of the area between Horningsham, Corsley, Warminster and Longbridge Deverill, while the Stourhead estate lies between Mere and Kilmington. The present roads in many cases do not follow the tracks likely to have been used in the past; consequently, Figure 1 does not attempt to show either, and all distances cited here are 'as the crow flies'. By Longbridge Deverill the River Wylye now flows with width and depth enough to carry the small barges often used for medieval grain cargoes, but the level has been raised artificially, and the manorial accounts contain no sign that the river was ever used for transport. The old forest of Selwood and other woods, which supplied the Deverills with fencing and hurdles, survive only patchily, and the hardwood trees of the past have largely given way to alien conifers, particularly to the north of Penselwood. The Stourhead

[13] M Chibnall, (ed), *Select Documents of the English Lands of the Abbey of Bec*, Camden Society, 3rd ser, LXXIII, 1951, pp 157–8; PRO, SC6/768/5, 6.

[14] Hampshire Record Office, Eccles. 2/159363.

[15] R H Britnell, 'Production for the market on a small fourteenth-century estate', *Econ Hist Rev*, 2nd ser, XIX, 1966, pp 381–3; Westminster Abbey Muniments 25472–25492.

[16] The MSS are the property of the Marquess of Bath at Longleat House, Wilts. I relied exclusively on the admirable microfilms made of them by Cedric Chivers Ltd, of Bath, but used cautiously the dates assigned to the documents in the accompanying Index. In subsequent footnotes the prefix L indicates a Longleat Ms.

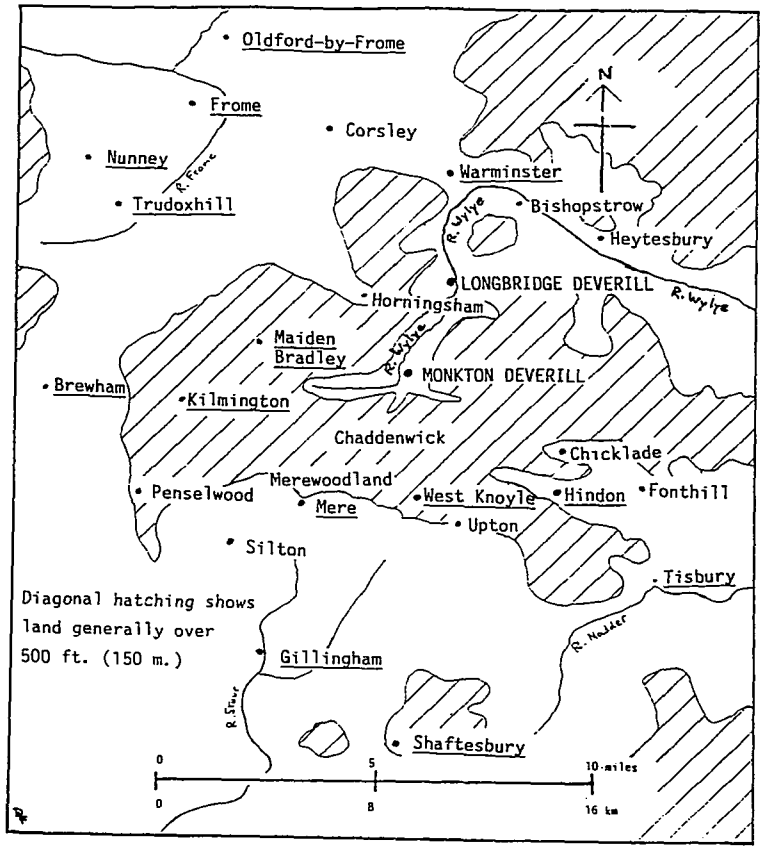


FIGURE 1
The Nearer Markets of Longbridge Deverill and Monkton Deverill (places to which the customary tenants delivered grain are underlined).

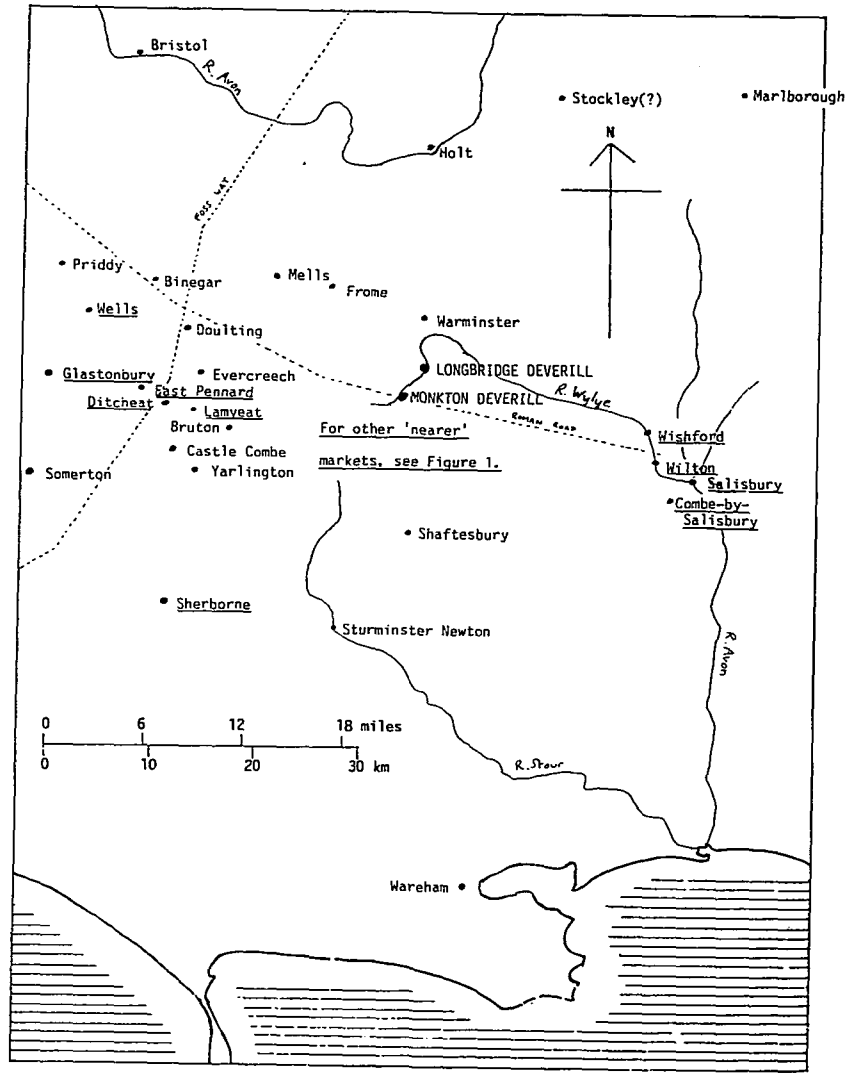


FIGURE 2
Other Places with which Longbridge Deverill and Monkton Deverill traded ('more distant' places to which the customary tenants delivered grain are underlined).

gardens and the Longleat Safari Park now accommodate other imported flora and fauna.

The only surviving custumal for the Deverills dates from the second quarter of the thirteenth century.[17] The typical virgater, Ralph son of Maud, then had to carry on the abbot's command to Ditcheat, Cranmore, Wilton or elsewhere within fifteen leagues; at other times the chamberlain might require him to carry to Glastonbury, but not *de jure*; the chamberlain had to provide what was necessary for him and his horses. The virgater must carry the monks' cloths either from Winchester fair to Longbridge Deverill, or from Longbridge to Glastonbury (again with his expenses *ad custum camerarii*); he could not be obliged to carry the lord's wool or cheese further than fifteen leagues. This distance, nominally 22½ miles, brought Glastonbury, Wells and Salisbury within range. Six other virgaters at Longbridge Deverill held by the same service. They were more fortunate than the virgaters on the nearby manor of Bishopstrow, a property of Lacock abbey; according to the *c.*1260 custumal, these might have to carry to Canford, Southampton or Bristol.[18]

By the end of the thirteenth century, the practice at the Deverills had changed a little. Though the manors' *compoti* lack 'works accounts', they record payments to those who carried or carted the demesne grain for delivery elsewhere. The custom of the manor now prescribed a small payment, scaled according to the distance and the type of grain carried, for the tenants who performed the carrying services. The accounts do not say so, but these payments were probably for expenses, rather than as wages. For many of the years between 1296/7 and 1345/6 the *compoti* record only how much was taken to the distant markets and how much to the nearer ones, without naming them. For some years, one has to deduce from the payments whether the grain was taken *ad fora remota* – at the rate of 1*d* per qr for wheat or barley – or *ad fora propinquiora*, less than seven leagues away, at ½*d* per qr. About half the accounts, however, name some or all of the destinations to which the tenants carried the lord's crop. In sum, the evidence shows how the reeves of Longbridge Deverill and Monkton Deverill used the carrying services to deliver grain to a variety of markets within a radius of some twenty miles – reaching Salisbury in the east and Glastonbury in the west – or, less commonly, to take it to the homes of buyers who had bargained for it privately with the chamberlain or other official.

The markets most commonly served were the near ones, *infra septem leucas*, within about 10½ miles, probably the maximum distance the villager could travel out with his load and return home the same day. In twelve of the years in this period, tenants carried grain to the cloth town of Frome (with markets twice a week), and equally often to the hamlet of Trudoxhill (where there appears to have been no chartered market at all). As Table 2 shows, Shaftesbury, Nunney and Hindon were each named as destinations in ten of the years.[19] Despite a few anomalies – Shaftesbury was a short haul from Monkton Deverill, but a long journey from Longbridge, and the Monkton reeve once

[17] C J Elton, (ed), *Rentalia et Custumaria Michaelis de Ambresbury 1235–1252 et Rogeri de Ford 1252–1261, Abbatum Monasterii Beatae Mariae Glastoniae . . .*, Somerset Record Society V, Taunton 1891, p 136. When preparing his masterly study of the Glastonbury estates, Dr Keil examined only a sample of the Deverill accounts; their number made 'selection imperative' (I J E Keil, 'The Estates of the Abbey of Glastonbury in the Later Middle Ages', unpublished PhD thesis, University of Bristol, 1964, p 12). No extent for either Deverill manor survives in the collection of Glastonbury extents in the British Library (MS Egerton 3321).

[18] W G Clark-Maxwell, 'The Customs of Four Manors of the Abbey of Lacock', *Wilts Arch & Nat Hist Magazine*, XXXII, 1902, p 321.

[19] Shaftesbury is usually cited in the documents by its old form of *Shas'ton* or *Shes'ton*. When I first reported on this material (at the Medieval Workshop at the University of British Columbia in November 1986) I incorrectly took these forms to refer to Sherston, in north Wiltshire.

TABLE 1
Grain carried to Markets from Longbridge Deverill and Monkton Deverill

Account Year[1]	*Wheat price per qr*[2]	*Sources*[3]	*Total Grain sales*	*Carried to nearer markets*[4]	*Carried to more distant markets*[4]
1296/7	4*s* 10*d*	L	105q 7½b	29q	21q
1297/8	5*s* 2*d*	L	59q 7½b		
1298/9	4*s* 7*d*	L	145q 5b	24q	
1299/1300	3*s* 10*d*	L	41q 0½b		
1300/1	6*s*	L	108q	10q	11q
1301/2	4*s* 4*d*	L	114q 5b		
1302/3					
1303/4	2*s* 11*d*	L, M	231q 3½b	48q 7b	12q
1304/5	6*s*	L	95q 5½b	56q 1b	
1305/6	5*s* 3*d*	L, M	261q 4½b	210q	12q
1306/7	4*s* 4*d*	M	91q 5¼b	79q	
1307/8	5*s* 6*d*	L, M	148q 6b	11q 4b	15q
1308/9	7*s* 8*d*	L	140q 2¾b		12q 6b
1309/10	6*s* 8*d*	L, M	225q 0½b	11q	58q 5b
1310/1	7*s* 8*d*	L, M	286q 1¼b	3q 7b	30q
1311/2	4*s* 4*d*	M	60q		34q
1312/3	4*s* 8*d*	L, M	201q 3¼b	18q	24q
1313/4	4*s* 6*d*	M	99q 6½b	28q 5b	
1314/5	5*s* 2*d*	M	84q 6b	59q 6b	
1315/6	9*s*	L, M	137q 0¾b	79q 1b	12q
1316/7	13*s* 4*d*	L, M	143q 6½b	24q	
1317/8	9*s*	L, M	121q 7b	4q	8q
1318/9	3*s* 8*d*	L, M	220q 4b	10q	92q
1319/20	6*s* 8*d*	M	72q 5½b		
1320/1	5*s* 8*d*	M	64q	10q	10q
1321/2	10*s* 2*d*	L, M	165q 7¼b		
1322/3	8*s*	L, M	195q 6b		
1323/4	6*s* 6*d*	L	90q 6b	16q	
1324/5	5*s* 8*d*	M	81q 5¾b		
1325/6	4*s* 8*d*	M	107q 6½b		
1326/7	4*s* 4*d*	M	110q 4½b		
1327/8	6*s*	L	92q 1½b		
1328/9	7*s* 4*d*	L, M	119q 1½b		
1329/30	7*s*	L, M	227q 2¾b		8q 4b
1330/1	9*s*	L, M	242q 3¾b		
1331/2	9*s*	L, M	321q 5¾b	4q	88q
1332/3	7*s* 4*d*	L, M	256q 0½b		137q 7b
1333/4	5*s* 6*d*	L, M	343q 3¾b	191q 6b	45q
1334/5	6*s* 4*d*	M	89q 1¼b		12q
1335/6	5*s* 1*d*	L, M	223q 2¾b	42q	38q
1336/7	5*s* 2*d*	M	172q 7b	14q	32q
1337/8	5*s* 4*d*	L, M	271q 3½b	124q	12q
1338/9	5*s* 4*d*	L, M	389q 0¼b	272q	
1339/40	9*s*	L	132q 3½b	75q	12q
1340/1	5*s* 10*d*	L, M	268q 2½b	131q 6b	4q
1341/2	6*s*	L	145q 1¾b	97q	
1342/3	4*s*	L, M	269q 2¼b	93q	
1343/4	6*s* 8*d*	L, M	226q 1½b	186q 4b	26q
1344/5	4*s* 4*d*	M	97q 4b		
1345/6	4*s* 8*d*	L, M	198q	103q	10q
Totals			8099q0½b	2066q 7b	777q 6b
Percentages:			100	25.5	9.6

Notes
[1] From Michaelmas to Michaelmas.
[2] Mean of selling prices recorded on both manors (if available).
[3] L = Longbridge Deverill; M = Monkton Deverill.
[4] Distances are measured 'as the crow flies' from a point mid-way between Longbridge Deverill and Monkton Deverill; see Figure 1.

TABLE 2

Markets to which the Deverills' customary tenants carried grain

Nearer Markets			*More Distant Markets*		
Destination	*Mean Distance (miles)*	*Number of years when journeys recorded*	*Destination*	*Mean Distance (miles)*	*Number of years when journeys recorded*
Frome	8	12	Oldford-by-Frome	8½	1
Trudoxhill	8	12	Glastonbury‡	19½	9
Hindon	5	10	Salisbury	18½	5
Shaftesbury*	10	10	Wells	20	4
Nunney	9	10	East Pennard‡	17	3
Mere	4	6	Combe-by-Salisbury	17½	3
Maiden Bradley	3½	5	Lamyeat	13	2
Warminster	4	3	Wishford	13½	2
West Knoyle	4	2	Sherborne	20	2
Brewham†	9	1	Ditcheat‡	15	1
Kilmington	6	1	Stockley (?)	18	1
Gillingham†	8½	1	Wilton	15½	1
Tisbury	7½	1			

NOTES

* From Longbridge Deverill, Shaftesbury was reckoned as 'more distant'; most journeys, though, were from Monkton Deverill.

† These journeys, despite the modest distances, were paid for at the higher rate; most of these anomalies are in the Monkton Deverill account for 1343/4 (L10714).

‡ Some of these may have been fictional sales, recording transfers to the abbey or to other Glastonbury manors.

or twice claimed unsuccessfully that journeys from his manor to Frome merited the higher payment – one can reconstruct a fairly accurate picture of the distribution between near and distant markets. The identifiable journeys took 2066qr 7b of grain (or 72 per cent of the total thus transported) to the markets usually regarded as nearer, and 777qr 6b to those held more distant.

Higher prices justified more costly carriage, and a more distant market sometimes promised a better price. In the years when the mean price of wheat sold by those manors was 6*s* or more per qr, the tenants took 42 per cent to the further markets, but only 19 per cent when wheat fetched less than 6*s*. An auditor's note in the margin of the 1315/16 account warned the Longbridge Deverill reeve against carrying grain to various markets unless to get a 'better sale'.[20] The correlation between higher prices and haulage to more distant markets is probably the only one that can be demonstrated confidently. The famine and mortality of the 1310s had no obvious effect, though for a dozen years the quantities sold were less than before or subsequently, and the accounts for this period record carrying services only rarely. From the early 1330s, though, the Deverills sold large amounts of grain in almost every year, and the customary tenants had to transport much more than in recent decades, occasionally over 200qr a year. The evidence is not detailed enough to allow one to examine these temporal changes more fully, or to reveal different policies in the marketing of the cheaper grains (wheat being much the largest component of the trade).

II

Though most of the grain thus carried was taken to markets, the tenants delivered some consignments to buyers who had purchased privately from the chamberlain or his reeve, thus by-passing the formal market: in 1339/40, for example, the men

[20] L10688.

of Longbridge Deverill carried 12qr of wheat to the house of John Hychcok at Wells.[21] Sometimes the cash delivery paragraphs of the *compoti* name other buyers, to whom the tenants did *not* transport their purchases: in 1338/9 Thomas the Baker bought 20qr of wheat (and at the end of the account year still owed £1 of the purchase price of £5); next year, William of Dunkerton bought 24qr of barley and 12qr of oats from Longbridge Deverill, as well as more than 4½ sacks of wool.[22] These may have been 'farm-gate' sales, negotiated directly between the reeve and the buyer; on other occasions, though, letters or warrants from Glastonbury authorized the reeve to hand over grain to someone who had made his bargain with the abbey chamberlain and brought his carts to collect his purchases.

As far as one can tell, the Deverills did not use their demesne carts to deliver corn to markets or to private customers. Probably most – and possibly all – the grain sold, but not carried away by the tenants, was handed over to buyers who themselves fetched it from the granaries. Very occasionally a single buyer is named: in 1327/8 Monkton Deverill sold all its surplus grain *in grosso* to Robert Bronekyng, the manor's own reeve, and obviously an entrepreneur as well.[23] William of Dunkerton was certainly a dealer in grain; perhaps John Hychcok and even William the Baker were as well. No account ever names a fair as the destination of Deverill grain; the tenants' journeys were always to a market or a private customer, or, rarely, to the abbey or another of its manors.

The Deverills also sold grain to their own tenants. Of the 36qr 4½b of wheat sold by Longbridge in 1328/9, 30qr 7b were recorded as *vendebantur villanis domini*. Next year, out of a total income of £31 9*s* 6¼*d* from grain sales, £18 10*s* came specifically from grain sold to the tenantry. In 1331/2 the Longbridge tenants bought at least 20qr of the 62qr 1b of barley the manor sold.[24] Monkton Deverill in 1328/9 sold 28qr of wheat and 5½qr of barley to the lord's villeins, and in 1331/2 received £3 from barley sold to the tenantry.[25] As it is rare for any purchaser to be named, these few specific sales to the villagers may well point to a normal and extensive trade between lord and peasant. If most of the other buyers who fetched grain directly from the manor were also local men, the proportion of the saleable surplus sold to buyers more than seven leagues away may have totalled little more than the 9.6 per cent which Table 1 lists as carried to the distant markets by the tenants. William of Dunkerton, wool merchant as well as corn dealer, may well have served a more distant market, and one cannot exclude the possibility that Robert Bronekyng and even some of the lord's tenants who bought grain would also take it to sell at a remote market; but it seems probable that by far the greater part of the Deverill corn was consumed locally.

Just before the Black Death the accounts suddenly fall silent on grain marketing. The Monkton Deverill *compotus* for 1345/6 listed payments to tenants who carried grain to Shaftesbury, Frome and Trudoxhill, but these entries were then crossed out and nothing like them was ever recorded subsequently.[26] Though demesne cultivation continued and the manors stayed in hand until the late fifteenth century (apart from an interruption at Monkton Deverill from 1428 to 1450), the accounts give no clues to how and where the corn was marketed. So early an end is unfortunate, as it prevents any study of the effects of the Black Death on the Deverills' grain marketing practices.

[21] L9632.
[22] L10594, L9632.
[23] L10616.
[24] L8080, L8081, L8083.
[25] L9728, L0730.
[26] L9734.

III

Prominent earlier, by the fifteenth century sheep farming dominated the Deverill economy. The accounts record where the manors bought and sold some of their livestock. Whereas almost all the surplus stock went to the St Luke's fair at Hindon, the Deverills made their purchases at a wide variety of fairs, as well as in private transactions which by-passed such formal occasions. At least a few of the purchases were from their own tenants or other smallholders nearby, as well as from clergy who had received tithe lambs. The reeve and shepherd normally drove the animals to the fair, perhaps relishing an expenses-paid jaunt, or perhaps because many of the other villagers were at Hindon for their own purposes. In 1324/5, however, Monkton Deverill paid 3*d* to villagers who drove 3 oxen and 34 wethers *ad Nundinas et ad mercatas* for sale.[27]

Before the Black Death, the Deverill accounts mention the purchase of oxen at Shaftesbury in 1310/11, at Binegar and Bruton in 1331/2, and at Frome, Nunney and Bishopstrow in 1332/3; in none of these cases are we told whether it was at a market or at a fair that the transaction took place. But the manors bought 3 horses specifically at Binegar fair in 1340/1, 3 oxen at Priddy fair in 1354/5, and an ox at Hindon fair in 1434/5. Longbridge Deverill sold a palfrey at Salisbury fair in 1361/2. The bailiff and reeve of Monkton Deverill in 1472/3 spent 8*d* fruitlessly trying to sell a horse at Shaftesbury fair, and then spent a further 5*d* in expenses before selling the animal at Warminster fair for 11*s* 8*d*.[28] Longbridge Deverill bought horses at *Charthugh* (probably near Holt) in 1438/9, and both plough-horses and oxen at Glastonbury in 1454/5.

It was to buy sheep and lambs, though, that the manorial officials travelled most widely: to Castle Cary fair in 1418/19, 1424/5 and 1457/8, and in other years to Somerton fair and Binegar fair, and to Evercreech, Sturminster Newton, Shaftesbury, Maiden Bradley, Yarlington and Warminster (some of these last may have been markets rather than fairs). Sheep were both bought and sold at Hindon fair, and in a few years Longbridge Deverill also sold pigs there. There was also some very local trading, with tithe lambs bought, or bought back, from the vicar of Longbridge Deverill parsonage in four years in the 1460s, and from the rector of Corsley in two years in that decade. Other lambs were bought in the hamlet of Horningsham in 1457/8, and from the villager Stephen Botell of Monkton Deverill in 1464/5.

The Deverill reeves and shepherds, despite such local purchases, seem to have bought most of their animals at the well-established country fairs, often in places more distant than the markets to which the tenants carried grain. Even so, of the fairs mentioned above, only Somerton was further away than the 'fifteen leagues' the Glastonbury custumal had envisaged as the limit of carrying services, and then by only a mile or two. The officials of other manors often travelled much further in search of livestock: the bailiff of the Merton College manor of Elham (near the south coast of Kent) sometimes went to the Cotswold fairs at Winchcombe and Chipping Campden to buy horses. The obedientaries of Durham cathedral priory bought stock as far away as Ripon, Penrith, Kendal and Tweedside; those of Peterborough abbey bought 23 oxen at Coventry fair in 1505/6.[29] These country fairs retained their vitality in the south even when the great Winchester fair was little more than a memory. At the beginning of the fourteenth century, Longbridge Deverill had paid the Glastonbury chamberlain's expenses while attending Win-

[27] L9727.
[28] L9803.
[29] C M Fraser, 'The pattern of trade in the north-east of England, 1265–1350', *Northern Hist* IV, 1969, pp 49–50; Greatrex, (ed), *Account Rolls . . . of Peterborough*, p 195.

chester fair with his party – 36*s* 2¾*d* and 3qr 1b of wheat in 1304/5, for example.[30] But from the 1310s he seldom went there, and the tenants obliged to help carry his purchases back from Winchester to Longbridge, or from Longbridge to Glastonbury, thereafter had that duty commuted for cash. The chamberlain still visited Salisbury fair most years in the fourteenth century, and frequently in the fifteenth century as well. As Salisbury had developed as a great centre of the cloth trade, there was no need for the chamberlain to go further.[31]

Marketing the Deverills' wool appears to have been independent of the fairs, at least in the period spanned by the accounts. In some of the early years the fleeces were sent to the chamberlain at Glastonbury, and one cannot tell how he disposed of them. In the first half of the fourteenth century, however, the buyers usually came to Longbridge Deverill to inspect the fleeces from both manors, to strike their bargains and to carry away their purchases. In 1301/2 it was a burgess of Bristol who bought the wool crop; in 1303/4 and 1307/8 it was Robert Cnowel or Knowel of Salisbury (who sold the manor a millstone in 1309/10). In 1310/11 the wool buyer was Stephen Russel of Winchester; in 1320/1 it was a Marlborough man, and in 1322/3 two men from Wells. In 1328/9 and again in 1332/3 the fleeces were bought by Thomas le Lange and John le Whyte, burgesses of Salisbury; in 1330/1 four merchants of Salisbury bought them. In 1340/1 the purchasers were Richard *Le Deyar* of Leigh, and William le Palmer; in 1341/2 John Pew and Richard Weston, both from Frome, bought the Deverill clip. After a long silence the accounts name two more buyers: John Lane of Glastonbury in 1452/3 and John Sheoler of Wells in 1454/5. In other years the purchasers dealt directly with the chamberlain, making their payments to him and merely collecting from Longbridge the wool for which they had contracted. Most of the buyers one can identify came from within the fifteen-league radius.

The purchases of deadstock also help to delineate the Deverills' marketing area. They fetched iron (or possibly horse-shoes) from Salisbury in 1303/4, and from Southampton in 1305/6 and 1306/7. They bought tar (for treating sheep scab) at Salisbury, Hindon and Shaftesbury, and laths at Shaftesbury and Gillingham. Millstones usually came from *La Penne*, and at least once each from Wareham, Fonthill and Salisbury. Hurdles for penning the flocks were fetched from as far as Gillingham, as well as from Chaddenwick, Silton and, most often, *Merewodelond*. Fencing (*claustura*) came most commonly from West Knoyle, occasionally from Chaddenwick, Chicklade and Selwood. The large flocks raised on downland needed more hay than the manors' limited meadows could supply; this was often fetched from as far away as Gillingham. Longbridge Deverill brought 13 cartloads of hay from Glastonbury itself in 1304/5, and Monkton Deverill 7 loads from there in 1352/3. The Deverills also bought it at West Knoyle, Evercreech, Frome and (very frequently) Mere. Straw for the oxen was once bought at Heytesbury. Building stone came from Doulting, Mere, Fonthill and Tisbury, tiles from Frome and Upton, lime from Frome and Mells.

IV

Intermittently covering a couple of centuries, the accounts show the two manors trading actively within a range of about ten miles, going fairly often the twenty miles to Salisbury or Glastonbury, and venturing further afield – for millstones or Spanish iron – only on rare occasions. There is no information on grain marketing after 1345/6, but for other commodities

[30] L9638.
[31] *Victoria County History of Wiltshire*, vol iv, p 124.

the places visited seem much the same in the mid-fifteenth century as before the Black Death.

Dare one assume that the Deverills' pattern of trading was typical? Unfortunately, this would be rash. Longbridge Deverill and Monkton Deverill were more remote than most from their parent monastery, which relied upon nearer manors for most of its supplies.[32] The Deverills could not use the River Wylye to carry produce downstream cheaply to Wilton and Salisbury. They were almost equidistant from several towns of middling size – Frome, Shaftesbury and Gillingham – and equidistant also from what were probably the more substantial markets of Salisbury, Glastonbury and Wells. They therefore lacked a single dominant market or obvious route of trade, such as Holywell and Cuxham had, or even a medley of prospering local centres of consumption like the textile villages around Birdbrook. If, as has been suggested, much of the grain trade around the Deverills was very limited, the corn marketing areas of most manors may have been even more restricted. On the other hand, the Deverill officials did not travel as far as some reeves did to find the livestock they needed.

Yet one may offer a few tentative observations and conclusions. Despite the Deverills' isolation, most of the grain trade was local – possibly some 90 per cent of it was 'within seven leagues'. By the fourteenth century, if not before, fairs were unimportant in marketing grain.[33] While the Deverills bought stock from fairs up to or a little beyond the fifteen-league range, most of what they sold went to the nearby outlet at Hindon. Save for the unnamed 'merchant of Bristol', the wool buyers were 'up country' dealers based in the smaller cities and towns, as likely to supply local weavers as they were to sell to exporting wool merchants. Millstones, building materials and sometimes even hay might require long journeys by the demesne carts. Above all, the *compoti* of Longbridge Deverill and Monkton Deverill testify to the flexibility of medieval marketing arrangements, and to the ingenuity and enterprise of those who bought and sold the produce of the countryside.

[32] See the Table of Sources in I Keil, 'The Granger of Glastonbury Abbey, 1361–62', *Somerset & Dorset Notes & Queries*, XXVIII, 1968, pp 87–8.

[33] While one should not take the international cloth fairs, such as those of St Ives and Winchester, as in any way typical of the country fairs, it is worth noting that Dr Moore cites very few examples of grain dealers or transactions at the fairs she studied (E W Moore, *The Fairs of Medieval England*, Toronto, 1985).

Cattle Grazing in the Forest of Arden in the Later Middle Ages*

By ANDREW WATKINS

Abstract

This paper studies the influence and scale of pastoral farming in the economy of the Forest of Arden in the Later Middle Ages. It seeks to determine the numbers and types of animals kept and demonstrate how the profits of pastoral farming benefited a number of social groups in the region. Many demesnes were retained by their resident lords to graze cattle to feed their households while the fattening of beef animals for the market afforded scope for social and economic advancement by peasant families. This emphasis on animal husbandry encouraged the cultivation of hay and fodder crops in turn helping to bolster the arable economy in the area.

THE tradition and emphasis in the study of later medieval English agriculture has been firmly focused on the large cereal-dominated ecclesiastical or noble estates of lowland England. Although studies have been made of wool growing, pastoral farming has very much been relegated to a secondary position, most historians preferring to stress, as did Postan, livestock's supporting role in cereal production.[1] This is regrettable as in many areas, mainly northern England, the north Midlands, and also in the south-west, the raising and fattening of livestock both for subsistence and for sale had far greater importance than grain production.[2] The following study examines how this generally neglected type of medieval agrarian economy adapted to the new circumstances of the late fourteenth and fifteenth centuries.

The plague and the following epidemics had profound effects on many aspects of the economy, one of which was to help redress the balance between livestock and cereals. The area under the plough shrank, most notably in the fifteenth century, and the most obvious way to utilize the lapsed arable was to convert it to pasture. Although in upland Engand and forest areas animal husbandry had probably always vied with cereals for importance this was not true of lowland England, where the plagues helped a shift to a more mixed agricultural economy. Animals had a strong appeal for producers. Apart from their meat their by-products of wool and hides could be extremely valuable, and where cereal cultivation required large seasonal workforces animals only needed a few specialized stock keepers throughout the year. Increasingly after the mid-fourteenth century landlords turned to animals in a bid to shore up their demesne economies.[3]

The move in emphasis from arable to pastoral in Warwickshire is well documented. Although the area of pasture in the Forest of Arden did increase in the later middle ages it was most dramatically pronounced in the old settled Feldon of the south of the county where, in the century and a half following 1350, arable land was lapsing to pasture on a much greater scale than in the Arden. This movement was noted and emphasized by two

* I am greatly indebted to Christopher Dyer, Rodney Hilton, and Jean Birrell for their kind and constructive help in the preparation of this article.

[1] E Power, *Medieval English Wool Trade*, Oxford, 1944; M M Postan, *Essays on Medieval Agriculture and General Problems of the Medieval Economy*, Cambridge, 1973, ch 11. Two notable exceptions to the southern English cereal bias are R Trow-Smith, *A History of British Livestock Husbandry to 1700*, 1957, and J Kershaw, *Bolton Priory*, Oxford, 1973.

[2] H P R Finberg, *Tavistock Abbey*, Cambridge, 1951; N W Alcock, 'An East Devon Manor in the Later Middle Ages', *Transactions of the Devonshire Association*, CII, 1970, pp 141–88.

[3] For a recent example see M Mate, 'Agrarian Economy after the Black Death: The Manors of Canterbury Cathedral Priory, 1348–91', *Econ Hist Rev*, 2nd ser, XXXVII, 1984, pp 341–54.

contemporary writers. John Rous, writing in the late fifteenth century, has perpetuated the image of the Feldon of flocks of sheep grazing amid the dilapidated, decayed ruins of a village, while less dramatically in the 1530s John Leland described it as an area of corn-growing champion villages interspersed with pasture land.[4]

Although a forest in the sense that it supported much woodland the Forest of Arden in north Warwickshire was never a forest by strict legal definition, as, unlike Feckenham in Worcestershire or Rockingham in Northamptonshire, it had not come under Forest Law. Although there had been much clearance of woods by the mid-fourteenth century a forest economy still functioned in the Arden in the later middle ages. Common field land was limited in area, there was an abundance of closes in severalty and many inhabitants pursued industrial by-occupations.[5] This in turn was only part of a much larger woodland area, stretching south-west into the royal Forest of Feckenham while northwards it merged into Cannock Chase and Needwood, which in turn became part of upland England.

Within Warwickshire the animal landscape was split along the geographical divide with sheep dominating the Feldon, while cattle, animals often associated with forests, were numerically superior in the Arden. This was a trend going back well before the fifteenth century and is well illustrated by surviving grange accounts for the Feldon and Avon Valley. In 1379–80 at Sutton-under-Brailes it was recorded that the demesne kept 200 sheep but only nine oxen. The Earl of Warwick's manor of Lighthorne possessed twenty-six oxen and fourteen other bovine animals, and a flock of 308 ewes and 214 lambs in 1389–90. Similarly at Birdingbury in 1397–8 the grange account lists 243 sheep but only sixteen bullocks, while at Snitterfield in 1430–1 a flock of 1671 sheep is recorded, with twenty-seven oxen, twenty cows, seventeen steers, and thirteen calves also being maintained on the same demesne. Conversely, they were hardly ever recorded on the Arden estates at Chilvers Coton, Grendon and Astley. The relative importance of sheep on a north Warwickshire manor is well illustrated at Middleton in 1355 where in an inventory of the goods and chattels of Baldwin Freville it was recorded that he had owned cattle worth £38 14*s* but sheep only to the value of 8*s* 3*d*.[6]

Although calves were reared in the Arden, Wales undoubtedly provided the major source of beef cattle. Droving routes from North Wales to the south-east of England passed through the area. Birmingham and Coventry possessed large cattle markets and two of the most important routes of the early modern drovers passed through the Arden market towns of Coleshill, Atherstone and Nuneaton, probably reflecting medieval routeways.[7] Some men in these towns were actively engaged in the trade, such as John le Deyster, a drover, who was resident in Coleshill in 1383 and by 1409 had developed his trade to its logical conclusion and was living in London.[8] Accounts from the Beauchamp manor of Wedgnok Park show that some

[4] C Dyer, *Warwickshire Farming, 1349-c.1520*, Dugdale Society Occasional Paper, XXVII, 1981, pp 9–12; J Rous *Historia Regum Angliae*, T Hearne (ed), 1745, pp 119–26; *Leland's Itinerary*, L Toulmin Smith (ed), 1908, V, pp 40, 47, 50.

[5] This will hopefully be comprehensive covered in my forthcoming PhD thesis 'Society and Economy in the Forest of Arden, 1350–1540'.

[6] Sutton-under-Brailes: Gloucestershire Record Office, D 1099/M31/44; Lighthorne: Shakespeare's Birthplace Trust Record Office (hereafter SBT), DR 98/672a; Birdingbury: Devon Record Office, 248 M/MG; Snitterfield: British Library (hereafter BL), Egerton Roll 8624; Chilvers Coton: PRO, SC 6/1038/20; Grendon: Staffordshire Record Office (hereafter SRO), D(W) 1744/19; Astley: Warwick County Record Office (hereafter WCRO), CR 136/c, 150–2; Middleton: Nottingham University Library (hereafter NUL), Mil 40.

[7] R A Holt, *The Early History of the Town of Birmingham 1166 to 1600*, Dugdale Society Occasional Paper, XXX, 1985, pp 10–11, C Skeel, 'The Cattle trade Between Wales and England from the Fifteenth Century to the Nineteenth Century', *Trans Royal Hist Soc*, 4th ser, IX, 1910, p 148.

[8] Birmingham Reference Library (hereafter BRL), A 368, A 454.



FIGURE 1
Late Medieval Warwickshire, indicating places mentioned in the text

transactions were made directly with Welsh drovers. Other demesne managers looked further afield. The Beauchamps bought what again must have been Welsh cattle from Bromyard and Worcester, while others bought in North Midland cattle from Lichfield and Tamworth, or some such as the Catesbys, who held a cluster of manors outside the Arden on the Warwickshire–Northamptonshire border, made occasional forays to the market of Chesterfield.[9]

The attractions of cattle for landlords were considerable. Clearly they were not prey to variations in wool prices and neither did they require specialized feed. They cost little to maintain other than in winter fodder and investment in the upkeep of enclosures and some form of byre or shelter. Medieval cowhouses, where recorded, seem quite large: the horns meant that considerable room would be required for each animal. At the Leicester Abbey grange of Berwood in Curdworth a *vaccaria* of six bays was recorded.[10] Neither were labour costs very great as only one or two stockmen would be needed throughout the year, rather than the large seasonal workforces demanded during cereal production or by sheep during shearing. More labour intensive was dairying, a task usually undertaken by women both in processing and retailing

I

The most detailed evidence of livestock keeping in the Arden are the accounts for the demesne of the middle-ranking peer lord Astley at Astley which survive for the late fourteenth and early fifteenth centuries.[11] There the demesne was cultivated directly as late as 1432 although as with many other estates in the area this was for household consumption rather than for the market. Cattle accounted for a significant proportion of the livestock kept, which also included pigs, poultry and horses. In this period often there were about forty to forty-five cattle of which about fifteen to twenty were usually cows with calves.[12] The remainder were heifers and bullocks being fattened, many of which had been originally calves of the dairy herd. The stock was mainly self-replacing with both a bull and a boar kept. Animals also came into the herd as strays and heriots. Another herd of catle was evidently maintained on the Astley manor of Weddington, near Nuneaton, as beasts were often driven from there to Astley.

The hunting park surrounding Astley Castle seems to have comfortably accommodated their grazing requirements as in 1400 it was recorded that 'Greysacre' in the park had been reserved for the depasturing of the stock for the household. Crops were cultivated on the demesne to provide fodder and peas and beans, barley, and oats harvested there were often fed to the cattle, as well as pigs and poultry, presumably during winter.

The Duke of Buckingham's demesne at Maxstoke castle was also involved in grazing to maintain sufficient animals on the hoof for the consumption of the large household which by the mid-1450s probably numbered just over one hundred.[13] The demesne had been converted to pasture and meadow and was organized to provide grazing for the household's livestock, mainly consisting of cows, sheep,

[9] Dyer, *op cit*, p 20; WCRO, CR 895/8/18; CR 895/8/19; PRO, SC 6/1043/10.

[10] L Mitchell, *A History of the Manor of Berwood*. Birmingham, 1926, p 18.

[11] WCRO, CR 136/c150 (1395–6), CR 136/c151 (1400–01), CR 136/c152 (1401–2), CR 136/c154 (1432–3).

[12] In 1395–6 twenty-five bullocks and eight cows with eight calves were recorded. In 1400–1 two bulls, twenty-one bullocks, a heifer, eleven cows, and eight calves are listed. In 1401–2 a bull, twenty-three bullocks, ten cows, and twelve calves appear in the extent.

[13] Details of the demesne at Maxstoke Castle are contained in the dispersed Duke of Buckingham's Receiver-General's Accounts: SRO, D641/1/2/269 – D641/1/2/276; BRL, DV 2 168236; PRO, SC6/1040/15; Maxstoke Castle, Fetherston-Dilke MSS (I am indebted to Captain C B Fetherston-Dilke for kindly allowing me to make use of his archive); C Rawliffe, *The Staffords, Earls of Stafford and Dukes of Buckingham 1394–1521*, Cambridge, 1978, pp 69–70.

and riding horses. The park was also used for pigs, cows, and sheep in addition to the deer. The demesne was occasionally leased out to farmers usually only for one year at a time so it could be retrieved easily when the Duke and his entourage were in residence. Most of the stock was purchased locally on the hoof, although occasionally it was bought ready slaughtered as in 1452–3 when £21 16*s* was spent on 183 beef carcasses.[14] Purchases of animals were usually made in fairly large numbers such as £14 14*s* 2*d* paid also in 1452–3 to the local peasant producers Thomas Colet and Thomas Underwood, while considerable numbers were bought from Coventry.[15]

The nearby Maxstoke Priory also maintained quite large numbers of animals with cattle again predominating. In the 1440s and 1450s it frequently had mixed dairy and beef herds numbering between forty and fifty with a herd of seventy-two recorded in 1442–3.[16] Most of its stock was either raised through the dairy herd, acquired as heriots or strays, or bought directly from peasants living in adjacent villages.[17] The east Arden Abbey at Merevale similarly owned beef cattle, most purchased from local villages or the nearby town of Atherstone, while there is fleeting evidence to suggest that Stoneleigh Abbey was also keeping cattle herds. Maxstoke and Merevale both slaughtered cattle for their own table but some of the former's dairy produce was retailed in local markets, such as Coleshill.[18]

Below the level of the nobility and the religious houses the evidence of pastoral activity is less plentiful. The important role of gentry in commercial livestock husbandry in the North Midlands, where they raised animals for their own consumption and the market is well known. Within the Forest of Arden John Brome of Baddesley Clinton lucratively indulged in buying beef cattle from Coventry and Birmingham, fattening them on his demesne, and then selling to butchers for considerable profits.[19] In the absence of equally detailed evidence for the rest of the Arden it is difficult to assess how typical Brome was of the gentry of the area. However, cattle grazing must have been an obvious and practical venture with the proximity of the Birmingham and Coventry cattle markets, Welsh droving routes and the potentially large nearby urban markets. Coventry was the unofficial regional capital of the Midlands, the third largest provincial centre in England in the 1377 Poll Tax and even in 1525 when undergoing a slump in fortunes it was still among the top rank of English provincial towns. Neither Birmingham nor Warwick were as populous or wealthy as Coventry but both by the fifteenth and early sixteenth centuries appear to have supported populations well in excess of a thousand inhabitants.[20]

The demesne stock presents a problem in determining to what extent animals were kept for sale, as distinct from meeting the needs of the household. In the case of Sir Ralph Shirley, who held a north Warwickshire estate at Newton Regis, the division is fairly obvious. On his death in 1516 he left livestock to the value of £82 6*s* 8*d* including ninety-four cattle of various types and 160 young sheep.[21] Quite clearly

[14] SRO, D641/1/3/4.
[15] SRO, D641/1/3/4.
[16] Bodleian Library (hereafter Bod Lib), MS Trinity 84, pp 118, 123, 129, 130, 132, 134. In 1442–3 the Priory had a mixed herd composed of forty-two bullocks, eighteen cows, twelve calves, and a bull, MS Trinity 84, p 132.
[17] Bod Lib, MS Trinity 84, pp 123, 129, 150, 151.
[18] PRO, E 315/283, fols 19, 27, Bod Lib, MS Trinity 84, p 129, SBT, DR 18/30/14/11.
[19] J R Birrell, 'The Forest Economy of the Honour of Tutbury in the Fourteenth and Fifteenth Centuries', Birm Hist Jnl, VIII, 1961, pp 119–21; M J Bennett, *Community, Class and Careerism*, Cambridge, 1983, p 71; S M Wright, *The Derbyshire Gentry in the Fifteenth Century*, Derbyshire Record Society, VIII, Matlock, 1983, pp 19–21; C Dyer, 'A Small Landowner in the Fifteenth Century', *Mid Hist*, I, 1971–2, pp 1–14.
[20] C Phythian-Adams, *Desolation of a City*, Cambridge, 1979, pp 11–16, 33–35; Holt *op cit, passim*; R A Holt, 'The Economic Development of Birmingham before 1553', Unpublished Univ of Birmingham MA thesis, chapter 6; *VCH Warwickshire*, VIII, p 480.
[21] Leicestershire Record Office, 26 D53/1949. Although Shirley did own Newton Regis his livestock was almost certainly on his North Midland estates.

with this number of animals Shirley was producing for the market but for others the proportion is less clear.

The consumption of meat in an upper gentry household is well illustrated by Sir William Mountford of Coleshill's receiver general's account of 1434. In the 1436 income tax he was assessed at £258, the richest knight in Warwickshire, and in the account of 1434 had an income of £274 16*s* 1½*d*. Therefore his household's eating habits may be more extravagant than those of other gentry in the area, but gives an idea of the likely consumption levels of other small households.[22] Meat was eaten throughout the year apart from during Lent and on Fridays and Saturdays. The Mountfords evidently kept a small herd of mixed animals, buying twenty-three steers at Coventry for £7 5*s* 8*d*, twenty sheep for 35*s* and six pigs for 12*s* 2*d*. In the course of the year thirty steers, fifty-six calves, sixty-one ewes, and thirty-six pigs, taken both from the demesne stock and from outside purchases made from local peasants, were consumed. Therefore if a gentry household was only supplying its own needs the number of animals involved could be quite large. Apart from the Mountfords other gentry families were maintaining similar herds after they had leased out their demesne arable. The Bracebridges at Kingsbury, for example, in 1390 were grazing a cattle herd, while the Frevilles repossessed parkland and pasture at Middleton in the fifteenth century to depasture their own animals. Incidental references suggest that other families such as the Ardens, Binghams, Bracebridges, Clintons and Harewells may also have kept animals on their demesnes during the fifteenth century.[23]

Fragmented as this information is it would seem that many resident landlords were involved in subsistence grazing, often using their parklands as a sort of larder. However there were groups within Arden society that were able to exploit the conditions and advance economically and socially through cattle grazing and it is to these that our attention now turns.

II

Studies throughout the country have shown the ability of elements within rural society to take advantage of the landlords' withdrawal from a market-orientated productive economy by taking up demesne leases. As elsewhere the wide social range of lessees, including clergy, gentry, merchants, and peasants is apparent in Warwickshire.[24] In the Forest of Arden quite a number of demesnes were retained by lords to graze their domestic livestock. On other Arden estates, usually lacking a resident lord, butcher graziers were prominent lessees. Pastureland of St Mary's, Warwick, near to Warwick was nearly always leased by butchers, while demesnes and parkland at Tanworth-in-Arden, Berkswell, Lea Marston, Wedgnok, and Middleton were also leased by them.[25] They also leased pastures at Coleshill, Brinklow, and Leek Wootton.[26] Most of these butchers came from the large population centres: Benedict Lee, Thomas and Edmund Wattes, and

[22] SBT, DR 37/73; H L Gray, 'Incomes from Land in England in 1436', *Eng Hist Rev*, IL, 1934, p 639.

[23] NUL, MiM 162, 164, 166; *Collections for a History of Staffordshire*, XV, 1884, p 140; NUL 5/167/101; *Rolls of the Warwickshire and Coventry Sessions of the Peace*, E G Kimball ed, Dugdale Society, XVI, 1939, p 20; NUL, MiL5; W Cooper, *Wootton Wawen: Its History and Records*; Leeds, 1936, p 14.

[24] For example: F R H Du Boulay, 'Who were Farming the English Demesnes at the End of the Middle Ages?', *Econ Hist Rev*, 2nd series, XVII, 1965, pp 443–55; B F Harvey, *Westminster Abbey and its Estates in the Middle Ages*, Oxford, 1977, pp 151–2; J A Raftis, *The Estates of Ramsey Abbey*, Toronto, 1957, pp 290–1; U Rees, 'The Leases of Haughmond Abbey, Shropshire', *Mid Hist*, VIII, 1983, pp 13–29; J W Hare, 'The Demesne Lessees of Fifteenth Century Wiltshire', *Ag Hist Rev*, 29, 1981, pp 1–15. For Warwickshire see Dyer, *Warwickshire Farming*, pp 4–5.

[25] *Minister's Accounts of the Collegiate Church of St Mary, Warwick*, 1432–85, D Styles (ed), Dugdale Society, XXVI, 1969, pp 4, 18, 43, 134, 134; SBT, DR37/108/33, DR 37/108/51–5; *Minister's Accounts of the Warwickshire Estates of the Duke of Clarence, 1479–80*, R H Hilton (ed), Dugdale Society, XXI, 1952, p 62; BRL, Norton MSS 87, 89, 101, Dyer, *Warwickshire Farming*, p 18; NUL, 5/167/101, MiD 4437.

[26] BRL, A555, A568, SBT, DR 10/98, DR 10/2243, DR 18/30/26/16, DR 18/30/26/4.

John Savage of Warwick; John Lichfield, Morrys Bocher, and John Deyster of Coventry; and Henry Ball of Tamworth who leased Middleton Park in 1379.

On the other Arden demesnes for which documentation survives at Atherstone, Kingsbury, Maxstoke, Middleton, Old Fillongley, and Sutton Coldfield a more common arrangement was piecemeal leasing to local inhabitants.[27] This meant that few large-scale peasant holdings incorporated an entire demesne. However through a gradual accumulation of pasture and meadow land a number of peasant families in the Tame Valley were able to pursue pastoralism profitably.

The most spectacular example of such a family were the Deys of Drakenage who amassed and consolidated a large estate based on cattle grazing which ultimately led to gentry status. Their origins are obscure with no one of that name appearing in either the 1327 or 1332 Lay Subsidies in Kingsbury or any adjacent parishes. John Dey became the first member of the family prominent in surviving records. In the absence of detailed rentals it is difficult to determine the extent of his holding but it seems to have included land in the manors of Kingsbury, Middleton, and Lea Marston.[28] In the twenty years following 1440 he steadily accumulated more land. In 1444 he took on the holding of William Lyndon in Marston; sometime later in 1459 and 1460 he obtained the holdings of William Barber and William Bodymoor in Lea Marston; while in 1464 he acquired a toft in the same village. In 1447 he had leased for life nine butts in Kingsbury.[29] Probably he also farmed the Hastings manor of Drakenage as Dey was styled 'of Drakenage' from 1444 onwards, the year that the previous fifty-year lease of the manor expired.[30] When John Dey enfeoffed several of the local gentry in 1472 his lands lay in Lea Marston, Marston, Coten, Cliff, Wilnecote, Tanworth-in-Arden, Arley, Tamworth and Halloughton, and in the enfeoffment he is styled a 'grazier'.[31]

His activities are quite well recorded. At Kingsbury in the late 1440s he was frequently fined for depasturing his beasts in demesne pastures and for overstocking the commons. He may well have engaged in some form of cereal production to support his livestock as he was selling straw to the Buckingham household in 1453. He was also involved in other enterprises as in 1447 he was farming a fishpond at Lea Marston and may have been the John Dey leasing the Middleton mills in 1435.[32] The Enclosure Commissioners of 1517 recorded that Richard Hastings had evicted twelve peasants from Drakenage in 1497 and enclosed 200 acres. The present site of Drakenage includes a reasonably large moated site, where in 1394 there were recorded a grange and chamber.[33] Field walking has identified what appears to be a complex of small enclosures to the east of the moat, probably animal pens, and these may have been contemporary with Dey's occupation of the manor.[34]

By 1472 John Dey had built up a considerable estate in the Tame Valley. The Deys' power and status is well attested by

[27] Atherstone; SRO, D 641/1/2/269; Kingsbury, NUL, MiDa 90; Maxstoke: SRO, D 641/1/269 – D 641/1/2/276; BRL, DV2 168236; Middleton: NUL, MiM 163, 175, 206; Old Fillongley: Coventry Record Office, Bond's Hospital Miscellany, E 10 Sutton Coldfield: SBT, BRT/1/3/180.

[28] NUL, MiM 169, MiL5, BRL, Norton MSS 64. Obviously the surname 'Dey' with its usual association of the humble, wage-earning dairy-maid, may be relevant in the context of the family's origins.

[29] NUL, MiD 4234; SRO, D641/2/272; BRL DV 506 418919, DV 506 418923; NUL, MiD 4237, NUL, MiL 5.

[30] NUL, MiD 4234; *Report on the Hastings Manuscripts*, Hist Ms Com, 1928, I, p 149.

[31] NUL, MiD 4238.

[32] NUL, MiL 5; SRO, D 641/1/3/4; BRL, Norton MSS 68a; NUL, MiM 131/36a, MiM 169.

[33] *The Domesday of Enclosures*, I S Leadam, (ed), Royal Historical Society, II, 1897, p 442; *Hastings Manuscripts*, p 149.

[34] C J Bond, 'Deserted Medieval Villages in Warwickshire: A Review of the Field Evidence', *Trans Birmingham and Warwickshire Arch Soc*, LXXVI, 1974, p 94. I am most grateful to Mr Bourne Wathes, the present resident of Drakenage Farm, for kindly allowing access to the site, and also to Christopher Dyer and Simon Penn for accompanying me and giving the benefit of their expertise. I am also grateful to the members of the Kingsbury Historical Society for sharing their knowledge and resources on Drakenage's later development.

their frequent appearances as witnesses in gentry deeds and by the equal frequency of gentry acting as witnesses for them.[35] It is from 1472 that John Dey styled himself a gentleman, a title borne by his son Thomas, who seems to have continued his father's activities.[36] After the 1480s the main branch of the family apparently left the area, although certain relatives lingered at Lea Marston well into the following century, and a succession of new farmers, who were also graziers, came to Drakenage. Without sensationalizing or overdramatizing, Drakenage, the centre of this grazing activity, is one of the few deserted villages of the Forest of Arden, possibly although not probably, a parallel with some of the Feldon villages such as Kingston, depopulated because of the profitability of animal grazing.[37]

The Baillys of Middleton were another peasant family who were able to acquire considerable lands and wealth through cattle grazing. The founder of the dynasty was Robert Aston, bailiff of Middleton, who in 1362 was the recipient of a seignorial grant of a messuage, croft, two acres, and six selions of land.[38] Later deeds make it clear that the family soon became known as Bailly and occasionally as Bailiff, reflecting their original role as manorial officials. Robert's son, Philip, increased the size of their holding between 1391 and 1400. In 1391 he leased the Courthouse and attached land in Middleton. Six years later he took on the holding of John Gresbrook in the same manor. By 1400 he was styling himself as 'of Tamworth' a move perhaps reflecting his increasing wealth.[39] He possessed assets from which he frequently advanced loans of money, although, unfortunately, no sums are given in the court rolls. A chance reference makes clear his likely source of revenue as in 1407 he was recorded as having sixty cattle.[40]

In 1411, probably after his death, his son Thomas had his father's lands in Middleton confirmed to him. These included two messuages, two crofts, one toft, thirteen acres of arable, meadow land, and 40*s* worth of pasture.[41] Thomas added to this by taking a toft and croft in 1415, and in 1417 another croft and lands, while by 1420 he was leasing considerable parts of the demesne.[42] In a rental of 1420 his own holding was given as a messuage, a rood and a garden, a croft and meadow, and a cottage with a curtilage worth 11*s*, but he was leasing demesne meadow and pasture worth £3 8*s* 4*d* a year.[43] Philip and Thomas Bailly both joined the gild at Lichfield and also witnessed gentry deeds.[44] In contrast to the Deys their lands were centred in one manor, but like the Deys they abruptly disappeared from the area. Although by 1450 there were at least five men with the surname of Bailly in Middleton, a 1524 tithe account, listing all the households in the parish, records not one.[45]

Before the detailed probate inventories starting in the sixteenth century it is extremely difficult to draw any precise conclusions about the livestock keeping of 'ordinary' peasants. Although the evidence is limited, it has been generally accepted that in the post-plague period livestock ownership became more widespread and disseminated throughout peasant society.[46] In the north Arden cattle were the type of animal most commonly owned by the peasantry. A comparison of strays in court rolls for the area between 1350 and 1500 suggests a ratio of about three cattle to

[35] NUL MiD 4238, MiD 4239, MiD 4241.
[36] NUL, MiD 4241; BRL, Norton MSS 92.
[37] M W Beresford, 'The Deserted Villages of Warwickshire', *Trans Birm Arch Soc*, LXVI, 1945–6, pp 49–107; R H Hilton, *The English Peasantry in the Later Middle Ages*, Oxford, 1975, pp 169–73.
[38] NUL, MiD 4427.
[39] NUL, MiM 131/31, MiD 4446, MiD 4447.
[40] NUL, MiM 131/29 – MiM 131/33, *passim*, MiM 131/34.
[41] NUL, MiD 4454.
[42] NUL, MiDa 87, MiD 4455, MiM 175, MiM 214.
[43] NUL, MiM 175, MiM, 214.
[44] Lichfield Joint Record Office, D 77/1, fo 70; NUL, MiD 4445; SBT, DR 10/518.
[45] NUL, MiDa 91.
[46] C Dyer *Lords and Peasants in a Changing Society*, Cambridge, 1980, pp 323–4.

every sheep, which is unlikely to be a true reflection as sheep were notoriously prone to stray.[47] Late fifteenth-century tithe accounts for Mancetter suggest widespread cattle ownership with 87 per cent of holdings paying for them at Hartshill, 75 per cent at Oldbury, and 67 per cent at Mancetter. Similarly, tithe accounts for Middleton in 1524 show that out of forty-three households only two did not pay tithes for cows or calves.[48] Incidental references, mainly recording trespasses, show that some peasant cattle herds were reasonably large, and comparable in size with many found on demesnes. In 1350 a herd of thirty was recorded at Hampton-in-Arden, twenty-six oxen at Tanworth-in-Arden in 1380, herds of twenty-three, twenty, and sixteen cattle at Erdington in 1350 and 1379, and smaller herds of sixteen in 1360, and fifteen, and thirteen in 1375 at Wroxall.[49] Small herds of between ten and twenty approximating to the averages suggested by Skipp for the Arden in the mid-sixteenth century would therefore seem to have been common in the previous century and a half.[50] The tithe accounts also show the presence of at least one and often two milch-cows on most holdings even in the town of Atherstone. Much of this dairy produce would have been for subsistence but the Mountford and Willoughby household accounts record a thriving trade in milk, butter, and cheese, with peasant producers supplying gentry households either directly or through local markets.[51] By the time of Defoe, Warwickshire was renowned as one of England's foremost cheese counties, with Atherstone especially prominent. As with many early modern developments the origins of this seem firmly rooted in the later Middle Ages.[52]

III

The importance of animals within the Forest of Arden meant a considerable acreage was devoted to hay and fodder crops. Accounts indicate most seignorial households keeping livestock had more animals than they were able to feed from their own resources. Obviously all animals required winter feeding but the most specialized requiring oats were horses and oxen, the latter infrequently mentioned in the Arden. Cattle were mainly fed hay, which although cheaper could still cause problems depending on how much meadow was available, and often extra hay was bought in. Sheep, pigs, and poultry also needed winter forage and along with cattle and dog packs were frequently given peas and beans, while substitutes such as browse wood, twigs, holly, acorns, and nettles could be given to cattle.[53]

The Duke of Buckingham's household in the 1450s had to buy in considerable quantities of fodder and bedding to maintain the ducal string of horses, beasts of the chase, and their domestic animals. Well over one hundred carts of hay were received in a year, with an outlay of £14 to £18 not being uncommon.[54] In 1454–5 the household purchased 300 cartloads of hay, thirty-two cartloads of straw, 140 quarters, and two bushels of oats worth £18 7*s* 11*d*, and even in a comparatively slack year, 1453–4, paid twenty-seven local peasants £9 19*s* 5½*d* for oats, barley, and straw.[55] Some were able to make consider-

[47] For sources see Table 3. The court rolls list 316 stray bovine animals but only 99 sheep and lambs.

[48] PRO, E 101 519/31; NUL, MiDa 91.

[49] PRO, SC 2/207/31; Bod Lib, MS Top Warwickshire c 1, fo 68; BRL, DV 327 247853, DV 327 347856; PRO, SC 2/207/94, SC 2/207/95.

[50] V H T Skipp, *Crisis and Development*, Cambridge, 1978, pp 89–90.

[51] SBT DR 37/73, NUL 5/167/101, MiA 9, MiA 14, MiA 15, MiA 20.

[52] A Dyer, 'Warwickshire Towns Under the Tudors and Stuarts', *Warwickshire History*, III, 1976–7, pp 122–34.

[53] WCRO, CR 136/c150, CR 136/c152, CR 136/c154; NUL, 5/167/101; Trow-Smith, *op cit*, pp 117–8; J Radley, 'Holly as Winter Feed', *Ag Hist Rev*, 9, 1961, pp 89–92; M Spray, 'Holly as Fodder in England, *ibid*, 29, 1981, pp 97–9.

[54] SRO, D 641/1/2/271 records in 1444–5 £14 paid for 120 cartloads of hay for the lord's cattle and SRO, D 641/1/2/275 records in 1475–6, 198 carts of hay.

[55] SRO, D 641/1/2/272, D 641/1/3/4.

TABLE 1
Land use recorded in the Forest of Arden in Final Concords

	Arable	*Meadow*	*(in acres) Pasture*	*Woodland*	*Miscellaneous*	*Total*
1345–65	1584	138	58	227	–	2007
	(79%)	(7%)	(3%)	(11%)	–	(100%)
1390–1410	1160	113	38	73	40	1424
	(81%)	(8%)	(3%)	(5%)	(3%)	(100%)
1440–60	382	66	369	3	2	822
	(46%)	(8%)	(45%)	(0.6%)	(0.4%)	(100%)
1490–1509	1723	276	2027	254	–	4280
	(40%)	(6%)	(48%)	(6%)	–	(100%)

Source: *Warwickshire Feet of Fines*, Volume III, 1345–1509. L Drucker (ed), Dugdale Society, XVIII, 1943.

able amounts of money, such as William Harries of Coton, who was paid 20*s* for oats or Henry Porter of Maxstoke who received 17*s* for hay. Similarly the livestock keeping of other members of the gentry and nobility stimulated the cereal and hay cultivation of local peasants. The Mountfords, Binghams, Astleys, and Frevilles all bought in extra grains, hay and straw for their herds.[56] This must have stimulated other cereal growing sectors within local rural society, while the demand for fodder and bedding must have extended downwards from the gentry through the ranks of the butcher-graziers to the peasants within the villages and hamlets.

The emphasis on animal husbandry therefore encouraged a particular type of cereal production. This in turn helped to keep land in arable cultivation. Obviously there had been changes in land use in the Arden during the period. The best indication of this is given by the type and amount of land recorded in concords. These are an imperfect source as they do not represent a reflective sample of all land in the area but they do broadly indicate the underlying trend. Table 1 suggests that the decisive movement towards pasture in the Arden came in the period 1410–30. However this shift may have come earlier as demesnes at Middleton, Lea Marston, and Tanworth-in-Arden consisted entirely of pasture by the early fifteenth century.[57] Although there was a shrinkage of arable acreage it showed a degree of stability in the latter two-thirds of the century, and such movement away from arable was not nearly so pronounced or so progressive as in the Feldon. As the number of animals kept in the area was rising throughout the fifteenth century, as is witnessed in the frequent complaints of overstocking, trespasses, and stints, the demand for fodder must have correspondingly increased, both in arable cultivation and in the nurturing and mowing of meadows for hay.[58]

The predominance of animals in the Arden may even have influenced the types of crops grown. Grange extents provide the best source of any comparison between the Arden and Feldon. Table 2 compares the types of crop recorded as harvested on nine Feldon and Avon Valley demesnes and eight Arden manors between 1353 and 1431. There are clear differences in the types of cereal, with pulse, maslin, and dredge being more significant on the Feldon demesnes but the major difference

[56] SBT, DR 37/73; NUL 5/167/101; WCRO, CR 136/c150, CR 136/c151, CR136/c153, CR 136/c154; NUL, MiM 165.

[57] NUL, MiM 167, MiM 175, MiD 4227; BRL, Norton MSS 53; SBT, DR 37/107/1.

[58] Dyer, *Warwickshire Farming*, p 31; WCRO, MR I, NUL, MiL 5; WCRO, MR 13/35; NUL, MiM 133/11; BRL, DY 327 347863; Norton MSS 52; NUL, 5/169b/17; WCRO, CR 1886/298; SBT DR 3/791.

TABLE 2
Types of Crops Harvested in Warwickshire Grange Extents 1353–1431

Feldon and Avon Valley	*Quarters*	%
Wheat	851	29
Rye	60	2
Barley	499	17
Maslin	22	1
Pulse	108	4
Dredge	660	22
Oats	316	10
Peas and Beans	445	15
	2961	100

Arden	*Quarters*	%
Wheat	704	36
Rye	107	5.5
Barley	128	7
Pulse	10	0.5
Dredge	169	9
Oats	258	13
Peas and Beans	562	29
	1938	100

Note: Quantities of grains have been rounded up or down to the nearest quarter. Similarly, where practical, percentages have been rounded up or down.

Sources: *Feldon and Avon Valley*, 32 extents: Oversley, SBT, DR 5/2254; Lighthorne, SBT, DR 98 672 a-d, 674 & a, 685; Snitterfield, BL, Eg.Roll 8624 (I am indebted to Christopher Dyer for allowing me to make use of his transcriptions of the above documents); Sutton-under-Brailes, GCRO, D1099/M31/44–54; Great Chesterton, SBT, DR 98/393b; Budbroke, WCRO, CR 895/11–16, 18–29; Brandon; PRO, SC 6/1038/9; Birdingbury, Devon Record Office, 248/M6 (I am indebted to Dick Holt for drawing my attention to this document); Radbourne, 'The *Status Maneriorum* of John Catesby', pp 23–8. *Arden*: 18 extents: Astley, WCRO, CR 136/c 150–2; Middleton, NUL,MiM 165; Maxstoke, Bod Lib Trinity MS 84, SBT, DR 37/114, PRO.SC 6/1040/9–11; Fillongley, PRO, SC 6/1040/8; Shustoke, PRO, SC 6/1040/19; Knowle, PRO, SC 6/1040/1–2; Nuneaton, BL, Add Roll 49753; Baddesley Clinton, SBT, DR 3/802,805.

between the two is the greater importance of peas and beans in the Arden. The demesnes at Astley and Middleton often had 45–50 per cent of their total harvest in legumes, and a greater part of this was consumed within the manor by servants, pigs, poultry, and cattle.[59]

Sparse and terse as the records for demesne production are they are positively eloquent when compared to the paucity of information on Arden peasant cereal cultivation. Only a few details survive, much for that being destroyed by trespassing. Table 3 shows the references to peasant crops destroyed by the actions of fellow peasants and their animals in the court rolls of thirteen Arden manors, and while this obviously is very imprecise it gives a reasonable impression of the crops grown. The goods of two Middleton men give a similar indication of the range of grains sown. In 1407 Laurence Scott was arrested and in his barn there were found peas and beans, oats, dredge, and hay, as well as two harrows, and other agricultural implements worth £2, while in 1423 John Gammel had the misfortune to have his wheat, barley, oats, peas, and beans destroyed by trespassing animals.[60] Interestingly, Hilton noticed an increase in the amounts of peas and beans grown both on demesnes and peasant holdings in champion parts of neighbouring Leicestershire during the fifteenth century, which in part he attributed to the need for livestock fodder.[61]

Others may have concentrated more on particular crops such as wheat for sale or barley for brewing. The Buckingham accounts suggest that oats were cultivated on a considerable scale by peasant producers, while other accounts show that oats were an important commodity in the

[59] WCRO, CR 135/c150–2; NUL, MiM 165.
[60] NUL, MiM 131/34, MiM 131/38b.
[61] R H Hilton, *The Economic Development of some Leicestershire Estates in the Fourteenth and Fifteenth Centuries*, Oxford, 1947, pp 64–6.

TABLE 3
Instances of Peasants' Crops Damaged by Trespass in the Forest of Arden 1350–1500

Crop:	*Wheat*	*Barley*	*Rye*	*Oats*	*Dredge*	*Peas & Beans*
References	33	11	8	17	8	26

Sources: Atherstone, WRCO, MR 13/1–35; Baddesley Clinton, SBT, DR 3/78–97; Erdington, BRL, DV 327 347853–347867; Kingsbury, NUL, MIL5, MiM 130/1–2; Lea Marston; BRL, Norton MSS 51–116; Middleton, NUL, MiM 131/25–49; Moxhull, WCRO, MR1; Nuneaton, BL Add Rolls 49530–49555; Stoneleigh, SBT, DR 18/30/24/8–44; Sutton Coldfield, NUL, MiM 134/1–18; Tanworth-in-Arden, Bod Lib, MS Top Warwickshire C1, SBT, DR 37/109; Temple Balsall, WCRO, CR 112/Ba 518–21, 363; Wishaw, WCRO, MR 2; Wroxall, PRO, SC2/107/94–97.

markets at Birmingham, Coleshill, Atherstone, Tamworth, and Solihull.[62] Wheat, barley, and legumes feature prominently in debt litigation in the towns of Atherstone and Nuneaton suggesting a considerable volume of traffic in these.[63] Hay must have been one of the major crops of the Arden and on many holdings a high percentage of acres must have been under grass.

With the abundance of small crofts and closes in the Arden and the relative minority of the open field land the nature of cereal production differed markedly from the Feldon. As legumes have a considerable replenishing value to soil, adding nitrogen, the large numbers of livestock, and their manure, should in theory have helped the fertility of the land. Campbell has suggested that in fourteenth-century Norfolk the best ratio of yields was given on small holdings, where labour imput was both high and intensive. It was also an area where legumes were grown in quantity and manuring and marling were common.[64] The later medieval Arden would seem to have some similarities with fourteenth century Norfolk having small units of production, mutually beneficial crops and widespread manuring.

The yield of only one peasant holding in the Arden is known, that of John Kent of Stivichall in 1481, which has been comprehensively described by Christopher Dyer.[65] This is difficult to process because of the unknown yields of the crops and the problem of ascertaining how much of the holding was under the plough. Kent grew dredge, rye, and barley, but paradoxically no legumes, slightly under half his crop was oats, easily the worst yielding grain. When these are taken into account it would seem that his yield was somewhere between eleven and twenty bushels an acre, with the latter probably being a truer reflection of his harvest. Even though this is poor compared to modern expectations it is far better than the miserable yields recorded on demesnes and present holdings elsewhere in Warwickshire, which may support Campbell's view that under certain conditions peasant yields could be superior to those of the demesnes.[66]

IV

There are now encouraging signs that after a period of serious neglect, interest is being renewed in medieval pastoralism, and this will undoubtedly help to provide a more complete picture of the English economy in the later middle ages.[67] The nature of cattle grazing in the Forest of Arden was different from other areas already studied.

[62] SRO, D 641/1/3/4; NUL, MiM 165; SBT, DR 37/73; WCRO, MR 13/2; MR 13/3, MR 13/14; PRO JI 1/977.

[63] WCRO, MR 13/2, MR 13/3, MR 13/14, MR 13/25, MR 13/30; BL Add Roll 49530, 49530, 49551, 49578.

[64] B M S Campbell, 'Agricultural Progress in Medieval England: Some Evidence from East Norfolk', *Econ Hist Rev*, 2nd ser, XXXVI, 1983, pp 27–34.

[65] Dyer, *Warwickshire Farming*, pp 29–30, note 92.

[66] *ibid*, p 14; Hilton, *The English Peasantry*, pp 201–2.

[67] M Mate, 'Pastoral farming in South-east England in the Fifteenth Century', *Econ Hist Rev*, 2nd ser, XL, 1987, pp 523–36; I Blanchard, 'The Continental European Cattle Trades, 1400–1600', *Econ Hist Rev*, 2nd ser, XXXIX, 1986, pp 427–60.

The landscape contrasted with the upland slopes of Northern England and in the Arden grazing was not based on rough moorland pasture suitable for little else. Obviously summer and winter pasturing found on the de Lacy vaccaries in Rossendale or in Wales with the system of *hafod* and *hendre* was not necessary in Warwickshire. Instead Arden grazing was on comparatively good quality pastureland, often which had lapsed from arable use, in compartments within seignorial parks and in enclosed fields. The size of herds also contrasted with some of those recorded in the North, where vast herds, such as the de Lacy's 2423 head of cattle pastured in Rossendale in 1296, were often maintained.[68] In the Arden grazing was on a much smaller scale and more diversified socially, practised by powerful peers, such as Buckingham, by members of the gentry and by peasant families such as the Deys and Baillys. The numbers of animals involved were also comparatively small with herds of even a hundred rare in the Arden.

The continuous nature of the records of the Duchy of Lancaster's Derbyshire estates enabled Blanchard to suggest that although the general trend was for an increase in pastoral activity in the fifteenth century, there were considerable fluctuations with booms and slumps at twenty-year intervals.[69] The lack of a continuous series of records for any of the Arden estates makes it difficult to establish a chronology of the development of cattle grazing in the area. The records which do survive giving exact animal numbers are concentrated in the late fourteenth and early fifteenth centuries, and similarly most references to peasant herds occur in the late fourteenth century. However, the evidence of the final concords and the crescendo of material relating to stints and overstocking in court rolls suggests the major expansion of cattle grazing in the Arden began in the second quarter of the fifteenth century, a growth that continued at a variable pace into the next century. The Derbyshire material also suggests that pastoral farming could be localized. Blanchard identified the years 1448–56 as witnessing a slump in pastoral activity in Derbyshire, yet this was the period in which John Brome was most active in cattle fattening in the Arden. Similarly Blanchard saw stagnation in Derbyshire between 1465–75, whereas during this time in the Arden the Deys rose to the height of their grazing activities.[70]

The cattle raising in the Forest of Arden represents only an intermediate stage of a more extensive network. The majority of animals coming into the area had Welsh origin and presumably after fattening many were moved on. Londoners buying fatstock from the Earl of Warwick's demesne at Wedgnok Park in 1431 and from John Brome in 1446, the aforementioned John le Deyster and London merchants active in smaller centres, such as Atherstone and Nuneaton, show that some Arden beef animals had London as their ultimate destination.[71] It would be extremely profitable to trace the animals in either direction, and would no doubt greatly add to our appreciation of medieval road traffic and long distance networks of trade.

The interpretation of the later medieval English economy has long been a source of difference among historians, with some seeing it as a period of decline, of stagnation, or of economic difficulties, while

[68] Trow-Smith, *op cit*, p 94; Kershaw, *op cit*, pp 97–105; R A Donkin, 'Cattle on the Estates of the Medieval Cistercian Monasteries in England and Wales', *Econ Hist Rev*, 2nd ser, XV, 1962–3, pp 31–53; L M Cantor (ed), *The English Medieval Landscape*, 1982, p 65; Birrell, *op cit*, pp 118–23; Bennett, *op cit*, p 71; Wright, *op cit*, pp 19–21; J R Birrell, 'Medieval Agriculture', in *VCH Staffordshire*, VI, pp 10–11; G H Tupling, *The Economic History of Rossendale*, Manchester, 1927, pp 11–26.

[69] *The Duchy of Lancaster's Estates in Derbyshire 1485–1540*, I S W Blanchard (ed), Derbyshire Arch Soc Record Series, III, 1967, pp 1–15.

[70] *ibid* p 11, SBT, DR 3/801, DR 3/803.

[71] WCRO, CR 1886/488; SBT, DR 3/801; *Calendar of Patent Rolls, 1422–29*, p 238; *Calendar of Patent Rolls 1467–77*, p 440.

others have seen it as a time of unrivalled opportunities for growth. Many agree that forest areas were generally more buoyant economically in the fifteenth and early sixteenth centuries than the champion countryside where decay, abandonment, and engrossing were more widespread.[72] Woodland landscapes were also less affected by the profound changes in rural society during this period and in many instances provided a refuge for those fleeing from Feldon areas. In contrast to large scale sheep farming which on many occasions was destructive of the established rural economy, such as in south Warwickshire, cattle raising, particularly in the Forest of Arden, strengthened the rural economy in a period of agrarian difficulty and change. More detailed studies are now required of other areas where benign pastoral economies existed. These, if not leading to a reappraisal of the fifteenth century economy, would at the very least greatly enhance our knowledge of one of the most seriously neglected, yet most important, parts of later medieval agrarian history.

[72] J Thirsk (ed), *The Agrarian History of England and Wales, IV, 1500–1640*, Cambridge, 1967, pp 409–11, 422–8, 431–51; Skipp, *op cit*, pp 7–8, Phythian-Adams, *op cit*, pp 24–5.

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Jethro Tull I, II, and III

By NORMAN HIDDEN

Abstract

Although Jethro Tull has been recognized as an important innovatory figure in agricultural methods in the eighteenth century, little has been written concerning his origins and social background; and much of that is either vague or inexact. From genealogical and other research, new information is provided concerning the family background of Jethro Tull. In particular the three Jethro Tulls who overlapped in time and place (especially with regard to Prosperous Farm) are distinguished. Some revision is suggested in the date of Tull's commencement at Prosperous Farm and of his journey to the continental vineyards. This and other additional background information throws light both on Tull's personality and behaviour and on his need to innovate in order to convert Prosperous from sheepdown to arable.

ALTHOUGH Jethro Tull the agriculturist was one of the great innovatory figures of the early eighteenth century, his origins, social background, and many other aspects of his life have remained obscure. Works concerning Tull have, quite naturally, concerned themselves primarily with his theories and practice; his ancestral and social origins have been concealed from his biographers, and several events in his life which clearly have a bearing on the development of his practice and theories or on their relationship to each other have been ascribed to speculative rather than exact or proven dates. The fact is that the sources of information concerning Tull's life are skimpy, and later accounts tend to follow earlier ones blindly and without necessary verification.

The earliest information we have is to be found in scattered remarks made by Tull himself in the various editions of his *Horse-Hoeing Husbandry*. The object of many of his autobiographical remarks was almost wholly defensive, to rebut what he considered unfair attacks upon his farming practice. Used in this controversial context his autobiographical remarks are inevitably limited, revealing only that which he wished to reveal to the outside world and then simply to refute a specific inaccuracy by one or other of his opponents. Nevertheless these occasional sentences in the text or in the footnotes of his work are the major primary material which provides us with some details of his personal life and background, scanty though they are. These scattered notes and addenda were collated in William Cobbett's edition of 1829, making it the most convenient edition to use overall.[1]

The next source of information is to be found in an article written by one DY of Hungerford and published in the *Gentleman's Magazine* in 1764. The identity of D Y is not known, but he claims to have been 'personally acquainted' with Tull and, if the ascription 'of Hungerford' is true, he lived in the same parish and was therefore in a good position to know something of a personal kind concerning the subject of his article. Nevertheless, there are many details which he takes on trust from the scattered autobiographical details given by Tull himself.[2]

The third source of material for Tull's life is Earl Cathcart's article in the *Journal of the Royal Agricultural Society*, 1891. This article bases itself on the diary of Cathcart's ancestor, an earlier Earl Cathcart who befriended and encouraged Tull during his lifetime.[3]

On these three sources – Tull himself, D Y of Hungerford, and Earl Cathcart – all subsequent biographies have based themselves, adding thereto little of consequence. The *Dictionary of National Biogra-*

[1] Jethro Tull, *The Horse-Hoeing Husbandry*, ed. Cobbett 1829.
[2] D Y, *The Gentleman's Magazine*, 1764, pp 522–526.
[3] Earl Cathcart, 'Jethro Tull', *JRAS*, 3rd series, II, 1891.

phy contains an article which summarizes the information up to the date of its publication. In 1973, Dr G E Fussell wrote a volume *Jethro Tull: his influence on mechanised Agriculture*, in which he devoted a chapter to Tull's biography, and in it he reveals some of the many uncertainties and confusions which have existed and which he himself is unable to explain away.[4]

Some of the main confusions and uncertainties concern Tull's parentage, his father's place of origin, his social and financial standing; the date and place at which Tull himself commenced farming; the date at which he removed from Howberry to Prosperous Farm in Shalbourne; the true date of his extensive tour abroad to Montpellier and the French vineyards; and even the exact date and place of his death.

I

The *Dictionary of National Biography* states that Jethro Tull was born at Basildon in Berkshire in the year 1674, the son of Jethro and Dorothy Tull. And indeed there is an entry in the Basildon parish register recording a baptism on 30 March 1674 which confirms this. After this date, however, there are no further entries in the Basildon register which might indicate that the family were settled in the parish and thus the probability that young Jethro spent his boyhood there.

G E Fussell in his life of Jethro Tull is aware of this difficulty. 'How the family became connected with Basildon was not known in 1889' (presumably the date of publication of the *DNB* article), he writes.[5] In fact, however, the connection with Basildon is explicable, and in what is the most likely way. It was in Basildon in June 1672 that Jethro Tull married Dorothy Buckeridge. The Buckeridges were a Basildon family and Basildon was the bride's parish.[6] A search of neighbouring parish registers reveals that Jethro and Dorothy had a daughter, named Dorothy, baptized in the parish of Bradfield on 5 February 1676. Bradfield is the parish immediately south of Basildon; and this rather than Basildon, was the home of the Tulls.[7] The next baptism we have for a child of Jethro and Dorothy Tull, however, is in a parish as far removed in Berkshire as it was possible to be. This was the baptism of Elizabeth, daughter of Jethro and Dorothy Tull, at Shalbourne 14 April 1679.[8]

Shalbourne was the site of Prosperous Farm; it lies at the extreme southwest of the parish of Hungerford and is partly in Wiltshire and partly in Berkshire. The question arises as to what was Tull senior's connection with Shalbourne at this date, and whether he was farming Prosperous Farm there. Indeed Fussell asks whether the connection may not have been even earlier, pointing out that the 1664–6 (*sic*) *Visitation of Berkshire* mentions a Jethro Tull of Shalbourne 'who married Mary, daughter of one Farmer of Cholsey, whose Christian name is not stated'.[9] But it is stated, revealing that Fussell had not consulted his primary sources. The *Visitation* shows that Jethro Tull of Shalbourne was the son of Giles Tull of Midgham, Berks; that he had an elder brother James of Bradfield, Berks, and a younger brother Giles; and that he married Mary daughter of Jeffery Farmer of Cholsey, Berks. That these facts are correct is certified by Jethro Tull himself.[10]

The *Victoria County History of Berkshire* confirms this marriage, indirectly, by its entry concerning the advowson of the church of Cholsey, possession of which was shared in 1682 by Mary, 'daughter of

[4] G E Fussell, *Jethro Tull: his influence on mechanized Agriculture*, Reading, 1973.
[5] Fussell, *op cit* p 6.
[6] Berks RO, Basildon Parish Register 3 June 1672.
[7] Berks RO, Bradfield Parish Register 18 Jan 1635, 1 Jan 1644 etc.
[8] Wilts RO, 534/1 Shalbourne Parish Register 14 April 1679.
[9] Fussell, *op cit* p 6.
[10] *Visitation of Berkshire 1665/6*. Harleian Soc, LVI, p 297.

Geoffrey Farmer and wife of Jethro Tull'.[11]

The possible awkwardness of a daughter born to Jethro and Dorothy Tull in 1679 and a Jethro Tull with a wife Mary in 1682 seems to have raised no queries from the biographers of the son of Jethro and Dorothy. One would expect them to have searched for a burial entry between those years which would confirm the death of Dorothy. In such searching they might have discovered, but obviously did not, that there exists a foot of fine in 1678, in which Jethro Tull and his wife Mary sold land in Hungerford, Inkpen and Shalbourne to Sir William Jones, Attorney General.[12] Only two conclusions seem to present themselves: either Jethro Tull was a bigamist or there were two Jethro Tulls, both associated with Shalbourne. Still further search uncovers a case in Chancery in 1678 in which Jethro Tull was a defendant in a suit brought by Frances Farmer widow of Jeffery Farmer, in which a copyhold in Cholsey was involved and concerning the administration of the estate of the late Jeffery Farmer.[13]

Depositions in yet another suit claim that in January 1674 an agreement or treaty was made between Griffith Jones of Radnorshire, Wales, and Jethro Tull of Cholsey, Berks, gent, for a marriage to be solemnized between Jones's son and Elizabeth Goddard, daughter and heir of Vincent Goddard, late of Howberry, Oxon. Esq. deceased, Jethro Tull having married Mary, Elizabeth's mother.[14]

Clearly, if there are two Jethro Tulls at this time, one married to Dorothy Buckeridge and one to Mary Farmer, both having associations with Howberry as well as with Shalbourne, it becomes difficult to be certain of the exact origins of Jethro Tull the agriculturist. And if the Jethro Tull of Cholsey married Mary Farmer how is it he is now revealed as married to Mary Goddard? The answer to this is fortunately simple. Mary Farmer first married Vincent Goddard; and subsequently, following Vincent's death,[15] she became the wife of Jethro Tull. For the purpose of this article it may now be convenient to label Jethro Tull who married Mary Goddard née Farmer as Jethro Tull I and Jethro Tull who married Dorothy Buckeridge Jethro Tull II. Jethro Tull the agriculturist will then be Jethro Tull III.

II

Which of the Jethros I and II was the Jethro Tull who was holding Prosperous Farm in the years prior to its occupation by the agriculturist Jethro Tull III? Deeds in the Wiltshire Record Office connect Jethro Tull II and his wife Dorothy with Prosperous Farm in 1686.[16] Deeds formerly in the Berkshire Record Office but now in the Wiltshire Record Office relate to a Jethro Tull in the area in 1674 and earlier.[17] The biographers of Jethro Tull the agriculturist (Jethro III) have simply merged the two men into one. They have not only missed details in local parish registers (more accessible nowadays than in theirs), but they seem to have been unaware of the rich source of material in the records of the court of Chancery which concern Jethro Tull I, II, and III.

Deposing in a Chancery suit which occurred in 1676, Jethro Tull I describes himself as of Cholsey, Berks, gent, aged 60 or thereabouts. He had been employed by Thomas Hussey senior in receiving and collecting the rents and profits of Hussey's estates in Hampshire, Berkshire and Wiltshire for nearly twenty years before the latter's death, (which occurred in 1657). He continued in this capacity during the lifetime of Hussey's son, Thomas Hussey

[11] *Victoria County History, Berks*, III, p 302.
[12] Public Record Office: CP25/2/29–30 Charles II, Hilary term.
[13] PRO, C22/249/5.
[14] PRO, C5/169/38.
[15] PRO, PCC Will, Vincent Goddard 1657.
[16] Quoted by Fussell, *op cit*, p 21.
[17] Wilts RO, 1883/127.

junior (who died in 1661) and again for his heir William Hussey, who in 1668 relinquished the estate to a group of trustees headed by Sir Robert Mason. Tull was employed by them in a continuing capacity until about 1673.[18]

In the management of these estates Jethro Tull was the one continuing element, a trusted agent who served one master after another. His indispensability was recognized by substantial annuities bequeathed in the wills of both Thomas Hussey senior and Thomas Hussey junior. Business transactions, including the sale or lease of properties, were carried out by Tull on behalf of his employers. He was the centre of a whole web of estate affairs; the network was complex and intricate and its management full of difficulties.

The difficulties arose from the fact that the ancient family of Hussey lived above its income, as the suit Elwes v. Wall makes plain. According to Jethro, Thomas Hussey senior was indebted at the time of his death to several persons for considerable sums of money upon mortgage bonds and otherwise amounting to £23,000 and about £1000 in addition on his own account.[19] Jethro's account is honest and lucid. The trustees 'could not raise money out of the estate to pay the testator's debts, annuities and legacies as fast as they were demanded or called for and to pay fines for renewing leases, but were forced from time to time to prevent suits or damage to the estate to take up several great sums of money upon their own bonds or security at interest for payment of the said debts, annuities or legacies'. It would seem that the affairs of the trustees and of Jethro himself, their friends and acquaintances all became involved in the affairs of the Hussey estate as lenders or borrowers or sureties. The juggler given the task of keeping all these balls in the air was Jethro Tull. The principals who employed him quarrelled among themselves and were unwilling or unable to adjust themselves to the growing crisis.

The point was reached where the profits of the estate were not sufficient to pay the interest and brokerage of the debts and the inevitable crash came in or about 1673–4. Tull, whose hand was in everything, went down first. Sir Bulstrode Whitelocke, Cromwell's former ambassador to Sweden, who had been encouraged by Tull (as agent for Hussey's trustees) into the purchase of Chilton Park and the manor of Hidden a few years previously, notes in his diary on 1 May 1674: 'More [news] of Mr Tulle's being broke'. It caused trouble for Whitelocke for he, too, had been a surety in one of Tull's deals on behalf of the Hussey estate.[20]

During the period of collapse Tull's own lands were being sold off in a desperate attempt to bring the financial crisis under control. In 1674 Tull signed a release of Anvilles Farm, and another of Helmes Farm to Sir William Jones.[21] In 1677 he released his rights in Helmes Heath to Sir John Elwes, one of Hussey's trustees, and in 1677/8 he released to Sir William Jones all his estate in Old Anvilles. These properties were all in the immediate neighbourhood of Prosperous Farm, and it would seem that Jethro, by various purchases or gifts from the Husseys, had been building up a small but conglomerate estate of his own in an area to which he may have had a special attachment. Any such ambition was now dashed.

When news of his misfortune broke everyone turned on the hapless agent. He was involved either as a principal or as a deponent in a succession of law suits[22] and for the remainder of his life Jethro Tull I had to dodge his creditors. One of them

[18] PRO, C24/1012 pt 1.
[19] *ibid.*
[20] R Spalding ed, *Diary of Bulstrode Whitelocke* [in preparation OUP].
[21] Wilts RO, 1883/127.
[22] PRO, C22/803/50;C22/101/16;C22/249/5;C24/1012;C5/169/38.

pursued him from Wales to Cholsey where he found only his wife Mary. Mrs Tull told the weary seeker that 'her husband had not been there once for a long time before, neither could she tell him where to send unto him'. Another deponent in the same suit asserted that 'it is commonly reported that Tull is far indebted and engaged deeply to many creditors that he hath by reason of his own debts and suretyships for others passed and conveyed all his estate to some trustees under colour of bargains or privately that thereby he might avoid the payment of his debts . . . it is also commonly reported that he doth abscond and hide himself in some privileged places (or places said to be privileged) from arrest lest he should be arrested'.[23]

In 1688/9 Tull was in Midhurst, Sussex[24] and there he died, being buried on 23 September 1691. The burial record is taken from a typed transcript made by W H Challen and, typical of the confusion which surrounds and clings to the name Jethro Tull, it has been mistranscribed as Jethro Full![25]

II

His busy, active life may seem to have ended in failure. But he never gave up his ambition to establish a Tull estate in that hilly corner of Berkshire adjoining the lands of his former employers. Somehow he contrived to squeeze out of his losses a farm in the area which he boldly called (or which by amazing chance was called) Prosperous. He was able to do this by transferring the farm to Jethro Tull II before his creditors could get at it. A letter written by Jethro I to Jethro II and dated 25 May 1680 says 'I owe you for my own dyett [diet] and for my horse ever since you came to Prosperouse'.[26] The transaction seems to substantiate the deposition which referred to his use of 'trustees' to save some at least of his estate from the Tull/Hussey creditors. The letter (particularly when linked with the baptism in Shalbourne in 1679 of Jethro Tull II's daughter Elizabeth) makes it clear that Jethro II had settled into the property; and the acknowledgement by Jethro I of his debt for board and lodging suggests that he had granted the estate to Jethro II more fully than if he had appointed him as a nominal trustee only.

The use of the name Prosperous at this early date, long before the agricultural innovations of Jethro III, shows that the farm's name did not derive (as some may think) from the youngest Tull's success but was already in existence. The earliest use of the name I have been able to find is in a document of 1677 when Jethro Tull I is described as of Prospers farm.[27] It is certain that the farm, as such, did not exist before the time of Jethro Tull I. He seems to have created it from bits and pieces of land lying in and between other farms in the area, such as Helmes, Anvilles, Old Anvilles, and Helmes Heath. The latter was an area which had been subject to constant enclosures and one must suspect that Prosperous may have in part owed its origin to one or other of these enclosures.[28] Jethro III says that the farm was 'cut out of the skirts of others and a great part of the land was formerly a sheep down'; and elsewhere in his book he says that Prosperous was first made into a farm 'about seventy years ago', a statement that takes it back to the time of Jethro I.[29]

Since Jethro Tull I granted Prosperous Farm to Jethro Tull II, how close was their relationship? Although all previous writers have confused (or ignored) the relationship, usually considering Jethro I and Jethro II as one and the same man, the answer is quite simple. Jethro Tull I was

[23] PRO, C22/465/8.
[24] PRO, C24/1123.
[25] W H Challen, Typescript, vol XII, Guildhall Library, London.
[26] PRO, C22/920/24.
[27] Wilts RO, 1883/127.
[28] Berks RO. H/M5.
[29] Tull, *op cit*, pp 214, 386.

the brother of James Tull of Bradfield, and James was the father of Jethro Tull II.[30] The two Jethros, therefore, were uncle and nephew. As it was the uncle who had married Mary Goddard and the nephew who had married Dorothy Buckeridge it is clear that the father of Jethro Tull the agriculturist was Jethro II.

The family was evidently very close and in a deposition in 1698 young Jethro Tull III, then aged 24 and at Grays Inn, testifies on behalf of his father.[31] Also deposing is another James Tull, brother of Jethro II, who states that his uncle [Jethro I] 'did possess and live in a farm called Prosperent (?) farm in or near Shalborne or Bagshot and worth about £100 p.a., part freehold and part leasehold, and another farm of about £30 p.a. in or near Bagshot or Shalborne, Berks for about seven or eight years of his said uncle's life', and he believed his brother [Jethro II] had received rent from it ever since Jethro I's death. The last time James Tull had seen his uncle was at the Rose and Crown in the precinct of Whitefriars in London not long before the latter's death when his uncle told him that he had made over certain farms and premises to his nephew [Jethro II] in trust for the payment of his debts and seemed to complain that Jethro II had paid little of them.

Jethro II continued to hold his estate at Howberry throughout these crises. In 1691, about four years after he had acquired Howberry from Edmund Gregory (an associate of Jethro I), he was involved in a law suit concerning the rent charges and taxes on the property.[32] This is the first sign of his growing financial problems. It is also the year in which his uncle Jethro I died. Sheltered hitherto from legal and financial problems by his uncle's ingenuity and wide-ranging contacts, Jethro II now began to be plagued by lawsuits which had reached a peak in 1695 and in which his family affairs were exposed in all their shakiness.[33] The financial problems which brought down Jethro I were now close to bringing down Jethro II too. This was during those years when his son Jethro III was leading, successively, the life of an undergraduate at Oxford, a student of Grays Inn, and a young man about town in London. The fall of his great uncle Jethro I would have been ancient history but the effects of it were continuing and the financial predicament in which this involved his own family cannot have been but embarrassing, perhaps distressing, to a young man in a family so closely knit that the name Jethro (meaning in Hebrew, ironically, 'abundance') was passed down for three successive generations. The sudden reversal of the Tull family fortunes and its continuing reverberations may be the circumstances to which Jethro III referred when he wrote that 'accident, not choice, made me a farmer, or rather many unforeseen accidents'.[34]

In 1697 Jethro Tull II explains that he, his father James Tull, and his uncle Jethro I had had 'many dealings together and [had] been bound for one another in several bonds'.[35] When James died, he appointed both Jethro I and Jethro II as his executors. But it was Jethro I who undertook the administration, Jethro II then 'being a young man and but little acquainted with business'. Jethro II states that his uncle had satisfied all the debts owed by James and discharged all his bonds. He claims that the suits brought against him now were merely vexatious and that his time and money were being exhausted by his 'being forced to defend himself against a multiplicity of suits and be put to the charges of bringing his evidences often times to

[30] PRO, C22/920/24.
[31] *ibid.*
[32] PRO, C22/296/3.
[33] PRO, C22/920/23.
[34] Tull, *op cit*, p xi.
[35] PRO, C10/353/52.

the same matter at law'. A year later there were no less than four suits pending which involved Jethro II.[36]

Among the allegations made in the case in 1697 was one that Jethro II had undertaken to 'pay all his uncle's [outstanding] debts and on that condition got all the estate from his said uncle in his lifetime'.

III

Biographers of Jethro Tull III seem to have been unable to discover the date of his father's death. The actual date is of some moment in establishing when Jethro III may have inherited his father's estate in Howberry (and also the freehold portion of the estate in Shalbourne). It is possible that the estate, or a portion of it, was made over to him and his wife upon his marriage in 1699. The leasehold portion of the Shalbourne estate had been made over to him in 1704.[37] This transfer (a lease having been previously held by his father dated 1686) has led some biographers to assume that it was in this year 1704 that the father died. This was not so: Jethro Tull II died in 1713.[38]

Does the lease of 1704 mean that young Jethro began to farm Prosperous at that date while his father continued at Howberry until his death in 1713? The *Dictionary of National Biography* commences him at Prosperous in 1709, though for no given reason. No further reference has yet been found of Jethro II at Prosperous later than the 1686 lease; but there are various references to him in Howberry from 1688 onwards, corresponding with the suggested date of his acquisition of the farm at Howberry.[39] The new property there would certainly have taken up his time and energies. It was quite natural, therefore, that from Michaelmas 1686 to September 1691 Prosperous Farm should have been leased to a local tenant farmer named Smith, a lease which was then extended for at least another two years.[40]

It seems unlikely that the occupation of Prosperous Farm by Jethro Tull III would have been later than the 1704 lease, and his management of the farm might have been even earlier. If it is true that Jethro began his agricultural experiments at Howberry it seems that they must have been carried out between 1699, the date of his marriage, and 1704 when he and his wife acquired the new lease at Shalbourne. If the experiments did indeed cause hostility in his father's main estate at Howberry, this could well have been a cause for the father to feel the need to remove the son to another area where he could begin afresh. On the other hand there is a local tradition that Tull's seed drill was first used at Prosperous Farm. The claim was made by a later owner of the farm, Lt.-Col Wills, who showed the broadcaster-journalist Ralph Wightman the very pit or well into which, he claimed, the villagers had pushed the hated drill, having first smashed and broken it.[41]

There has been much speculation concerning the date of Jethro Tull III's journey to the Continent. Fussell gives April 1711 as his date of departure, basing it on Tull's own statement, 'and he is most likely to be correct, although memory is apt to play a man false'.[42] The *Dictionary of National Biography* dates his departure similarly and gives his return as in 1714.[43] If either of these statements were correct, one would wonder at the baptism on 13 October 1713 at Shalbourne of Tull's daughter Sarah.[44]

However, a different set of dates which makes much more sense is thrown up by the information given in yet another Chancery case in which Jethro III's bro-

[36] PRO, C22/920/34.
[37] Quoted by Fussell, *op cit*, pp 21–22.
[38] PRO, C11/975/2.
[39] PRO, C22/296/3; C22/920/24; C10/353/52.
[40] PRO, C10/353/52.
[41] Ralph Wightman, *Rural Rides*, 1957, p16.
[42] Fussell, *op cit*, p 20.
[43] *Dictionary of National Biography*, article on Jethro Tull.
[44] Wilts RO, 534/1, Shalbourne Parish Register.

ther-in-law states that Jethro, being seized of the Howberry estate in 1713 'and being in a very ill state of health was advised for recovery thereof to travel to Montpellier beyond the sea, which he accordingly did, but before he proceeded in his travel he made a letter of attorney empowering his wife Susannah to deal with his estates'.[45] Both parties in the case agree that Jethro set out for abroad at the beginning of the year 1713 [i.e. probably in April] and it is clear that he was out of the country before 6 July when his wife made some sort of agreement about the letting of his Oxfordshire estates. Both parties agree that Jethro returned in 1715.

While he was abroad two events occurred which he may or may not have expected when he set off and, if his health was bad, may not have been informed about. One was the birth of his daughter Sarah. If Tull left the country in April 1713 it is possible that he would not have known of his wife's pregnancy, which at the beginning of that month could have been of only a two-month period. The second event was the death of his father Jethro II. This was either in September 1713 or in March 1714: two different dates were provided by his in-law relatives in contention concerning his estate.[46] The Crowmarsh Gifford parish register, damaged by fire and incomplete, gives no record. Whatever the circumstances, a considerable burden must have fallen on Jethro III's wife Susannah.

Susannah had married Jethro on 26 October 1699, according to Earl Cathcart.[47] The place of marriage is not given by Cathcart, but Fussell states that 'it may be assumed that it took place in London'. The assumption is made, presumably, to suit Fussell's account of the life of a young bachelor of means and status living there. It is a mistaken assumption: search of the parish registers of Burton Dassett in Warwickshire, where Susannah's family resided, reveals that the marriage took place in that parish.[48] The Smiths were a substantial yeoman family and it may be that young Tull, rather than leading a life of leisure and fashion in London, was sufficiently affected by his family's financial misfortunes to seek out a suitable provincial bride.

According to Tull's will he was survived by a son John and four daughters.[49] The date of John's birth is not known, but it must have been before 10 April 1704 since Jethro's son John is one of three lives on which the 1704 leasehold of a portion of Prosperous Farm is based. Shalbourne parish register records the baptism of Mary daughter of Jethro and Joanah Tull 2 March 1711 and Sarah daughter of Jethro and Joanah on 13 October 1713. Since all other records refer to Susannah, is this yet another example of the confusion into which the personal details of the Tulls' lives have been allowed to remain?

IV

The discovery of so many records containing miscellaneous information previously unknown concerning the Tulls I, II, and III has resulted also in unearthing a few items which, by alluding to farming practices by the two earlier Tulls, may throw a little light on the sort of family agricultural background from which the younger Tull developed.

When Jethro I was negotiating a marriage settlement in 1674 between Griffith Jones and his step-daughter Elizabeth Goddard, one of the items he insisted on having inserted into the treaty was that Griffith Jones senior should make a watercourse in his lands in Radnorshire which were to be settled on Griffith junior.[50] What the exact

[45] PRO, C11/1242/16.
[46] PRO, C11/975/2.
[47] Cathcart, *op cit.*
[48] Warwickshire RO, DR/292/1.
[49] PRO, PCC Will, Jethro Tull 1741.
[50] PRO, C5/169/38.

function of the watercourse was is not stated, but clearly it was designed for the improvement of the estate; and Griffith Jones complained bitterly that it had cost him some £400 to make.

Of greater interest are the details of Jethro II's conditions in leasing Prosperous Farm to John Smith in 1686 and his complaints concerning the tenant farmer's failure to comply with them. The bill and answer to this suit (dated April 1697) are contained within the documents which relate to another suit of that year.[51] As the lease and its continuation expired in September 1693 it is difficult to know why Tull waited another four years before bringing his suit. It may be that he was desperate for the money owed to him by Smith. It would be interesting to know also what happened to the farm after Smith quit the tenancy in 1693.

The lease was drawn up in writing on 1 July 1686 and was to commence at Michaelmas next and to last for five years. Subsequently this term was extended on an amended rental for another two years. It was a condition that, on expiry of the five-year lease, the tenant should leave the ground well planted with clover grass 'as he had found the same' and to leave all the straw and chaff from the last year's crop. When Smith entered upon the tenancy there were eighty acres or more planted with clover, but when he left there were only a few acres so planted, 'neither did he leave any straw and chaff or firewood'. Moreover, Smith was over £300 in arrears of rent.

Smith of course denied most of this. He stated that there was very little meadow ground in the farm, so little that Tull allowed him a £5 deduction from his annual rent to buy hay 'and to preserve the timber on the estate did allow the defendant 40 shillings p.a. in lieu of plowbote and cartbote'. The area of the farm had been estimated at 300 acres and Tull had agreed to allow seven shillings per acre for any acreage below 300. Smith claimed that it was twelve acres less. He reckoned that he lost about £100 as a result of his five-year rental and he agreed to a further two years rental at a reduced rent. An additional complaint by Tull was that the hedges around the copses had been broken down, thus letting in the cattle which cropped the undergrowth, 'all the young shoots and germins of wood'. Smith admits this but says that the damage had been done by others.

When Tull agreed to abate Smith's rent after the fifth year he seems to have taken into account Smith's continual complaints 'of the hardness of his bargain, the badness of times, and the cheapness of corn'. In addition Smith had found taxation heavy and had had soldiers quartered upon him.

Whatever happened to the farm between the time when Smith finally quit in 1693 and Jethro Tull III was assigned a lease in 1704 we do not know. Nevertheless the case just related gives us some idea of the circumstances of the farm which he inherited and a foretaste of some of the problems he would be likely to encounter in times that were bad for farmers and on land which was far from ideal.

In addition to a picture of the farming practice which Jethro III inherited, the Tull v. Smith case illustrates Jethro's statement about Prosperous Farm that 'every farmer on the old system that has rented it since it was first made into a farm . . . has either [gone] broke or quitted it before the end of his term'.[52]

Interesting as the Tull v. Smith case may be in showing the farming practice of Jethro II, there is another case which illustrates the practice of Jethro III in the very year of his momentous departure abroad, that is, before he comes back with his observations of the French and Italian vine-

[51] PRO, C10/353/52.

[52] Tull, *op cit*, p 386.

yard tillage which led to his most important conclusions. In 1713 an agreement was made by Jethro's wife Susannah on his behalf, leasing an estate in Oxfordshire to a tenant farmer.[53] This agreement contained a clause whereby the existing tenant in his last year 'was not to feed the field after he had cut his grass and he was to spend all his straw now in the barns, in the backsides and yards, and the straw thus growing or to grow, and the dung thereof made, and also the dung now laying in the backside [of the premises] and there leave the same' for the use of the incoming tenant. And the incoming tenant 'likewise, in his last year was to spend all the straw on the premises and the dung thereof made, to lay on the same, except for the last year's dung, which he is to leave for the use of Jethro Tull'.

After four years, and following Tull's return from abroad, the new tenant wished to exercise his option to quit and planted 'grass seed called clover or St Foyn on twenty acres with his last crop of corn'. It seems clear that, whatever Tull's views on the use of dung may have been following his return from the Continental vineyards, he considered its use necessary at least up until the visit abroad he made in 1713–14.

[53] PRO, C10/1242/16.

V

The object of this article has been to provide a much firmer basis than previously existed for the family descent of Jethro Tull the agriculturist and to resolve some of the chronological problems in his biography. What strikes an outside observer is the degree to which Tull's invention was mothered by necessity. His pioneer work seems to have developed pragmatically in response to a series of financial setbacks which had begun by undermining the basis of the social standing for which he had been educated. A victim of the economic forces of his day, the pressure of those forces gave a naturally ingenious mind the driving urge to experiment and to innovate. This response enabled him to maintain a precarious link with genteel society, whose intelligentsia (eg, Cathcart) accepted him, despite his impoverishment, as a practical and beneficial innovator.

Changing Markets and the Development of Sheep Breeds in Southern England 1750–1900

By A K COPUS

Abstract

The development of sheep breeds in Southern England between 1750 and 1900 was a response by ordinary farmers to changes in the relative price levels of cereals, mutton, wool and tallow. Between *c.* 1750 and 1790 the high price of tallow led to the 'improvement' of the old horned breeds, to produce a carcass in which tallow production was maximized. After 1790 tallow prices fell and the introduction of Southdown rams enabled farmers in the Downlands to modify their flocks in response to the demand for good quality wool and effective folding. After 1815, when quality mutton and lamb prices were relatively high, the breeds were perfected as meat producers. Similar changes took place in mixed-farming districts. After 1870, falling prices and dwindling profits resulted in limited changes in breeds, except on higher downland farms, where upland sheep from Northern England and Wales were introduced.

OUR understanding of the origins and development of the major English sheep breeds has advanced considerably in recent years. A great deal of documentary evidence has been sifted and interpreted, and the implications of genetics have been carefully considered.[1] The reader may be forgiven for wondering whether there remains very much scope for research. One aspect, however, that of the relationship between the market and breed changes, is still largely unexplored. Clearly a more precise understanding of the changing requirements of the wool merchant, butcher and consumer, would shed light on how and why sheep breeds developed. The discussion which follows introduces a set of agricultural produce price series, covering the period from 1700 to 1900, to show that the sheep farmers of central southern England were, in fact, very responsive to market influences. It will be convenient to divide the one hundred and fifty years into three periods, the first beginning in 1750 and ending in 1815, the second ending in 1875 and the third comprising the final twenty-five years of the nineteenth century.

During the eighteenth and nineteenth centuries sheep performed three main functions: they provided wool; they fertilized the arable land with their dung when folded; and finally they were sold for meat and tallow. The relative importance of each of these roles depended first upon the nature of the local physical environment and farming system, and secondly upon the relative price levels of wool, mutton, and cereals, (and therefore, indirectly, folding). A change in price of any of these three commodities would result in a modified role for sheep, and would create a favourable environment for changes in breed.

I

Figure 1 shows the percentage change in price from decade to decade for the two major divisions of farming in Southern England, cereals and livestock, from 1700

[1] See, for example, Robert Trow Smith, *A History of British Livestock Husbandry to 1700*, 1957; *A History of British Livestock Husbandry 1700–1900*, 1959; M L Ryder, The History of Sheep Breeds in Britain, *Ag Hist Rev* 12, 1964, pp 1,65; G G S Bowie, New Sheep for Old, *Ag Hist Rev* 35 1987, p 15; Nicholas Russell, *Like engend'ring Like*, 1986; M L Ryder, *Sheep and Man*, 1983. In addition to these authors who specialize in the subject of sheep breeds, a number of others refer to the subject in the course of more general descriptions of farming, these will be referred to where appropriate below.

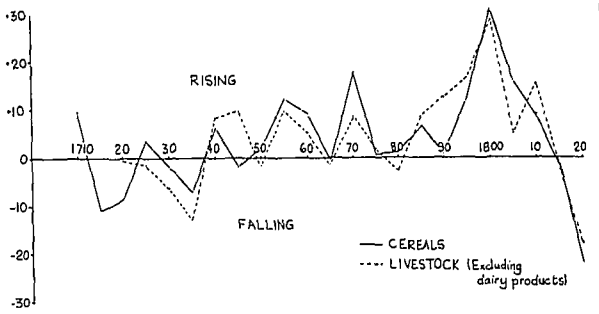


FIGURE 1
Percentage Change in Price for Cereals and Livestock Products 1700–1820.

Sources; See Figure 2.

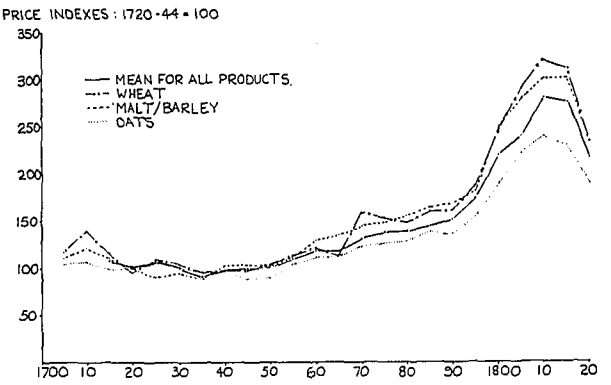


FIGURE 2A
Cereal Prices 1700–1820.

Sources; *Wheat*; 1700–89, Navy Victualling Series, William Beveridge, *Prices and Wages in England from the Twelfth Century to the Nineteenth Century*, 1939, pp 566–69; 1790–1820, Gazette Price Series, B R Mitchell and P Deane, *Abstract of British Historical Statistics*, Cambridge, 1963, p 488. *Barley/Malt*; 1700–89, Navy Victualling Series, Beverage, 1939, *op cit*, pp 566–69, 1790–1820, Gazette Price Series, Mitchell and Deane, 1963, *op cit*, p 488. *Oats*; 1700–89, Winchester School Series, Beverage, 1939, *op cit*, pp 702–5, 1790–1820, Gazette Price Series, Mitchell and Deane, 1963, *op cit*, p 488.

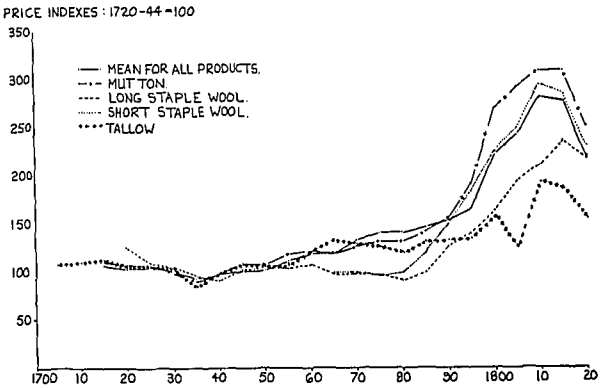


FIGURE 2B
Mutton, Wool, and Tallow Prices, 1700–1820.

Sources; *Mutton*; 1710–99, Greenwich Hospital Flesh Series, Beverage, 1939, *op cit*, pp 293–5, 721–3; 1800–20 *Gentleman's Magazine* Series, Copus, 1987, *op cit*, p 586. *Long Staple Wool*; 1715–59, Lincoln, Mitchell and Deane, 1963, *op cit*, p 495; 1760–1820, Kent Long, Mitchell and Deane, 1963, *op cit*, p 495. *Short Staple Wool*; 1760–1820, Southdown, Mitchell and Deane, 1963, *op cit*, p 495. *Tallow*; 1700–99, Naval Stores London, Beverage, 1939, *op cit*, p 672–80, 739–41; 1800–20, *Gentleman's Magazine*, Copus, 1987, *op cit*, p 586.

to 1815.[2] A swing towards livestock during the 1730s and 1740s is clearly revealed. From *c.*1750 to *c.*1780, market prices tended to favour cereals slightly more than livestock. Thereafter, apart from an interval during the late 1790s and early 1800s the prices of meat, wool and tallow were consistently rising more rapidly than those of corn.

If we are fully to appreciate the market environment within which the farmer worked we must, however, go beyond the aggregate arable/livestock level and examine the course of prices for individual products. Figure 2 presents the price trends for six products, expressed as index numbers to facilitate easy comparison. Of the cereals, wheat and barley were consistently above the average for all products, whilst oat prices were rather lower. The mutton price index in the mid-eighteenth century, was a little higher than that of wheat, but subsequently fell back, only achieving parity again at the close of the century. Wool prices were very low from 1760 to 1790. This was probably the result of import competition. The disruption of international trade during the Napoleonic wars resulted in a rapid rise in price between 1790 and 1815.

Perhaps the most significant of all the price trends shown on the graph is that of tallow, (fat used as a raw material for

[2] The graph was calculated from the price series shown in Fig 2. The cereal index is an average of wheat, barley (malt), and oat prices, (themselves expressed as indexes with the period 1720–44 as a base, and converted to decennial averages at five-year intervals). The livestock index is similarly calculated from price series for mutton, beef, wool and tallow. The sources of these price series are given in Fig 2. A more detailed discussion of all the price series may be found in A K Copus, 'Changing Markets and the Response of Agriculture in South-West England 1750–1900, unpublished PhD thesis, UCW, Aberystwyth, 1987, Appendix 1.

candles and soap). Prior to about 1755 the tallow and mutton indexes fluctuate more or less in parallel, then for about fifteen years the tallow index begins to rise above that of mutton. After 1770 this trend is reversed as the rapid expansion of imports (seemingly unaffected by wartime trade disruptions), forced tallow prices down to a very low level. Tallow and mutton prices, being expressed in the same units, are directly comparable in their raw form. Figure 3 reveals that, in absolute terms, tallow was more valuable, per pound, right through until *c.*1795, and after this date, its price fell steadily below that of mutton.

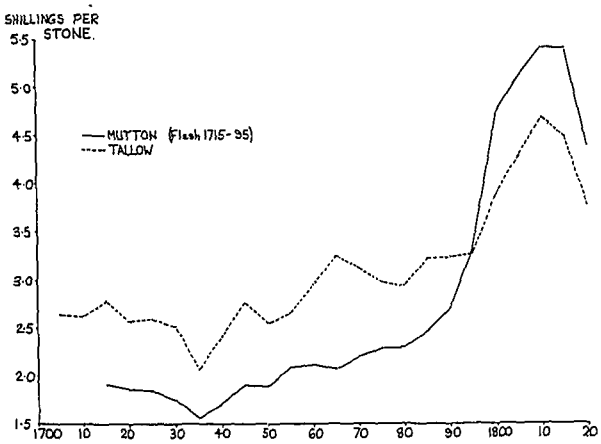


FIGURE 3
Mutton and Tallow Prices 1710–1820 (Decennial Means).

Sources; See Figure 2B.

We must now turn to the response of sheep farmers to these price trends. During the eighteenth century low prices and the inability of local fleeces to compete with high quality imported merino, meant that wool production had already become an influence of lesser importance on the sheep breeder of the south of England.[3] The relationship between cereal and mutton prices was rather ambiguous prior to 1815, and, unlikely as it may seem, it was the course of tallow prices which proved the most significant determinant of breeding policy during this period.

Modern efforts to adapt sheep breeds in response to changing demands and prices began much earlier than is commonly supposed. Nicholas Russell has recently suggested that market conditions were favourable from 1500 onwards. This, he suggests, resulted in 'a considerable drive for an increase in size', beginning about 1680. This was made possible by improvements in fodder supply. It was achieved in one of three ways: the selection of larger individuals from within local flocks; by the introduction of complete flocks of larger breeds from other districts; or by the 'grading up' of local flocks using a large ram from elsewhere. After reviewing the evidence of changes in various breeds, Russell concludes that the second and third options were the most commonly adopted by sheep breeders of this period.[4] One notable exception was of course, Bakewell's 'improvement' of the 'New Leicester', or 'Dishley'. Bakewell's activities took place outside the region with which we are primarily concerned, and yet a brief examination of his work is helpful since it sheds light upon the nature, and motives for, the less well documented developments in southern England.

Bakewell directed his efforts exclusively to the improvement of the Leicester's carcass. Its suitability for folding, the quality of its fleece, and (to begin with at least) its fecundity, were neglected or ignored. The result was an animal which was extremely well adapted to the current, (but unfortunately transient) market requirements. Although the Dishley breed was exceptional in its ability to reach maturity and to gain weight at an early age, its meat was very fatty, and being palatable only to the urban poor, fetched a low price.[5]

[3] For a more detailed discussion of this point see Copus, 1987, *op cit*, pp 232, 256–7.

[4] Russell, *op cit*, pp 57, 156–7, 169, 218.

[5] Trow Smith, 1959, *op cit*, pp 173; Ryder, 1964, *op cit*, p 7; Russell 1986, *op cit*, p 200; J D Chambers and G E Mingay, *The Agricultural Revolution 1750–1880*, 1966, p 67.

Furthermore, much of the fat, instead of being well mixed with the muscle, was concentrated on the exterior of the carcass, immediately under the skin.[6] The butcher was able to separate it, and to sell it as tallow. This prompted one contemporary to describe the breed as 'beasts of tallow'.[7]

During this period the price offered by a butcher was related only to the meat content of a carcass, and any tallow, hides and bone 'represented sources of profit for which he gave the grazier little financial return'.[8] Tallow prices were, during Bakewell's working life, *c.*1750–76, higher than those of mutton, and it would seem reasonable to suppose that butchers would favour any breed which produced large quantities of 'loose fat'.[9] At the very least, the tallow-producing ability of the New Leicester would compensate for the poor quality of its mutton.

However, tallow, like wool, is a product well suited to extensive types of farming system, and it is easy and cheap to transport. It was therefore one of the first to suffer import competition. Towards the end of the century the arrival of large-scale imports from eastern Europe depressed tallow prices.[10] By 1800 the price had fallen below that of mutton and thereafter the gap widened rapidly. The attention of sheep farmers was now directed away from maximizing external fat, towards the production of leaner, more flavoursome mutton. Sir John Sinclair, commenting on this new trend wrote in 1802:

> Tallow formerly bore a higher price than meat, and consequently was a greater object in the breeding of cattle and sheep than at present, when it sells at an inferior price.[11]

II

The sheep-corn system, in its pure form, was practised on the chalk hills of Sussex, Hampshire, Wiltshire, Dorset and Berkshire. Surrounding this core area were a number of transitional districts where farming systems possessed elements of both downland farming and the mixed farming of the adjacent vales.

In the core areas the farming system was firmly based upon a breeding regime, and until the latter part of the nineteenth century, very little fattening was carried out. The downland farmer was, as yet, unable to take up fattening as a response to rising mutton and tallow prices. Local pedological and climatic conditions rendered the provision of sufficient fodder of appropriate quality uneconomical given current fat-stock price levels. Besides, any attempt to provide fattening fare would have been incompatible with the other objective of the sheep-corn farmer of that time, maximizing cereal output. In addition, many of their downland farms were relatively inaccessible, with poor communications with major urban markets. The only response which sheep-corn farmers could make to the increased demands for mutton and tallow was to try to produce more appropriate store stock. The way forward did not, however, lie with the New Leicester, which lacked the necessary hardiness, requiring sheltered fields and a plentiful supply of grass. The only solution was to improve the native breeds.

The Wiltshire Horn breed of the early part of the eighteenth century has been

[6] A H John, 'The Course of Agricultural Change 1660–1760', in L S Pressnell (ed), *Studies in the Industrial Revolution*, 1960, p 154, 'with tallow prices relatively more expensive than meat for much of this period, early maturing Leicesters with ten inches of solid fat on their ribs were not without their attraction for the financially shrewd!' See also J A Clarke, 'Practical Agriculture', *JRASE*, XIV, 1878, p 554.

[7] Anon, 'The State of Agriculture in England', *Farmer's Magazine*, XV, 1814, p 414.

[8] Russell, *op cit*, p 199.

[9] See Fig 3; Sir John Sinclair, 'Hints Regarding Cattle', *Farmer's Magazine*, III, 1802, pp 149–50.

[10] According to Arthur Young, 'tallow on average is cheaper than mutton, and no wonder, while we import such an imensity of tallow, but we cannot import, thanks to difficulty, fat mutton'. 'Experiment on the Introduction of South Down Sheep into Suffolk', *Annals of Agriculture*, XV, 1791, p 289. See also J R Peet, Influences of the British Market on Agriculture, and Related Economic Development in Europe, *Trans Inst Br Geog*, LVI, 1972, p 1.

[11] Sinclair, 1802, *op cit*, p 49.

described by several modern writers.[12] Said to be the largest short-woolled breed in existence at the time, it was hardy, thrifty, well suited to folding, possessed a good quality fleece, and made moderately good mutton.[13]

Soon after 1750 some important changes took place in this breed. Davies wrote in 1794:

> The first and great object at this time is the improvement of the carcass, both of the ewe and lamb, and particularly the latter: and the attention is directed much more to the quality of the lambs they breed than the quantity.[14]

These improvements seem to have taken the form of an increase in size:

> Till within these few years, the sheep were certainly smaller than they are now. The alterations that have taken place have been principally by breeding them longer in the legs, higher and heavier in the fore-quarters . . .[15]

Such changes were probably achieved 'by purchasing large rams', (almost certainly of one of the midland long-wool breeds) and grading up the local ewes.[16] It is of course possible that as Davies suggested, the Wiltshire farmers were motivated by vanity, competitiveness amongst breeders to produce the largest lambs.[17] However, these changes do not seem to have been the work of a few 'gentlemen farmers'. The new strain appears to have been readily adopted by the majority of farmers, even those with modest holdings, to whom profits were a more important concern than the admiration of their peers. It seems more likely that the 'improvement' of the Wiltshire Horn was a response to current demands for large, fatty joints of mutton, and for tallow. Certainly the chronology of the changes is consistent with this explanation.

In the long run, however, the 'pride or vanity of possessing large handsome animals'[18] led to the decline in popularity of the Wiltshire Horn. The downland farmers began to discover that the new strain possessed a number of serious shortcomings. They were less hardy, and as a result did not crop the downland pasture as closely, causing the sward to to degenerate, and eventually resulting in a reduction in its carrying capacity.[19] They were also very prone to 'goggles' an hereditary disease with symptoms similar to those of rickets.[20] They were also very slow to fatten.[21] Finally as tallow prices fell, and the demand for small lean joints of mutton increased, the 'improved' Wiltshire Horn became less and less popular with the butchers. Writing in 1845, David Low remarked that the Wiltshire Horn

> affords an exemplification of almost every external character which the breeder wishes to avoid. The large coarse head, the flat sides, and the length and thickness of the limbs are very remarkable.[22]

Although the evidence is rather less plentiful, it is clear that the modification of local breeds was not peculiar to Wiltshire at this time. A similar transformation took place in the sheep of Hampshire. The Hampshire Horn was closely related to the Wiltshire. David Low describes them as follows: 'They were horned, had the faces and legs white, though in some cases speckled, long limbs, and lank bodies'.[23]

[12] See note 1.

[13] W C Spooner, 'On Cross Breeding', *JRASE*, XX, 1859, p 299; William Youatt, *Sheep: Their Breeds, Management and Diseases*, 1837, pp 244–5; John Luccock, *An Essay on Wool*, 1809, pp 272–4; David Low, *Domesticated Animals of the British Isles*, 1845, pp 120, 121; Thomas Davis, 'On Wiltshire Sheep', *Annals of Agriculture*, XXII, 1794 (a), p 97.

[14] Davis, 1794 (a), *op cit*, p 100.

[15] *Ibid*, p 103.

[16] Thomas Davis, 'Remarks on the Wiltshire and Southdown Sheep', *Annals of Agriculture*, XXXVII, 1801, p 378.

[17] This view is implied in both papers by Davis referred to above.

[18] Thomas Davis, *General View of the Agriculture of Wiltshire*, 1794 (b), pp 102, 104.

[19] Davis, 1794 (a), *op cit*, pp 98, 100–1; Davis 1801, *op cit*, p 378.

[20] Davies, 1794 (a), *op cit*, p 103; Davies, 1801, *op cit*, p 378; Arthur Young, 'A Farming Tour of the South and West of England', *Annals of Agriculture*, XXXI, 1797–8, p 85.

[21] Davies, 1801, *op cit*, p 382; Youatt, 1837, *op cit*, pp 244–5; Low, 1845, *op cit*, pp 120–1.

[22] Low, 1845, *op cit*, p 120. It was the assumption that mutton producing sheep were synonomous with the large fatty Dishley type which led Davis to conclude that good performance in the fold and the breeding of lambs for mutton would never be successfully combined. Davis, 1794 (b), *op cit*, pp 27–8, 104–5.

[23] Low, 1845, *op cit*, p 122.

There is some evidence to suggest that attempts to modify the carcass of this breed began even earlier here.[24] Further north Mavor reported of the Berkshire Nott:

> The pure race is not so commonly met with as any would be apt to imagine. By crosses it has undergone several changes . . . The breed, within a very few years, has been greatly improved, when fat they vary as much in weight as from fourteen to forty pounds a quarter.[25]

Similar changes were taking place in the Dorset Horn Breed.[26]

Thus the sheep-corn farmers of southern England were responding to the relatively high price of tallow and mutton by modifying their own local breeds thirty or forty years before the better documented, and well known changes during the Napoleonic period. By the time this second phase began, the market was requiring a rather different kind of sheep.

These new requirements were fulfilled by the Southdown (or perhaps more accurately the Southdown Cross). A number of modern writers have given accounts of the diffusion of this breed through the sheep-corn districts during the 1780s and 1790s. The most recent, that of G G S Bowie, raises several important questions, concerning, first, the motives for the change in breed and the benefits brought by it, and secondly, the precise method by which the rapid change was accomplished.

Although he mentions the social status of owning a flock of Southdowns, and the benefits of heavier stocking, it appears from his introduction that Bowie, like Eric Jones, sees the change as primarily a response to the rising demand for high quality mutton.[27] By way of contrast, M C Naish has written:

> Developments in the breeding of sheep between 1791 and 1840 were important in the move towards almost exclusively arable husbandry, for the tendency was to produce sheep which were exceptionally well adapted to life in the fold.[28]

These two, seemingly contradictory, views may best be reconciled by recognizing the distinction between the factors which led to the initial change of breed, and those which enabled the Southdown to maintain and consolidate its position.

The initial adoption of the Southdown was influenced by four major characteristics of the breed. The first was the superiority of its fleece. The wool of the old horned breeds had recently become rather coarse, partly as a result of improvements in feed, and partly due to the early attempts to increase the size of the carcass by crossing.[29] In the long term, short staple wool prices were tending downwards, so that even during the Napoleonic wars, when there was a temporary rise, the production of low quality wool was not an economical proposition. This meant that any breed with wool fine enough to compete with Spanish imports was bound to be popular. The Southdown fleece was considerably lighter than that of the old horned breeds, but its superior quality meant that it was generally more valuable.[30] Second was the almost complete immunity of the Sussex breed to the diseases which had for several decades been endemic among the horned breeds.[31] Thirdly, the Southdown was an

[24] William Marshall, *The Rural Economy of the Southern Counties*, 1798, Vol II, pp 345–6; Luccock, *op cit*, pp 266–7.

[25] William Mavor, *General View of the Agriculture of Berkshire*, 1809, p 381; Youatt, 1837, *op cit*, p 241; William Pearce, *General View of the Agriculture of Berkshire*, 1794, p 44, 'a spirit of crossing is diffusing itself'.

[26] Contrast, for example the description given by Young in 1771, *The Farmer's Tour Through the East of England*, 1771, III, p 331, with that of Stevenson in 1812, and *General View of the Agriculture of Dorset*, 1812, p 393.

[27] Bowie, 1987, *op cit*, pp 17, 15; E L Jones, 'Eighteenth Century changes in Hampshire Chalkland Farming', *Ag Hist Rev*, VIII, 1960, p 16.

[28] M C Naish, The Agricultural Landscape of the Hampshire Chalklands, 1700–1840, Unpub, MA Thesis, London University, 1960, p 241.

[29] Russell, *op cit*, p 174; see also note 30 below.

[30] Stevenson, 1812, *op cit*, pp 414–5; Arthur Young, 'A Tour of Sussex', Annals of Agriculture, II, 1789, p 199; Arthur Young, *General View of the Agriculture of Sussex*, 1808, pp 349–52, 355–72; Anon, 'Notes on Sheep', *Annals of Agriculture*, XXXIX, p 640; Davis, 1794 (a), *op cit*, p 104; Davis, 1794 (b), *op cit*, pp 23–4; Davis, *General View of the Agriculture of Wiltshire*, 1813, p 142.

[31] Young, 1789, *op cit*, p 210; Implied by Davis, 1801, *op cit*, pp 378–9, 51.

excellent arable sheep, an important consideration at a time when cereal prices were rising, and many farmers had expanded their arable acreage at the expense of their downland. It was hardy, prepared to search for scanty downland fare, but at the same time docile in the fold, not inclined to damage fences and hurdles.[32] Its small size meant that it was 'thrifty', an advantage where food was scarce. The adoption of the Southdown was in fact, one means of restoring pastures which had become overgrown under the improved Wiltshire and Hampshire Horns.[33] The breed was also well adapted to the new form of folding, which amounted to controlled grazing of arable fodder crops, and did not involve open downland. Indeed Jones has argued that the popularity of the breed greatly facilitated the adoption of swedes.[34] Finally, as Bowie rightly points out, the introduction of the Southdown generally resulted in increased stocking density: but doubling the carrying capacity was an extravagant claim; the increase was generally in the region of twenty-five to thirty per cent.[35] Any such increase would of course, result in more effective folding, increased supplies of manure, and the corresponding benefits to the arable division of the farming system. After about 1800, however, downland farmers were increasingly aware that the market environment favoured the production of stores rather than corn. As a result, the virtues of the Southdown as a mutton sheep, which had previously been overshadowed by the merits of its fleece and its aptitude for folding, came to the fore.[36] The new breed possessed advantages both in the quality of its meat, and the quantity it was able to produce.

The Southdown was the first of a new type of mutton sheep, ideally suited to satisfy the increasing demand for high quality meat. Despite the diminutive size of the carcass, the mutton was lean and full of flavour; 'well suited to the table of the epicure . . .'[37] Generally speaking the hindquarters were heavier than the fore, which meant that there was more flesh on the expensive cuts of meat.[38]

The Southdown enabled the downland farmer to expand his output of mutton in two ways: at the simplest level it allowed an increase in the output of lambs due to higher stocking levels; and further potential arose from the Southdowns ability to come to maturity at an earlier age than the older breeds. On the North Downs, for instance, it was recorded that Wiltshire and Southdown wethers were bought in at Michaelmas, the former at nine months, the latter at six months. The Wiltshires had to be folded two summers, and fattened the following winter, at the age of three-and-a-half years. In contrast, the Southdowns were folded one summer only, and fattened at the age of two.[39] In the light of this it is curious that Bowie suggests that the Southdown's 'slow growth' was one of the main objections to the new breed, leading farmers to repeatedly cross it with

[32] Young, 1789, *op cit*, pp 199–200; Young, 1791, *op cit*, p 289; Young, 1808, *op cit*, pp 298–300; Davies, 1794 (a), *op cit*, p 105; Davis, 1794 (b), *op cit*, p 24; Stevenson, 1812, *op cit*, p 308; Charles Vancouver, *General View of the Agriculture Hampshire*, 1810, p 366; Marshall, 1798, *op cit*, Vol II, p 378.

[33] Young, 1797–8, *op cit*, XXXI, p 84.

[34] Jones, 1960, *op cit*, p 17.

[35] Davis, 1794 (a), *op cit*, p 105; Davis, 1794 (b), *op cit*, p 24; Davis, 1801, *op cit*, p 378; Vancouver, 1810, *op cit*, p 374; Young, 1808, *op cit*, pp 298, 302, 372–5; Young, 1789, *op cit*, p 203; Young, 1791, *op cit*, p 298; Young, 1797–8, *op cit*, XXVIII, p 364; Luccock, 1809, *op cit*, p 273–4.

[36] According to Joseph Darby; 'owing to the early improvement of the Southdown, that breed alone was adapted to meet the requirements of the farmer over the entire region of the South of England, when turnip culture and the use of artificial manures first came into fashion. The native breeds, although good wool-bearers, were bad flesh producers, and the fine good quality sussex sheep drove them forth everywhere'. The breeds of sheep and their adaptation to different districts in the South and West of England, *Journal of the Bath and West of England Society*, III, 1871, p 66.

[37] Robert Smith, 'The Management of Sheep', *JRASE*, VIII, 1847, p 7. See also; Young, 1808, *op cit*, p 331; Young, 1791, *op cit*, p 292–3; Young, 1797–8, *op cit*, Vol XXXI, p 85; William Youatt, *The Complete Grazier*, 1851, p 231; Davies, 1794 (a), *op cit*, pp 104–5; William Belcher, 'On South Down Husbandry', *Annals of Agriculture*, II, 1785, p 134.

[38] Trow Smith, 1959, *op cit*, p 126; Young, 1808, *op cit*, p 296.

[39] Marshall, 1798, *op cit*, II, p 412–3.

the old horned breeds.[40] It seems that here he may be confusing the actual mode of diffusion of the breed with attempts to improve it.

Bowie himself notes that owning a flock of pure Southdowns in the early years of the nineteenth century 'implied a certain social status.'[41] Simple replacement of a horned ewe flock with pure Southdowns was an extravagance beyond the reach of the majority of smaller downland farmers. There is some evidence to suggest that the problem was exacerbated by the inability of Sussex flockmasters to satisfy the demand for Southdowns.[42] As a result the usual method of introducing the new breed was to purchase a Southdown ram, and to use it to upgrade and alter the existing horned ewes. From the resulting lambs, the most Southdown-like ewes were selected as replacements for the drafted horned ewes. If a Sussex ram was used for a series of years the flock would gradually lose the characteristics of the original breed, and become increasingly like the male parent. Thus Luccock wrote of Hampshire in 1809:

> In those instances where they have been coupled with the Sussex breed, and which seems to be the mode of improvement most commonly adopted, the progeny resembles more exactly that of the South Downs.'[43]

Many of the so-called 'Southdown' flocks of Wiltshire, Hampshire, Berkshire and Dorset were in fact, crosses of this sort.[44]

In the transitional districts, sheep and corn were still the major sources of income, but in contrast to their downland brethren, farmers here frequently fattened both sheep and cattle, some of which they bought in, rather than breeding them locally. Furthermore, much less reliance was placed upon permanent grass, and arable crops were a major source of fodder

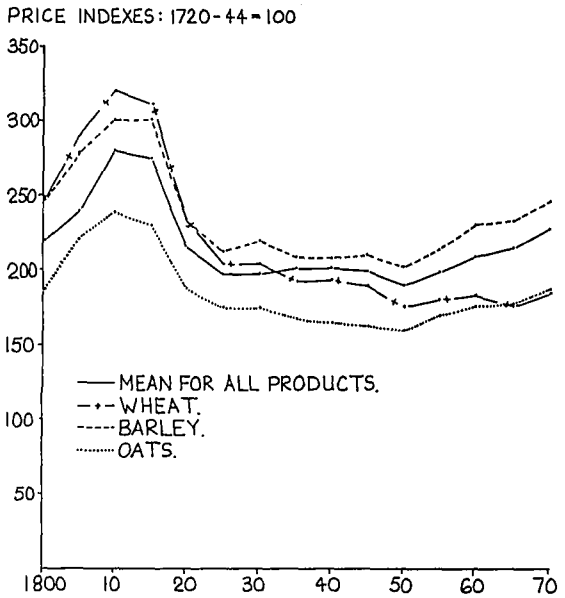


FIGURE 4A
Cereal Prices 1800–70.

Sources; *Wheat*, Gazette Prices, Mitchell and Deane, 1963 *op cit*, p 488; *Barley*, *Ibid*; *Oats*, *Ibid*.

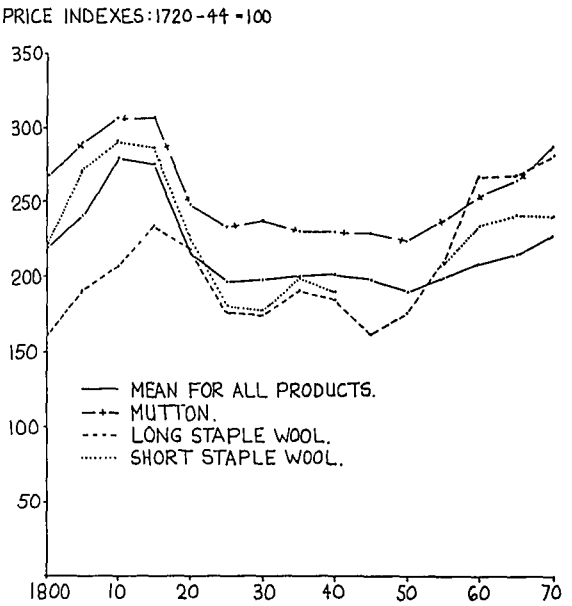


FIGURE 4B
Mutton and Wool Prices 1800–70.

Sources; *Mutton*, 1800–54, *Gentleman's Magazine*, Copus, 1987, *op cit*, p 586; 1855–1870, Saurbeck Series, Copus, 1987, *op cit*, p 588; *Long Staple Wool*, Lincoln Half Hog, Mitchell and Deane, 1963, *op cit*, p 495; *Short Staple Wool*, 1820–42, Southdown, Mitchell and Deane, 1963, *op cit*, p 495; 1852–1870, Southdown, *Economist* Series, *Copus, 1987, op cit, p 589*.

[40] Bowie, *op cit*, p 17.
[41] *Ibid*, p 17.
[42] Marshall, 1798, *op cit*, II, p 292.
[43] Luccock, *op cit*, pp 266–7.
[44] W C Spooner, 'On Cross Breeding', *JRASE* XX, 1859, p 294; Low, 1845, *op cit*, p 122; Youatt, 1837, *op cit*, p 237–8, 245.

for the flock and herd. Farming of this type was to be found on the North Downs, in parts of Berkshire, on the stonebrash hills of Oxfordshire, and the Cotswolds.

Even by the turn of the eighteenth century farmers in these areas were already beginning to reject the old idea that the profit of a sheep came primarily from the fertility it added to the arable, and instead were concentrating on fattening ewes and lambs. That they were able to do this was partly a reflection of the physical suitability of the land to fairly rich permanent grass and fodder crops, and partly due to superior access to markets. Since folding tended to slow down the process of fattening,[45] many farmers chose to discontinue it. It was now very much minority practice in the Cotswolds, and was becoming less common in Oxfordshire.[46] As far as breeds were concerned, the Southdown had made some progress in ousting the local breeds in Oxfordshire and Surrey.[47] Elsewhere in the transitional zone many farmers were experimenting with crossing, often using a New Leicester ram. This gave earlier maturity, and a heavy carcass, but lack of hardiness usually restricted such crosses to richer, more sheltered farmland.[48]

One of the most successful crosses resulted in the Improved Cotswold.[49] The Cotswold was unique among downland breeds in being a long-wool. It is sometimes assumed that its introduction was of ancient date; indeed it has been suggested that it was brought over by the Romans.[50] David Low disagrees, suggesting that it was introduced as late as the eighteenth century, from Warwickshire or north Oxfordshire.[51] In a refinement of this theory, Russell has recently suggested that the old short-woolled breed of the area was upgraded during the eighteenth century by the introduction of large midland long-wool rams.[52] If this is correct, then the second phase of crossing, using New Leicester rams, during the early nineteenth century, was simply the continuation of a long established practice.

III

After 1815 there was a rapid fall in the prices of most farm products. In the late 1820s prices levelled out, and subsequently livestock produce, particularly mutton and beef, occupied a more favourable position than cereals. The market reports from Weyhill, the largest of the autumnal sheep fairs, show that prices of all types of down store sheep followed closely those of mutton (Fig 5). Wool prices fluctuated considerably, but apart from a low point in the twenties, were similar in their overall trend. On the arable side, wheat experienced a continuous decline, the fall being most rapid during the immediate post-Napoleonic period. Barley prices shared in the initial collapse, but then levelled out, and even showed some disposition to rise from the 1830s to the 1860s. Oat prices followed a very similar course.

Farmers generally responded to these price trends in two ways: The first response was known as 'High Farming'. This involved intensification: the increased use of labour, manure and artificial fertilizers; larger acreages of fodder crops; field drainage; careful cultivation, and so on. The advantage was that until the point of diminishing returns was reached, each additional unit of output was produced at lower unit cost, and therefore, in theory at least, still profitable despite stagnating

[45] Arthur Young, *General View of the Agriculture of Oxfordshire*, 1813, p 298

[46] William Marshall, *The Rural Economy of Gloucestershire*, 1796, II, p 80; Youatt, 1851, *op cit*, p 243.

[47] Young, 1813, *op cit, p 298; Marshall, 1798, op cit*, II, pp 412–3; William Stevenson, *General View of the Agriculture of Surrey*, 1809, pp 526–30; Youatt, 1837, *op cit*, p 240.

[48] See for example, Young, 1813, *op cit*, pp 301–313.

[49] Trow Smith, 1957, *op cit*, p 181; Trow Smith, 1959, *op cit*, pp 67, 147–8; Russell, 1986, *op cit*, p 170; Young, 1813, *op cit*, p 314; Marshall, 1796, *op cit*, Vol II, p 79.

[50] Trow Smith, 1957, *op cit*, pp 38, 165–6; Youatt, 1851, *op cit*, p 203

[51] Low, 1845, *op cit*, p 186.

[52] Russell, 1986, *op cit*, p 170.



FIGURE 5
The price of Sheep at Weyhill Fair (Decennial Means).

Source; *The Hampshire Chronicle*.

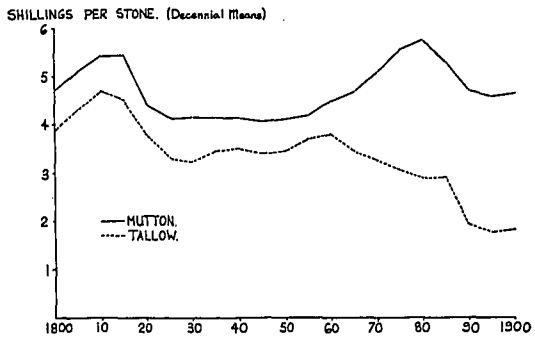


FIGURE 6
Mutton and Tallow Prices 1800–1900.

Sources; *Mutton*, see Figure 4B, *Tallow*; 1800–54, *Gentleman's Magazine* Series, Copus, 1987, *op cit*, p 586; 1855–1904, Saurbeck Series, Copus, 1987, *op cit*, p 588.

prices. The second response was an increasing reliance upon livestock rather than arable crops as a source of income.

There were, in fact continued efforts to improve the Southdown as a pure breed, so that, by the middle of the century it was, in many respects a different animal from its ancestors of one hundred years before.[53] The changes (for which John Ellman was largely responsible) were all made with two major ends in view. The first was the perfection of the carcass. Wilson summarized the improvements in this area as follows:

> The size and weight have been increased: the fore quarters improved in width and depth: the back and loins have become broader, and the ribs more curved, so as to form a straight and level back: the hind quarters are square and full, the tail well set on and the limbs shorter and finer in the bone.[54]

The quality of Southdown mutton and lamb remained high, although some sacrifices had to be made in the quality of the wool. Even so the Southdown fleece remained one of the finest in Britain.[55]

Secondly, the combined effects of careful breeding and better fodder had resulted in considerable advances towards early maturity. In the late eighteenth century it had taken between three and five years to fatten a wether; by 1840 this had been reduced to two years.[56] Ten years later it was becoming increasingly common for lambs (weighing about 80lb) to be ready for the butcher at the age of twelve to fifteen months. If kept until they were two years old, they would attain weights of 100–120 lb.[57]

Molland, Naish, and more recently, Bowie, all agree that the Hampshire Down was a cross between the Southdown and the old Horned breed, and that it was especially adapted to the production of mutton and lamb within a predominantly arable system. This is broadly true, but additional evidence now makes it possible to fill in some significant details in the history of the breed.

The Hampshire, Wiltshire and West

[53] W C Spooner, 'On Breeds of Sheep', *Farm Mag*, X, 1844, p 31, '. . . there is no ancient pure breed of sheep that has undergone so much improvement as the Southdown: and it affords the owners of other breeds a proper example, showing what can be done by care and attention, and the application of proper principles'.

[54] John Wilson, 'The Various Breeds of Sheep in Great Britain', *JRASE*, XVI, 1856, pp 233–4.

[55] Wilson, 1856, *op cit*, p 234; J B Lawes, 'Report of experiments on the Comparative Fattening Qualities of Different Breeds of Sheep', *JRASE*, XII, 1851, p 415; Spooner, 1844, *op cit*, p 31; Youatt, 1851, *op cit*, p 231; John Donaldson, 'On Breeds of Sheep for Different Localities', *Farm Mag*, III, 1853, pp 302–3.

[56] Henry Evershed, 'The Early Fattening of Cattle and Sheep, *JRASE*, I, 1890, p 53; See also Low, 1845, *op cit*, p 163.

[57] Wilson, 1856, *op cit*, p 234; See also Clarke, 1878, *op cit*, p 561.

Country Down breeds were a natural consequence of the mode in which the Southdown had been introduced. As described earlier, most farmers used a Southdown ram on their horned ewes, selecting from the ewe lambs those which most resembled the Southdown for use as replacements for their oldest horned ewes. Many farmers however stopped short of complete transformation, retaining the most useful characteristics of the old breed in their cross-breed flocks.

During the first three or four decades of the century the flockmasters of Hampshire and Wiltshire seem to have developed the new cross independently, and along slightly different lines. In Hampshire the crossing was continued until the lambs produced looked rather like a larger, heavier version of the Southdown, retaining the characteristic Roman noses and large heads of the old horned breed.[58]

Such an animal was ideally suited to the requirements of the Hampshire farmer, who was engaged in the production of mutton and lamb, using fodder crops, rather than grass. These characteristics were therefore fixed, partly by replacing the Southdown ram with one of the cross-bred sheep, and partly by taking out of the flock any lambs which showed a tendency to revert to either of the original breeds. It may be that a certain amount of Cotswold and Shropshire blood was introduced at this time.[59]

In Wiltshire it seems that a larger number of farmers were able to change their breed by replacement rather than crossing. Those who did adapt their horned ewes carried on the crossing process much longer, so that almost all the characteristics of the female parents, including the large head and Roman nose, disappeared.[60] This breed came to be known as the West Country Down.

This smaller-framed sheep was better adapted to the needs of the farmers of Wiltshire, where a larger proportion of the open downland had survived the Napoleonic Wars. As the century progressed, however, there was an increasing tendency to depend upon arable fodder crops. The Wiltshire farmers then began to appreciate the advantages of a slightly larger lamb, and they therefore began to use Hampshire Down rams. Spooner describes the result:

> They have increased the size of the frame without materially enlarging the heads, and thus a very valuable breed of sheep has been formed, the Wiltshire Down, whose more perfect symmetry frequently enables their owners to wrest the prizes from the Hampshire men, and to cause the latter, by rivalry thus induced to improve their sheep by careful selection.[61]

Thus the Hampshire Down's head was reduced in size, and the breeds of Hampshire and Wiltshire became almost indistinguishable. Only the experienced eye could detect that the former was still marginally coarser and heavier boned.[62] Soon both breeds, despite their distinct origins, came to be known as 'Improved Hampshire Downs'.[63]

In the eastern half of Dorset the Hampshire Down breed was at first considered 'a sour objectionable breed',[64] and many farmers preferred to keep pure Southdowns. Later on, when the Hampshire breed had been improved, and at the same time the Dorset flockmasters were becoming more dependent on arable fodder crops, a Hampshire Down-South-

[58] Spooner, 1859, *op cit*, p 300.
[59] *Ibid*, p 302; Elias P Squarey, 'A Short Account of the Hampshire or West Country Down Sheep', *Jnl Bath and West*, I, 1869, p 48; Darby, 1871, *op cit*, p 76.
[60] Spooner, 1859, *op cit*, pp 299, 304.
[61] Spooner, 1859, *op cit*, p 304.
[62] For other descriptions of the breed see; Youatt, 1837, *op cit*, pp 241–2; Squarey, 1869, *op cit*, pp 48–9; Darby, 1871, *op cit*, pp 73–6; Clarke, 1878, *op cit*, pp 562–3.
[63] Spooner defines the difference as follows; 'The Wiltshire Down breeders began with the Sussex ewe, and crossed with the Hampshire ram, whilst the Hampshire breeders used the original horned ewe and the Sussex ram'. Spooner, 1859, *op cit*, p 304.
[64] Darby, 1871, *op cit*, p 77.

down cross began to gain popularity.[65] A trace of long-woolled Bampton from Devon was introduced during the same period, in order to secure a slightly larger carcass.[66] A few breeders, notably Saunders of Watercombe, were particularly well known for the quality and purity of their flock.[67] The thinner soils, and the more exposed fields meant that the Dorset version of the Hampshire Down was always characterized by a finer carcass:

> Dorset has always sought to realise a higher quality, a more refined variety, than either Wiltshire or Hampshire. This has been obtained by a nearer approximation to the Southdown.[68]

Indeed the difference was so noticeable that the Dorset type eventually came to be widely regarded as a distinct breed, the Dorset Down.[69] The western part of Dorset was really a transitional sheep-corn or dairying district, and the Dorset Horn retained its dominance there.[70] The use of a Southdown ram resulted in lambs which would fatten more rapidly, and give more valuable meat.[71] Unfortunately the breeds did not assimilate well, and the producers of early lamb had to be content with a first cross.[72] Some increase in the weight of wool and mutton could also be achieved by crossing the Dorset Horn with the similar, but larger, Somerset.[73]

On the Cotswolds many farmers continued their efforts to improve their native breed of sheep. In 1849, Rowlandson observed that:

> Crosses of the Cotswolds with the Leicester have answered exceedingly well in some places, and many of the carefully bred Cotswolds are scarcely to be excelled by any breed in England: for wet coarse pasture no large sheep is so well adapted as the Cotswold.[74]

Indeed the improved Cotswolds were more hardy, more prolific, and better mothers than the Dishley breed.[75] Their meat and wool were, however, of poor quality. Lawes described the breed as 'a poor man's sheep',[76] whilst Coleman remarked that 'the quality of the flesh is so inferior as to limit the chief demand for such mutton to our manufacturing districts.'[77] This disadvantage was, however, offset by the considerable advances which had been made towards early maturity. Bravender explained that:

> On the hills the improvement in the management of the flocks is plainly proved by the weight and age at which they are brought to market compared with what they were at the time of Rudge (1807). He says that when three years old they would weigh from twenty-two to thirty pounds per quarter: now they are brought to that weight in fifteen months only.'[78]

A little further east, on the stonebrash hills of Oxfordshire, a new cross breed, the Oxford Down, was developed during the 1830s and 1840s. A number of breeders had begun to experiment with a cross between the Hampshire Down and the Improved Cotswold, hoping to combine the good points of both.[79] The results were

[65] *Ibid*, pp 77–8; Chapman Saunders, Sheep and their Management, *Jnl Bath and West*, VI, 1874, p 179; Clarke 1878, *op cit*, p 566; L H Ruegg, 'Farming in Dorset', *JRASE*, XV, 1854, p 430; James Caird, *English Agriculture*, 1852, p 62; Spooner, 1859, *op cit*, pp 306–7; Trow Smith, 1959, *op cit*, p 279.

[66] Spooner, 1859, *op cit*, p 306.

[67] Joseph Darby, 'The Farming of Dorset', *Jnl Bath and West*, IV, 1872, pp 9–11; Joseph Darby, 'Characteristics of Quality and Construction of Live Stock', *Jnl Bath and West*, VIII, 1876, p 97.

[68] Darby, 1876, *op cit*, p 96–7.

[69] *Ibid*, p 97.

[70] Ruegg, 1854, *op cit*, p 430; Clarke, 1878, *op cit*, p 566; Darby, 1871, *op cit*, p 78.

[71] Darby, 1871, *op cit*, p 80; Youatt, 1837, *op cit* p 242; Low, 1832, *op cit*, p 122.

[72] Spooner, 1859, *op cit*, p 306.

[73] Saunders, 1874, *op cit*, p 179.

[74] T Rowlandson, 'On the Breeds of Sheep Best Adapted to Different Localities', *JRASE*, X, 1849, p 347; See also; Low, 1832, *op cit*, p 186; 'Agricola', The Sheep – its Importance, Varieties, Management and Diseases, *Farm Mag*, III, 1853, p 441; Youatt, 1851, *op cit*, p 203; Youatt, 1837, *op cit*, p 256; Trow Smith, 1959, *op cit*, pp 270–1; Anon, 'Agriculture in Berkshire', *Farm Mag*, III, 1841, p 303.

[75] 'Agricola', 1853, *op cit*, p 441; Rowlandson, 1849, *op cit*, p 436; John Bravender, 'Farming in Gloucestershire', *JRASE*, XV, 1850, p 173; C S Read, 'Farming in Oxfordshire', *JRASE*, XV, 1854, p 227; J B Lawes, 'Report of Experiments on the Comparative Fattening Qualities of Different Breeds of Sheep', Part II, Cotswolds, *JRASE*, VIII, 1853, pp 180, 182, 188ff.

[76] Lawes, 1853, *op cit*, p 193.

[77] John Coleman, 'The Management of Sheep Stock on Heavy and Light Land', *JRASE*, I, 1865, p 240.

[78] Bravender, 1850, *op cit*, p 173.

[79] Darby, 1878, 'Oxfordshire Agriculture and Stock Farming', *Jnl Bath and West*, X, 1878, pp 148–50; Spooner, 1859, *op cit*, pp 308–9; Clarke, 1878, *op cit*, p 564; H Rider Haggard, *Rural England*, 1903, II, pp 97, 101, 103.

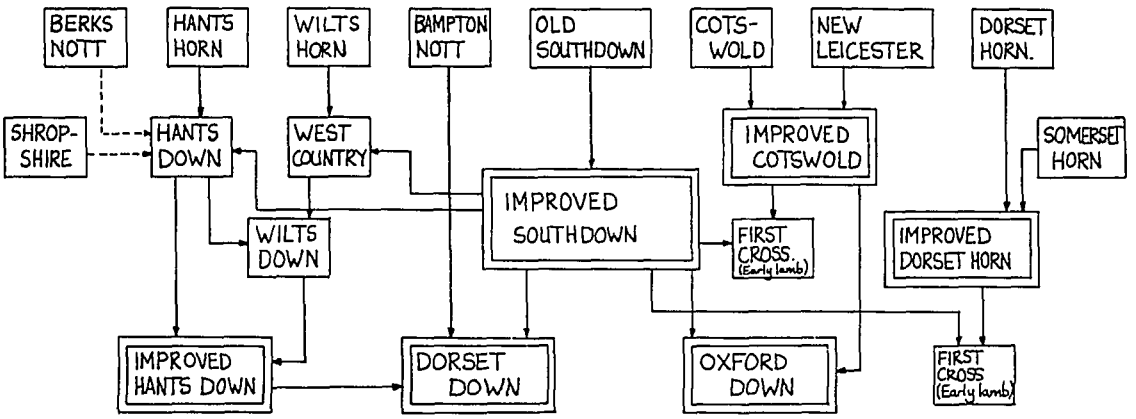


FIGURE 7
Probable Lines of Evolution of the Major Downland Sheep Breeds.

encouraging, and soon the breed was fixed. Bowie mentions the role of the best known of the breeders involved, but implies that the cross was simply a Hampshire Down variant.[80] Contemporaries recognized it as a distinct breed, referring to it at first as the 'Down Cotswold', or 'New Oxford'. In 1857 it was renamed the Oxford Down, and five years later it was allocated a separate class at the International Show at Battersea.[81]

The new breed retained the large size of the Gloucestershire sheep, without sacrificing the hardiness, early maturity, and quality of meat and fleece of the Hampshire Down. It was thus said to fulfil Sir John Sinclair's hopes of combining in one animal 'the fleece of the Spaniard, the carcass of the Bakewell, and the constitution of the Southdown.'[82] It was hardier in the fold, and would fatten more quickly on less food than the Cotswold.

The new breed were generally folded on fodder crops throughout the year, whilst Cotswolds were usually grazed on leys during the summer months.[83] The Oxford Down was therefore popular in predominantly arable districts. However, in areas where a significant proportion of the land was still permanent grass, the Cotswold or Hampshire Down was preferred. C S Read explained:

> Where there are extensive downs, and sheep are valued for their manure more than for their mutton, and can be kept at small cost till they are a year old or more, there Downs are best; but for consuming crops on arable land in hurdles, and for producing a great and rapid supply or best meat and wool . . . the half breed stand unrivalled.'[84]

In parts of Berkshire, many farmers kept a flock of Hampshire Down ewes, and using a Cotswold or Leicester ram, produced cross-breed lambs. In order to maintain the first cross, new stock had to be bought in from Hampshire and Wiltshire. Some farmers fattened both lambs and ewes each year, and purchased a new flock of ewes every autumn.[85]

[80] Bowie, 1987, *op cit*, p 17.
[81] Oxford Journal, Meeting of the Breeders of Down Cotswold Sheep, *Farm Mag*, XII, 1857, p 324; Anon, 'A New Breed of Sheep – The Oxfordshire Downs', *Farm Mag*, XII, 1857, p 345.
[82] Darby, 1871, *op cit*, p 85. Ryder recognizes the relationship in his diagram of the origin of sheep breeds 1969, *op cit*, p 9.
[83] J Twynam, Correspondence, *Farm Mag*, VI, 1837, p 101; J Twynam, Correspondence, *Farm Mag* I, 1840, p 10; Darby, 1871, *op cit*, p 86; Darby, 1878, *op cit*, pp 130, 148–50; Clarke, 1878, *op cit*, pp 564–5; Rowlandson, 1849, *op cit*, p 436; Coleman, 1865, *op cit*, p 240; Robert Smith, 'The Management of Sheep', *JRASE*, VIII, 1847, p 16; Spooner, 1859, *op cit*, pp 308–9, Read, 1854, *op cit*, p 228.
[84] Read, 1854, *op cit*, p 228; See also; J B Spearing, 'Farming in Berkshire', *JRASE*, XXI, 1860, pp 37–9.
[85] Spearing, 1860, *op cit*, p 39; Samuel Druce, 'On the Comparative Profit Realised from Different Breeds of Sheep', *JRASE*, XIV, 1853, p 211–3.

It is clear that the sixty years between 1815 and 1875 represent a crucial period in the development of the sheep breeds of Southern England. Several new cross breeds originated at this time under the stimulus of a favourable market environment. It is possible that this was due to small farmers being unable, for financial reasons, to replace their flock with a new breed. Upgrading the local breed was a cost-effective alternative. Youatt explained the multiplication of new breeds in terms of sheep's sensitivity to relatively minor differences in fodder type and physical environment. The only alternative was to adapt indigenous types to suit the changed economic environment.[86] As a result, each district was characterized by its own district improved or cross-bred type. At the same time, however it is important to appreciate the central role played by single breed, the Southdown. Youatt pointed out that there was no major breed in the southern counties which did not 'owe almost everything that is good about them to the influence of this valuable breed'.[87] Similar views were expressed by Clarke.[88] In this sense, the Southdown's role in the development of English agriculture was at least as important as that of the Dishley breed.

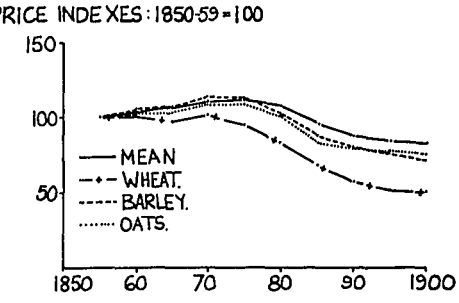


FIGURE 8A
Cereal Prices 1850–1900

Sources; *Wheat*; Gazette Prices, Mitchell and Deane, *1963*, *op cit*, p 488; *Barley*, *Ibid*; *Oats*, *Ibid*.

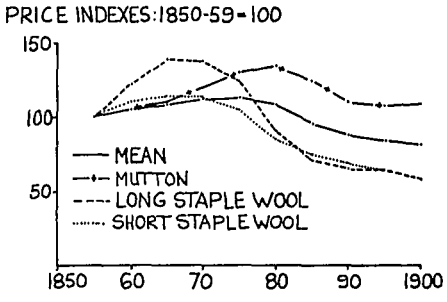


FIGURE 8B
Mutton and Wool Prices 1850–1900

Sources; *Mutton*; Saurbeck Series, Copus, 1987, *op cit*, p 588. *Long Staple Wool*; Lincoln Half Hog, Mitchell and Deane, 1963, *op cit*, p 495. *Short Staple Wool*; Southdown, *Economist* Series, Copus, 1987, *op cit*, p 589.

IV

The main features of the market environment during the final twenty-five years of the nineteenth century have been thoroughly analysed by a number of modern authors.[89] The period begins with the last few seasons of 'high farming', which merge into the period known as 'The Great Depression'. Figures 8a and 8b show the course of the prices of the major farm products. Wheat prices were already in a disadvantaged position relative to barley and oats by the 1860s and 1870s, and the rapid falls which all three cereals experienced during the next two decades served to maintain, or even enhance the contrast. The price of short staple wool fell rapidly from a peak in the 1860s, whilst beef and mutton prices continued to rise into the 1880s, thereafter falling dramatically. Import competition proved fiercest at the lower end of the market. Tallow prices continued to fall, and there was every incentive for the English flockmaster to

[86] Trow Smith, 1959, *op cit*, p 277.
[87] Youatt, 1837, *op cit*, pp 237–8.
[88] Clarke, 1878, *op cit*, p 562; See also; Trow Smith, 1959, *op cit*, p 276. Ryder 1983, *op cit*, p 492.
[89] T W Fletcher, 'The Great Depression in English Agriculture 1873–1896', *Econ Hist Rev*, 2nd ser, XIII, 1961, pp 417–32; P J Perry, *British Farming in the Great Depression 1870–1914*, Newton Abbot, 1974, pp 40–66; P J Perry, *British Agriculture 1875–1914*, 1973, pp xiv–xix; C S Orwin and E H Whetham, *A History of British Agriculture 1846–1914*, Newton Abbot, 1971, pp 240–2, 258–61.

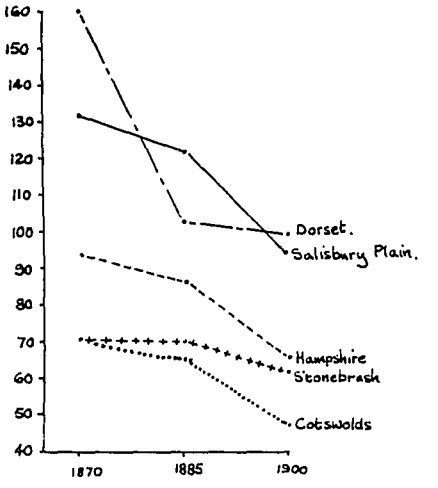


FIGURE 9
Number of Sheep per 1000 Acres in Five Sheep-Corn Districts

Source: Agricultural Returns. For details of parishes in each district, see Copus 1987, *op cit*, pp 609–14.

concentrate on producing sheep with small, lean, well-flavoured joints.[90]

At the same time the effects of the fall in price of arable products were exacerbated by the prevalence of relatively small profit margins associated with 'high farming'.[91] Within such a context, the gentle, but sustained, rise of one particular production cost, labour, was able to have considerable influence upon the evolution of farming systems.[92] Fig 9 shows that average cash wages in southern and south-western England rose steadily throughout the period.[93] As a result many farmers were forced to develop 'low farming' systems, in which profit margins were maintained only by minimizing inputs, and by extensification. This resulted in a fall in sheep numbers in all the sheep-corn and transitional districts (Fig 9). As far as sheep management was concerned, extensification involved a much more limited use of fodder crops, and a greater reliance upon cheap cereal feeds, imported cake, and grassland. Some of the increase in grassland was achieved by prolonging the life of leys, the rest by laying down, or 'tumbling down' to pasture.[94]

The limited changes in breeds which took place under these conditions were characteristic of retrenchment rather than innovation. The majority of flocks in Hampshire and Wiltshire continued to be comprised mainly of Improved Hampshires.[95] However, on the poor, high, tumbled-down pastures, more hardy mountain sheep, such as the Cheviots, Black-faced or Welsh, were now often kept.[96] In Dorset the old horned breed regained much of its former popularity, because although slower in maturing than the Hampshire, it was a more hardy pasture sheep.[97] On the Cotswolds, and the Stonebrash Hills, the Oxford Down finally ousted the Cotswold, whose heavy fleece was no longer valued since wool prices were so low, and whose meat was too fatty for current markets.[98] Furthermore, there was a tendency to use a Hampshire ram on the Oxford ewes, so that the lambs had a small, finer carcass.[99]

[90] W J Malden, 'Recent Changes in Farming Practices', *JRASE*, VII, 1896, p 328; A F M Druce, Sheep, *Jnl Bath and West*, V, 1894–5, p 80; A J Stanton, 'Live Stock and British Farming', *Jnl Bath and West*, VI, 1895–6, p 50–1; Anon, 'Good and Bad Points of Sheep', *Jnl Bath and West*, IX, 1898–9, p 235–6; J B Simpson, 'Wool', *Jnl Bath and West*, XII, 1901–2, p 219.

[91] The aim of High Farming was to maximize gross revenue by increasing intensity almost to the point where diminishing returns set in. It follows that net revenue per unit of output would necessarily be small. Darby observed this to be the case in Dorset, Darby, 1872, *op cit*, p 8.

[92] Darby, 1878, *op cit*, p 134; William Sturge, 'On Some of the Causes of Agricultural Depression', *Jnl Bath and West*, XI, 1879, p 179; Final Report of the Royal Commission on the Depressed State of Agriculture, *BPP*, XXXI, 1894, p 13; William Fream, Report on the Andover District of Hampshire, *BPP*, XXXI, 1894, p 13; Orwin and Wheatham, 1971, *op cit*, p 248; Perry, 1974 *op cit*, pp 126–31, 64; R E Prothero, *English Farming Past and Present*, 6th ed, 1961, p 381.

[93] A Wilson Fox 'Agricultural Wages . . .', *Journal of the Royal Statistical Society*, LXVI, 1903, p 331.

[94] Copus, 1987, *op cit*, pp 336–341.

[95] Henry Rew, Report on Salisbury Plain, *BPP*, XXXI, 1894–5, p 861; Alfred D Hall, *A pilgrimage of British Farming*, 1913, p 5; Perry, 1974, *op cit*, p 111; Orwin and Whetham, 1971, *op cit*, p 271; Fletcher, 1961, *op cit*, p 422.

[96] Rew, 1894–5, *op cit*, p 861; Perry, 1974, *op cit*, pp 44–5; Orwin and Whetham, 1971, *op cit*, p 361; Hall, 1913, *op cit*, p 5.

[97] Henry Rew, Report on Dorset, *BPP*, XXXII, 1895–6, p 255; A J Buckle, Agriculture, *VCH Dorset*, 1908, pp 282, 284.

[98] H J Elwes, 'Cross Breed Sheep', *JRASE*, VI, 1895, p 225; Darby, 1878 *op cit*, pp 132–3; Robert Anderson, 'Agriculture', *VCH Gloucestershire*, II, 1907, p 249.

[99] Elwes, 1895, *op cit*, p 225; In the 1870s a Hampshire Down ewe had often been put to an Oxford Down ram, for the production of early fat lamb, J Coleman, *The Sheep and Pigs of Great Britain*, 1877, p 79.

V

During the one hundred and fifty years after 1750 the sheep breeds of southern England evolved continuously, sometimes rapidly, and at other times more gradually. It is important to relate such changes to the economic environment in which they took place. They were not part of a self-propelled quest for an abstract goal of 'improvement', rather, they were rational responses to long term shifts in the relative price levels of mutton, tallow and wool, and their relationship in turn with the prices of cereals. Three major periods may be identified: The first of these may have begun as early as 1680 and was certainly underway by the mid-eighteenth century. It was prompted by the demand for large fatty joints and tallow and resulted in the New Leicester and the 'improved' horned breeds. By the 1790s these breeds were being superseded in many districts by the Southdown cross. This change was initially a response to the needs of the arable side of farming systems, but soon the new breed was being favoured for its carcass which was ideally suited to contemporary markets. The diffusion of the Southdown cross ushered in a 'Golden Age' of breed modification, which, under the stimulus of favourable prices, produced a greater variety of new types than any other period, before or since. During the final phase, beginning in *c.* 1875, stagnation set in, very few modifications were made to local breeds. Where these were no longer appropriate to the changed economic environment, advantage was taken of the improvement in communications provided by the railways, and breeds were introduced from other parts of the British Isles.

A final word should be said about the role of the individual improver-breeder in this gradual evolution of breeds. The activities of specialist breeders, such as Bakewell, Twynam, Humphrey, Rawlence, and Saunders, have been widely publicized in the literature. However, the account of the spread of the Southdown, and the development of the Hampshire and Wiltshire Down presented above suggests that much of the work was done by small working farmers. This they achieved by the most economical means available to them; the purchase of a ram, repeated crossing, and the selection of those ewes which best fulfilled the current market requirements. This may be described as a 'democratic' process, involving common sense, and empirically derived principles, rather than an 'heroic' one, depending upon the special skills of a few, well-educated breeder-publicists.

Land Settlement in Scotland After World War I*

By LEAH LENEMAN

Abstract
After World War I the Land Settlement (Scotland) Act gave the Board of Agriculture for Scotland powers to break up farms into smallholdings. The hopes of landless men in the Highlands and Islands were raised by promises both before and after the war, but for financial and other reasons the rate of progress in settling them was much slower than anticipated, and a number of men took illegal possession of farms. Public sympathy for ex-servicemen was so great that more money was poured into land settlement and strenuous efforts made to speed things up. The programme went a long way toward satisfying Highland land hunger and was considered, overall, to have been a success. However, as the failure rate was highest by far amongst the holders settled just after the war, those who came later benefited more than the ex-servicemen for whom the legislation had been intended.

LAND settlement – the breaking up of large farms or estates into small holdings – has been a worldwide phenomenon throughout history.[1] In the early twentieth century the scale of state-aided land settlement in Scotland was not particularly large: in Denmark more than 26,000 new holdings were created following legislation in 1899 and 1919, while in Scotland fewer than 6000 were formed.[2] What made the post-World War I Scottish experience noteworthy was the background of Highland land agitation which preceded it, and the intensity of the demand emanating from that region. Although one modern historian has dismissed Highland land settlement policy after the First World War as a 'minor, and largely ineffective, attempt to deal with the situation'[3] (a disputable statement), the amount of parliamentary time devoted to this subject between 1918 and 1924, the strong pressure put on the government to secure holdings even for those who had acted illegally, and the millions of pounds of public money poured into land settlement are indices of the importance attached to it at that time.

The situation in the Highlands – or, to be more precise, the western Highlands and Islands – had its roots in the traumatic events of the late eighteenth to mid-nineteenth centuries, known as the Clearances. Elsewhere in Scotland (including the Eastern Highlands) the removal of people from the land had happened slowly, and therefore while depopulation in some regions (eg, the Borders) was actually greater than in some of the 'cleared' areas, it had been a gradual rather than an abrupt process. Also, in most parts of Scotland there were nearby towns and cities able to absorb the dispossessed, which was not true of the more geographically remote areas of the Highlands. And finally, however much romanticised clanship may later have been, the fact remains that in that kin-based society, 'economic inequalities were . . . transcended by an egalitarianism expressed in terms of blood relationship, however remote, and encapsulated in the right of every clansman to shake the hand of his

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[1] E J Jacoby and C F Jacoby, *Man and Land*, 1971. They define land settlement as 'an agrarian reform programme particularly designed to relieve the pressure in overpopulated rural areas and promote a more homogeneous distribution of land and labour', p. 275. This definition would certainly apply to land settlement in the Scottish Highlands, although not to the Lowlands.

[2] Alexander S Mather, *State-Aided Land Settlement in Scotland*, O'Dell Memorial Monograph No. 6, University of Aberdeen 1978, p1.

[3] R H Campbell, *Scotland since 1707*, 2nd ed, Edinburgh, 1985, p223.

chief.'[4] The advent of commercial landlordism in the aftermath of the 1745 rising was therefore exceptionally difficult for Highlanders to assimilate, especially as in so many cases the landlords who were so ruthlessly evicting them still held the title of chief of their clan.

Before the beginning of the nineteenth century smallholdings occupied by single tenants paying rent to a landowner were non-existent in the Highlands; the crofting system was a nineteenth-century development. It took a long time before this new breed – the crofter in place of the clansman – emerged to fight for the land that had been lost.[5] The basis on which the crofters fought was the belief that occupation of the land gave men an inalienable right to that land.[6] While unique in Great Britain, such a belief has surfaced in many other cultures and times, and has been called the Agrarian Creed.[7] As far as the crofters were concerned, the rightness of their belief was confirmed by the Bible.[8]

I

As a result of the land agitation new legislation was passed in 1886: the Crofters Holdings (Scotland) Act guaranteed security of tenure to crofters and gave them the right, if they relinquished a holding, to claim compensation from the landlord for improvements made to it. This was radical legislation, for no longer after a crofter had put everything into improving his croft could a landlord evict him from it. However, it failed to meet the crofters' most urgent need, the need for more land. As a result, Highland agitation continued unabated. It was not until 1897, with the passage of the Congested Districts (Scotland) Act – which set up the Congested Districts Board and provided money to create holdings – that this problem was tackled. Unfortunately, the funding provided was so far from adequate, and the limitations on the Board's powers so crippling, that the effects of the Act – although by no means negligible – were strictly limited.[9]

Highland land agitation did not, therefore, disappear in the early years of the twentieth century. However, when the Liberals came to power in January 1906, their dedication to land reform was not confined to the Highlands of Scotland. Both in England and in Lowland Scotland increasing alarm was being expressed at the rate of the exodus of small farmers from rural areas into the towns, and at the consequent deterioration of the land.[10] The remedy was seen as government assistance in the creation of smallholdings. After a long and bitter struggle – far more so for Scotland than for England (the latter was subjected to new legislation in 1908) – the Small Landholders (Scotland) Act, 1911 was passed.[11]

By this Act crofting tenure was for the first time extended throughout Scotland, crofters now being termed landholders. This meant that smallholdings could be created on privately owned farms in both

[4] James Hunter, *The Making of the Crofting Community*, Edinburgh 1976, p90.

[5] A defining characteristic of the crofter was that, while earning the bulk of his living from his holding, he always had some kind of ancillary occupation as well. *ibid*, p 3. A vivid description of life as a crofter in the post World War I period is Finlay J Macdonald, *Crowdie and Cream*, 1982.

[6] It is worth emphasizing that, unlike the Irish the Highlanders had no interest whatsoever in *owning* their holdings. Hunter, *Crofting Community*, p185.

[7] Jacoby and Jacoby, *Man and Land*, p88.

[8] Hunter, *Crofting Community*, p159. This too was not unique to Scotland; Jacoby and Jacoby in *Man and Land*, pp.88–9, also noted the Old Testament as the first expression of the Agrarian Creed.

[9] For a description of Highland land agitation and legislation in this period see Hunter, *Crofting Community*, Chs 8–10. The years up to 1886 are also covered by Ian Fraser Grigor, *Mightier than a Lord*, Stornoway 1979.

[10] For England see H Rider Haggard, *Rural England, Being an Account of the Agricultural and Social Researches Carried out in the Years 1901 and 1902*, 2nd ed, 1906. For Scotland see *Scottish Land Rural and Urban: The Report of the Scottish Land Enquiry Committee*, 1914.

[11] J Brown, 'Scottish and English Land Legislation 1905–1911', *Scot Hist Rev*, XLVII, 1968. Lady Pentland, *The Right Honourable John Sinclair, Lord Pentland: A Memoir*, 1928 pp.86–98; J Gibson, *The Thistle and the Crown: A History of the Scottish Office*, Edinburgh, 1985, pp.39–42; I G C Hutchison, *A Political History of Scotland 1832–1924*, Edinburgh 1986, p243.

Highlands and Lowlands, with the new holders not only receiving financial assistance from the government, but also being granted security of tenure, and having their fair rents set by the newly-created Scottish Land Court. The Congested Districts Board was disbanded, and the Board of Agriculture for Scotland set up in its place.

The most controversial aspect of the new legislation was the compulsory procedure which could be adopted if agreement could not be reached with the landlord of a farm considered suitable for smallholdings. The Board could in that case intimate that it was in the public interest that one or more new holdings should be constituted and then apply to the Scottish Land Court for an order authorizing the constitution of new holdings and enlargements. The Land Court would hear the landowner's objections, but if found invalid then the settlement of smallholders would go ahead. The holders would become the landlord's tenants, the Board (in theory at least) having no further part to play after providing the necessary loans and grants to assist the holders to erect buildings and equip the land

By the time war broke out in 1914 it was all too evident that the Act would not have the hoped-for success in settling large numbers of men on the land. There were various reasons for this, but the crucial one was a clause which had been added when the bill was debated in the House of Lords, allowing landowners claiming compensation over £300 the right to be heard before an arbiter instead of the Land Court.[12] The Land Court was distrusted by landowners at that time,[13] and therefore there was a general insistence on being heard before an arbiter. The key question became the claim by proprietors that the establishment of smallholdings diminished the value of their estates. The Board contested that claim and as a result found itself embroiled in endless litigation. Arbiters came to differing conclusions, but the question was finally resolved by a House of Lords decision: in January 1916 the Lords pronounced that depreciation in the value of an estate was a competent claim.[14] The Board had to pay full legal costs and vast sums of money which had not been budgeted for in landlords' compensation, not only to this landowner but to many others whose claims under this head had been suspended pending the Lords' decision. As a result many promising schemes had to be abandoned for fear of excessive compensation claims.

II

Some discussion of the difficulties which beset the 1911 Act has been necessary, because subsequent legislation built on this statute. The hopes of many landless men had been raised by its passage, only to be dashed in the years that followed, when only a fraction of those who had applied for holdings were actually given them. The Board of Agriculture were on the side of the applicants, but they had to deal with intransigent landowners and their agents. Changes would have had to be made to the statute in any case, but the main effects of the war were to create a vast reservoir of public sympathy for ex-servicemen wanting land and a greater militancy on the part of the landless. Interestingly, although Highland land agitation had begun anew toward the end of the war, the impetus for the new legislation actually came from England, not Scotland.

Indeed, one author has commented that 'Mr Asquith's government seemed more concerned with planning the post-war world than with the immediate problems of feeding the nation during the remainder

[12] *Scottish Land Rural and Urban*, p115.

[13] Scottish Record Office (SRO) E824/469. Also, J P Day, *Public Administration in the Highlands and Islands of Scotland*, 1918, p229.

[14] SRO, AF83/907.

of the war.'[15] A Committee was set up in the summer of 1915 to consider what steps could be taken to promote the settlement or employment of sailors and soldiers on the land after the war. The report pointed out that a much greater proportion of recruits rejected for active service came from towns than from country districts. 'If, therefore, we desire a strong and healthy race, we must encourage as large a proportion of our people as possible to live on the land.'[16] Also, the war had shown clearly how necessary it was for the nation to produce as much of its own food as possible, and this was another reason for promoting land settlement.[17]

The result of the Committee's report was the Small Holdings Colonies Act, 1916, which empowered the acquisition by agreement of up to 2000 acres for the purpose of providing 'experimental small holding colonies'; no special funds were provided for this purpose. The Sailors and Soldiers (Gifts for Land Settlement) Act was also passed in 1916, and in 1918 the Small Holding Colonies (Amendment) Act authorized the acquisition of 20,000 instead of 2000 acres but still did not provide extra funds. These Acts were applicable to Scotland as well as to England, and under them several farms in Lowland areas were purchased by the Board of Agriculture for Scotland. The provision that three-fourths of the land acquired must be arable made the acquisition of geographically Highland estates impossible.[18]

The Scottish Board of Agriculture did not pay as much heed to the problems of land settlement likely to arise after the war as did their English counterparts. As one Scottish MP pointed out bitterly in the course of a House of Commons debate in 1916, while the English had 'at least had the imagination and the initiative to set up a Committee to inquire into the problem of settling ex-soldiers and sailors on the land', the Board of Agriculture for Scotland had given no indication that they had even considered this.[19]

However, in that same debate, the Secretary for Scotland[20] was able to announce that the Duke of Sutherland had gifted the Board with the 12,000-acre farm of Borgie, the terms being that it was to be used 'for the settlement of sailors and soldiers who have been on foreign service and who had volunteered without compulsion and have a good record of foreign service.'[21] In May 1917 the Duke of Sutherland approached the Board with the offer of another farm, Shinness, not as a gift this time, but by negotiation under the terms of the 1911 Act (though with the promise not to claim compensation for depreciation of selling value). This too was aimed at the settlement of ex-soldiers and sailors, and, in spite of the heavy cost of the exercise, acceptance was sanctioned.[22] Apart from those schemes, very little was done during this period, and in 1917 there was renewed agitation for Highland land reform.[23]

At the end of the war the Coalition

[15] E H Whetham, *The Agrarian History of England and Wales, VIII, 1914–39* Cambridge, 1978, p83.

[16] *Departmental Committee on Land Settlement for Sailors and Soldiers*, PP, 1916,XII.

[17] The Board of Agriculture for Scotland took up this theme in a 1918 'Memorandum on the Creation of Small Holdings as a Means of increasing the Productivity of the Soil', which concluded (regarding Lowland farms) 'that the creation of small holdings is a sure means not only of adding to the rural population, but also of adding greatly to the home production of food.' SRO. AF43/93. The validity of this assumption is, of course, open to argument.

[18] The Board discussed the difficulties of utilising these Acts for Scotland in their *Seventh Report* (for 1918), pxvii.

[19] House of Commons, 9 August 1916, 1101. An author writing in the early 1920s thought that it would 'have been wise if steps had been taken to have a certain number of holdings ready as soon as possible after demobilization'. He admitted the uncertainties of 1917 and 1918 and granted 'the unfortunate slowness of the normal action of a public department', but nevertheless found it a matter of regret that more forward planning had not been undertaken. W R Scott, 'Scottish Land Settlement' in *Rural Scotland During the War*, 1926, p244.

[20] The Secretary for Scotland did not become a Secretary of State until 1926.

[21] House of Commons, 9 August 1916, 1130–1131.

[22] SRO, AF83/613 and 614. The Duke of Sutherland actually sold this farm before the holders were settled on it, but with the understanding that the new proprietor would be bound by his arrangement with the Board.

[23] Hunter, *Crofting Community*, p195; *Glasgow Herald, 5 October and 6 December 1917.*

Government presented their election manifesto:

> The care of the soldiers and sailors, officers and men, whose heroism has won for us this great deliverance, and who return to civil life, is a primary obligation of patriotism . . . Plans have been prepared, and will be put into execution as soon as the new Parliament assembles, whereby it will be the duty of public authorities and, if necessary, of the State itself to acquire land on simple economical bases for men who have served in the war, either for . . . allotments, or small holdings, as the applicants may desire and be suited for, with grants provided to assist in training and in initial equipment.[24]

A booklet entitled *Land Settlement in the Mother Country* was issued by the England and Scottish Boards of Agriculture to demobilized soldiers and sailors, giving instructions on how to apply for holdings and providing an application form.[25]

The 1919 debate in the House of Commons contained many criticisms of the Scottish Board of Agriculture's dilatoriness in settling demobilized men, though the Secretary for Scotland put up a spirited defence.[26] When it came to legislation the English once again led the way, with the Land Settlement (Facilities) Bill, which established a fund from which the agriculture departments were to pay the cost incurred by county councils in providing small holdings for ex-servicemen.[27] The idea initially was that this statute would be passed for the whole of the UK, with special clauses inserted for Scotland.[28] The members of the Board of Agriculture for Scotland each submitted a memorandum, commenting on various clauses of the Bill. On 27 February 1919 the Chairman of the Board sent these to the Secretary for Scotland, along with his own comments. He began by stating that although initially he and the other members of the Board had felt that a separate Bill for Scotland would be preferable, he now thought 'it may be better to attempt to adapt the English Bill to suit Scottish requirements, in view especially of the postponement of legislation for Scotland that would most likely take place if a separate Bill were introduced, and of the greater dangers that would attend such a Bill in its passage through Parliament.'

No further correspondence on the subject has been uncovered, but reading the Board's memoranda must have convinced the Secretary for Scotland that separate legislation was necessary, for the English localized system of land settlement administered by county councils, let alone the very different forms of land tenure in the two countries, would have made the drafting of a single Act for the whole of the UK a nightmare. The Land Settlement (Scotland) Act came into operation in December 1919, four months after the Land Settlement (Facilities) Act.[29] It seems clear from the Board's memoranda and notes – and from a comparison of the two Acts – that the Scottish Act gained muscle from the English one.

Earlier English legislation of 1908 had given county councils powers to compulsorily purchase farms for the creation of smallholdings; the Land Settlement (Facilities) Act extended those powers to allow such purchases to be made without reference to any confirming authority for a period of two years. Part I of the Scottish Act paralleled the English statute in allowing, for the first time, the purchase by the Board, either by agreement or compulsorily, of lands anywhere in Scotland, subject to the approval of the Secretary for Scotland and Treasury.[30] This power was

[24] *The Times*, 22 Nov 1918.
[25] SRO, AF83/57.
[26] House of Commons, 4 August 1919, 64–115.
[27] See Whetham, *AHEW, VIII*, p137.
[28] SRO, AF66/114/2.
[29] The Land Settlement (Facilities) Act, 1919 is 9 and 10 Geo.V ch.59; the Land Settlement (Scotland) Act, 1919 is 9 and 10 Geo.V ch.97.
[30] During the war, the Land Court had suggested that 'the Board of Agriculture should be empowered and provided with funds to purchase throughout Scotland suitable land for enlargement and for new holdings, either by agreement or compulsorily'. *Scottish Land Court Report for 1916, p.xxx*. The Board of Agriculture did inherit power to purchase estates in the crofting counties from the Congested Districts (Scotland) Act, 1897.

at first operative for only two years, but it was continued in succeeding years by Expiring Laws Continuance Acts. Thus, under Part I of the Act the Board became the landlords of smallholders settled on farms acquired in this way. Part II still allowed the taking over of lands remaining in the ownership of the proprietor. The Treasury always preferred the Board to instigate Part II schemes, because obviously purchasing properties involved heavy expenditure, but landowners much preferred to have their lands purchased outright, and Part I therefore proved the more useful section of the Act.[31]

Nevertheless, Part II of the Act modified the Small Landholders Act, 1911 quite radically. The right to submit compensation claims over £300 to arbitration was abolished (the Land Court now assessed all compensation claims), and the right to claim compensation for depreciation of selling value was not allowed. The Board authorized their own schemes without recourse to the Land Court, and any objections by tenants or landlords were heard before the Board, who would then decide whether to go ahead with the scheme, amended or not. However, before it was put into operation an order had to be confirmed by the Secretary for Scotland, and if a landlord made representation that the scheme ought not to be confirmed, the Secretary for Scotland would make the final decision.

Part IV of the Act provided a new method of financing land settlement: for two years the Board were empowered to borrow a sum of £2¾m from the Public Works Loan Commissioners out of the Consolidated Fund, the annual loss, approved by the Treasury, to be made good by parliamentary vote. Part V directed the Board to give a preference for two years after the passing of the Act to applicants who had served in the armed forces. (As will be seen later, this preference was actually continued for much longer than two years). This part of the Act also conferred power on the Board (initially for two years but extended more than once and ceasing only in 1926) to make advances to holders to enable them to purchase livestock, seeds, fertilizers and implements. The need for this provision had been made manifest by schemes in pastoral areas such as Shinness in Sutherland where applicants lacked the capital to take over sheep stock.

III

With radical new powers to purchase farms, the removal of the aspects of the 1911 Act which had rendered it ineffective, seemingly realistic funding, and the will on the part of all sections of society to ensure that the men who returned from the war were provided with small holdings, the stage seemed set for the rapid settlement of large numbers of these men. But it did not work out that way. Partly, as indicated above, it was lack of preparedness. Then, too, many of the procedures which had been necessary under the 1911 Act were still essential under the new Act: interviewing and assessing the suitability of applicants, inspecting potential farms, and then providing those acquired with buildings, fences, roads and water supplies, all of which took time. Most serious were the financial difficulties. Prices – not only of land but also of building materials – were at an all-time high in 1919 and 1920, the years when the Board were frantically purchasing and equipping farms for smallholders. Five months after the passing of the Act the funds allocated for land settlement were already used up, and all schemes

[31] 'Although procedure in effecting settlements on properties remaining in private ownership was simplified by the 1919 Act, settlements of this nature, except where carried out by agreement, were and still are subject to protracted procedure. The result has been that policy has gradually changed over to the formation of holdings on lands acquired and held by the State.' DOAS. *Twenty-Seventh Report* (for 1938), p36.

not already under way had to be suspended.[32]

The reaction from ex-servicemen might not have been so violent had the propaganda prior to and after the war not been so eloquent. As one bitter Highlander put it, 'At the last general election Sir R L Harmsworth and his agents flooded Sutherland with literature containing rosy promises to all of land etc, not even (*sic*) were they to break up farms and pay compensation for the same, but they were also to find capital for soldiers and others who they said could not be expected to have capital with only a shilling a day of pay.'[33]

Not surprisingly, it was in the Highlands and Islands where real trouble erupted, as demobilized and land-hungry men used the only weapon that had proved efficacious since the late nineteenth century: raiding. On the mainland this was usually a symbolic gesture. A number of men would march onto the land – sometimes preceded by a piper – and stake out holdings, in the hopes of obtaining press coverage and sympathy for their demands. In the Hebrides the men would actually begin to cultivate the land, in some cases bringing their families with them and even erecting temporary dwellings. The tenants of such farms would be harassed and sometimes prevented from ploughing.

The owner's redress was to take out an action of interdict against the men illegally occupying the land; when this was ignored by the men, as it almost invariably was, the landlord could have them arrested for breach of interdict. Several landowners did this, but the imprisonment of men who had returned from active service in the war and were now claiming the land which they insisted had been promised them created such a furore in the press and parliament that no landowner ever benefited from such an action. In one of the first post-war land raids, at Glendale, South Uist in 1918, the men involved were eventually given the holdings they had demanded, and this, which was supposed to be an exceptional case, proved instead to be the setting of a precedent.

In the Board's report for that year, published in 1920, they noted that there had been extensive land raiding and 'feared that seizures in the North and West will increase in number, and will tend to spread to other parts of the country unless a more rapid rate of progress is secured than has hitherto been possible.'[34] *The Times* encapsulated the press's views in their comments on the Board's report concerning forcible seizures:

> Having made these disclosures, the Board calmly turn to the discussion of cattle breeding and heather burning and kindred topics. They show no recognition of their own share of responsibility, nor do they give any indication of the way in which they or their superiors propose to deal with a situation which now contains elements of danger. The report is framed in such a spirit of aloofness that it might well have been drafted by philosophers in Saturn.[35]

It will be noted that the Board rather than the lawbreakers were being blamed for the situation.

Some positive action had to be taken, and the first thing that the Secretary for Scotland did – with Treasury approval – was to create a new temporary post, Director of Land Settlement, and appoint to it an esteemed public figure, Sir Arthur Rose.[36] It is a measure of the respect he inspired that in the period in which he held the post, during which the Board was

[32] The Secretary for Scotland considered the fact that the Board had so rapidly 'exhausted the possibilities of the Act in the direction of acquiring land' commendable, though he went on to admit that 'the position with regard to funds is serious when viewed in light of the present unsatisfied demand'. House of Commons, 4 Aug 1920, 2474.

[33] SRO, AF66/25.

[34] BOAS. *Eighth Report*, pxiv.

[35] *The Times*, 3 Aug 1920. The piece concluded, 'The agrarian trouble in the Highlands would never have reached its present intensity if the Board had acted with greater readiness and efficiency. They are now regarded with hostility and mistrust.'

[36] Sir Arthur Rose DSO. was Chairman of the Edinburgh Education Authority and President of the Association of Education Authorities of Scotland. During the war he commanded a battalion of the Royal Scots at the front, and afterwards he acted as Food Controller for Scotland. SRO, AF66/24.

criticized almost non-stop for not doing enough, none of this criticism was ever aimed at the Director of Land Settlement.

In view of the financial situation, a conference of government ministers was held on 5 July 1920 when the Cabinet had before them a memorandum by the Secretary for Scotland on the position of land settlement in Scotland. If operations under the Act were closed down less than a year after its passing into law nearly 9000 applicants would be left unsatisfied and the situation would be intolerable. 'The Cabinet were reminded of the election pledges which had been given and were impressed with the social and political discontent which would be aroused by any sudden or substantial decline in land settlement policy.' However, to fully meet the demand at the prices then current might have involved the Treasury in an additional expenditure (for the whole of the UK) of £100m, which was impossible to contemplate given the state of the country's finances. The conclusion, therefore, was that the machinery of settlement would have to be overhauled 'with a view to the most rigorous economies'. It was estimated that whereas in England 40 per cent of the expenditure on each holding was irrecoverable (ie, grants rather than loans), in Scotland it was as high as 60–70 per cent, so naturally Scotland received much greater attention. A Committee was appointed to consider the best way to overhaul the policy and machinery of land settlement.[37]

In the intervening months letters and memoranda flowed between the Treasury and Sir Kenneth Mackenzie, the King's and Lord Treasurer's Remembrancer (the Treasury's liaison man in Scotland). In an August memorandum the Treasury noted, 'The broad question which is suggested for consideration is whether the better results might not be obtained in Scotland at less expense by acceptance of the less ambitious standards adopted in England and by a similar decentralization of the work.' Sir Kenneth Mackenzie replied at length; he was highly critical of many aspects of the Board's policies and practices but thought it right

> 'to point out that the conditions in England and Scotland differ considerably. The bulk of the rural population in England live in villages, and the demands for land there can frequently be met by the provision of allotments . . . Generally speaking the land in England is more fertile than that in Scotland, and the latter country has a much longer winter. On a 10–15 acre holding in many parts of England, bestial can graze for nine months in the year, in Scotland there is little grass till May. Probably, therefore, there may be fair reason to have rather larger holdings in Scotland from which winter keep can be procured.'

As far as decentralization was concerned, Sir Kenneth had no doubt that 'had the system been the same in both countries from the outset, much better results at far less expense would have been obtained in Scotland.' However, he doubted if the existing system could now be altered. He advised the Treasury that he had written privately to the chairmen of county councils where the Board owned considerable estates to ask if they would be willing and able to undertake the work, and they had all agreed they could have done it at the outset, but several did not think it would be desirable to transfer the work to them at this stage. Sir Kenneth also wrote privately to leading farmers on the County Agricultural Executive Committees and received similar replies; those in the southern counties thought they could do the work while those in the north demurred.

The Cabinet Committee Report was produced at the end of 1920 and its main recommendations made public at the beginning of January 1921.[38] Comparing the differences in average expenditure per holding in the two countries, the reasons for the higher cost in Scotland were seen

[37] SRO, E824/469. All Treasury material prior to the Cabinet Committee Report is in this file.

[38] SRO, E824/472.

as first the fact that virtually all Scottish holdings had ot be equipped with buildings, which was not the case in England; second the average Scottish holding was 36 acres compared with 15 acres in England; and third in Scotland most holders were given loans out of public funds for stock acquisition, whereas in England the bank loaned this money with a State guarantee.

The Committee estimated the total ex-service demand in Scotland at 7220 applicants, of whom 1284 had been, or could be, satisfied out of available funds. There were also approximately 500 disabled ex-service applicants, 3000 civilian applicants for new holdings, and 3500 civilian applicants for enlargements. The Committee realized that it would be quite impossible for the Treasury to provide the scale of expenditure which these figures suggested, but they felt that 'it would be difficult to maintain that the pledge to the ex-serviceman in Scotland was satisfied by the provision of holdings for only 1500 Scottish applicants – approximately the number which it will be possible to settle on present lines if Scotland is accorded financial treatment on the lines recommended in the case of England and Wales'.

The meat of the report was the question of what economies could be made. After careful consideration the Committee came to the conclusion that 'the objections to transferring the control and management of Land Settlement in Scotland to the county councils or other representative bodies are insuperable'. Neither did they think it a good idea to give such bodies advisory or consultative functions while the entire financial responsibility lay with the Exchequer. The Committee suggested five ways in which economies could be effected.

1 By reducing the number of applicants.
2 By acquiring land in future otherwise than for cash, and by adopting the practice of acquiring individual farms already equipped rather than large estates.
3 By reducing the size of the holdings and endeavouring to extend 'bare' land settlement.
4 By instituting a most rigid control over capital and other expenditure per holding.
5 By limiting the amounts lent to applicants for purchase of stock, etc

However, after a full discussion of the above, the Committee returned to the differences between Scotland and England, and recommended that additional funds be made available in order to satisfy more of the pressing demand. As a result of this, an amending Act was passed in 1921.[39] The Board's borrowing power was enlarged up to £3½m, and the period for borrowing was extended for a further two years, or a later date as the Treasury, after consultation with the Secretary for Scotland, should fix.[40]

In an attempt to reduce the number of applicants, it was announced that no applicant would be eligible for the preference given to ex-servicemen unless his application was received on or before 1 March 1921. Also, the names of men not prepared to accept holdings which, in the opinion of the Board, were suitable, were to be removed from the lists of ex-service applicants. The public announcement also stressed the importance of reducing the average expenditure per holding and advised that it would be necessary to limit the size of individual holdings, and provide only minimum equipment.[41]

The debate in the House of Commons that year was characterized by an even greater than usual barrage of criticism of the Board's lack of progress on land settlement. The Secretary for Scotland put up a vigorous defence, advising at the same

[39] For background on the drafting of the Bill see SRO, AF66/33.
[40] Borrowing actually ceased at a total of £2,158,185 on 31 March 1926, when land settlement again came to be financed out of the Agriculture (Scotland) Fund, *Report of the Committee on Land Settlement*, PP 1928, XI p12.
[41] SRO, E824/482.

time that as the Chairman was about to retire, and Sir Arthur Rose wished to resume his ordinary occupation, the Board would be reconstituted.[42] *The Scotsman* commented, 'There is ample justification for the criticism to which the Scottish Board of Agriculture was subjected in the debate on the Scottish Estimates. It is the expression of well-defined opinion in every part of Scotland. The Board is costly, ill-directed, and to a large extent ineffective. Its reconstitution is a step in the right direction.'[43]

IV

Far more serious from the Board's point of view than parliamentary and press criticism of its performance was the fact that land raiding was still taking place. The case which received the greatest amount of public attention at that time was the Raasay land raid. Seven men, with their families and stock, had come across to Raasay from the islet of Rona, where their ancestors had gone several generations earlier when they were evicted from the island of Raasay, and had begun to erect houses and cultivate the land. In 1920 the Land Court reported that Rona was 'entirely unsuited for a settlement of small holders' and that the housing and sanitary arrangements were 'of the most primitive description'. In view of these circumstances there was a great deal of public sympathy for the men. However, the proprietor had them interdicted, and in July 1921 they were found guilty of contempt of court and breach of interdict for not appearing in court; they were arrested in September.[44]

In December the Scottish Office used this case to prepare a press release in which the Secretary for Scotland announced: 'I have issued instructions to the Board of Agriculture that in future land raiding is to operate as an absolute bar to land settlement, and that persons taking part in such raiding shall be removed from the Board's list of approved applicants for small holdings.'[45] In spite of this statement, an arrangement was subsequently made whereby the raiders were given temporary accommodation elsewhere on Raasay so that technically they could be said to have 'removed', and immediately the Board purchased the estate the men were given holdings.

Such a result did not, of course, help to stop land raiding, and the year 1923 saw a heightening of Highland agitation at the slowness of land settlement. The depression made it much harder for men to wait for the chance of a holding, and because of this there was a wave of emigration from the Highlands and Islands,[46] which, in turn led to increased pressure to expedite land settlement. In May a deputation representing the Highlands and Islands Committee for the Free Church of Scotland called on the Secretary for Scotland to plead for the government to do more.[47] In June the Highlands Reconstruction Association presented a Memorial to the Secretary for Scotland with many of the same pleas. 'Whatever difficulties the Board of Agriculture have had to contend with', it stated, 'the rate of settlement has been painfully slow.' The reply which the Board provided for the Secretary for Scotland was that 'the scope and progress of Land Settlement, like every other administrative problem, is governed finally by considerations of finance.'[48]

It is highly unlikely (to put it mildly) that

[42] House of Commons, 28 July 1921, 755–792. For Notes for the Secretary for Scotland in connection with this debate, see SRO, AF66/34.

[43] *The Scotsman*, 30 July 1921. From the tenor of the piece, it is clear that the journal's hostility was not directed just at the Board but also at the whole policy of land settlement.

[44] The information on Raasay comes from files still held by the Department of Agriculture and Fisheries for Scotland (DAFS), which are not open to the public except by prior application.

[45] SRO, AF67/153. The announcement appeared in *The Scotsman* on 13 Dec 1921.

[46] Scott, 'Scottish Land Settlement', pp.260–1.

[47] SRO, AF67/376. This was reported in the *Glasgow Herald*, 23 May 1923.

[48] SRO, AF67/377.

deputations and memorials would have persuaded the government that something significant would have to be done to expedite land settlement in those areas; however, land raiding was continuing apace and causing growing concern.[49] The case of the 'Strathaird raiders' in Skye occupied an amazing amount of parliamentary time in the summer of 1923. Following the usual pattern, the men had been interdicted but ignored the interdict and remained on the land. In view of the Secretary for Scotland's 1921 statement, the Board removed the names of those men from their list of applicants. This caused an enormous public furore, which was redoubled when the men were imprisoned for breach of interdict.[50] The raiders had clearly assumed an important symbolic status as ex-servicemen who had waited patiently for the land they had been 'promised' until forced to take the law into their own hands.

Following an intense debate in the House of Commons[51] the men were released and promised holdings in Skye. In order to expedite Highland land settlement, in June 1923 the Secretary for Scotland presented the following instructions to the Board of Agriculture:

1 Lowland settlement to be confined to present commitments, subject to such exceptions as may be unavoidable.
2 Settlement in the seven Crofting Counties to receive prior consideration.
All Skye ex-servicemen to be settled by the end of 1924 if possible.
3 Staff to be increased. Estimated increased cost of staff £3200 per annum.
4 Land to be acquired by compulsion if necessary.
5 Schemes sanctioned by the Secretary for Scotland to be proceeded with, without waiting for settlement of compensation claims if the Secretary for Scotland approves.
6 Treasury controls to be removed as long as £3,000,000 not exceeded. Board to consult with Treasury before adopting a Scheme the cost of which is likely to exceed the present Treasury limitations.
7 Board to proceed at once on these lines.[52]

In the course of 1924 land raiding and criticisms of the Board finally died down. A report of that year entitled 'Economic Conditions in the Crofting Counties' noted that a great deal had been achieved by remedial legislation of the past generation, and that in some districts nearly all the farms had been taken. 'The difference made by such wholesale action is very great in such islands as Tiree and Barra, and can be appreciated by those, who remember the discontented state of the inhabitants of those two islands not so many years ago.' It was estimated that on the more thinly populated island of Skye so much land had been taken that by the end of the year 'probably one half of the population will have had their position improved thereby.'[53]

In their report for 1925, the Board noted that the demand for land settlement showed no signs of abating; they continued to receive more applications than they could hope to satisfy under prevailing conditions. They recorded their conviction that the time had come to relax the strict preference accorded to ex-servicemen.[54] It is interesting that, whereas in England the land settlement emphasis by the mid-1920s was on relieving unemployment, that consideration is never mentioned in Scotland during this period. In 1926 all of the Board's senior sub-commissioners, chief factors and the chief surveyor submitted reports containing their views on land settlement; once again the need to remove the ex-service qualification was empha-

[49] The Board in 1923 produced a survey of land raids since January, with the reasons for the forcible seizures and the action taken in each case, SRO, AF67/159.
[50] SRO, AF67/158.
[51] House of Commons, 26 June 1923, 2169–2263.
[52] SRO, E824/489. There followed a good deal of correspondence between the Board and Treasury before these instructions could be carried out.
[53] SRO, AF67/387.
[54] BOAS. *Fourteenth Report*, pp.10–11.

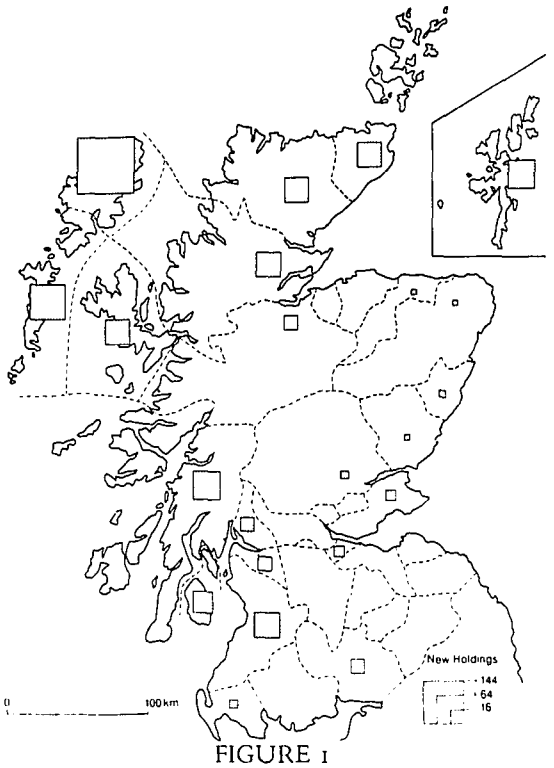


FIGURE 1
New Holdings Created on Private Land 1919–1930

Note: Data for Lewis, Skye and Harris, Uists and Barra, relate to period 1920–30

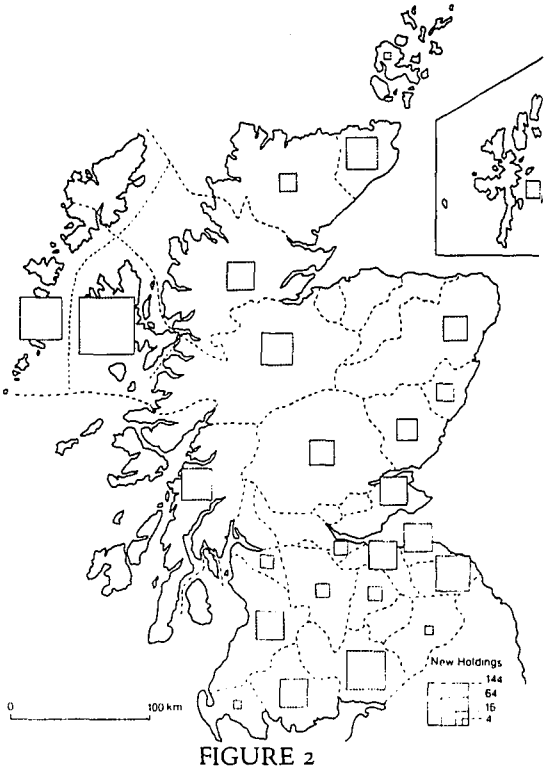


FIGURE 2
New Holdings Created on BOAS Land

sized. 'Any restriction in point of fact operates against ex-servicemen, in many cases, besides impeding the projection of land settlement generally.'[55] At the end of that year the Board were finally given authority to modify the preference given to ex-servicemen and to choose applicants on the basis of merit alone (though, other things being equal, ex-servicemen would still be chosen). An era had come to an end.

V

What had been accomplished during that era? Between the end of the war and 1930 a total of 2536 new holdings were created (a further 1236 had been constituted before the end of the war). Figures 1 and 2 show the geographical distribution of new holdings created on private land and on state-owned land between 1919 and 1930.[56]

As for how successful these holdings were, the picture revealed by Board of Agriculture Annual Reports and Board of Agriculture internal files is often very different.[57] For example, in their Annual Report for 1925 the Board noted that the failure rate amongst new holders was only 2 per cent, which was wonderfully low.[58]

[55] SRO, AF66/57.

[56] These figures have been reproduced by kind permission of the author from Mather, *State-Aided Land Settlement*.

[57] Board of Agriculture Annual Reports can be found either in the SRO or in Parliamentary Papers. Although some crofting files (found at the SRO under AF66 and AF67) have proved useful, the main source for Scottish land settlement is Estate Management files. For each estate or farm acquired a series of files was raised. Files for schemes constituted on private land – under the 1911 Act and Part II of the 1919 Act – were deposited at the SRO, and a representative sample listed under AF83. The files for Part I schemes (on government-purchased land) are at time of writing still in the possession of DAFS, and prior permission must be sought for access to them. I am very grateful to DAFS for allowing me to examine these files. Treasury material also provides added insight into land settlement, and those files are in the SRO under E824.

[58] BOAS, *Fourteenth Report*, p 18.

What they did not mention was the high rate of absenteeism which prevailed in some of the Hebridean settlements, which caused great hardship to holders having to contribute far more than their fair share of the common work of the township. The statute did not insist on residence as a prerequisite to registration as a landholder, and the Board found it difficult to evict tenants who did not reside on their holdings. In any case, one reason for the seemingly low failure rate may well have been the extreme reluctance of the Board to get rid of ex-service tenants, no matter how hopeless they were. It was only in the late 1920s that efficiency appears to have got the upper hand over sentiment.

Another aspect of land settlement which – hardly surprisingly – is not revealed in the Board's Annual Reports is just how badly they handled the implementation of schemes in the immediate post-war period. Time and time again they were flooded with complaints by holders who had been settled without adequate housing, fencing, roads or water supply. And in spite of the extremely high cost of building materials at that time, many of the houses were very shoddily constructed, so that extensive repairs had to be undertaken some years later.

Nevertheless, in spite of some dreadful inefficiency and mismanagement in the early years, the end result was a successful programme of land settlement, which satisfied Highland land hunger and which, by the 1930s, was capable of providing numerous holdings in the Lowlands for the relief of unemployment. It is noteworthy that because the level of loss sustained on farms purchased for smallholdings in England and Wales after the war was considered too high to be justified, the purchase of such land was brought to an end in the mid 1920s,[59] while in Scotland it continued until about 1950.[60]

In their report for 1938 the Department of Agriculture for Scotland reviewed land settlement during the previous half century.[61] Unlike the immediate post-war period, when land settlement policy was judged soley in terms of the numbers of applicants settled, by this time it was possible also to look at how well individual holders had done. Overall the policy was considered to have been highly successful. However, it was now admitted that the period during which demand for smallholdings was at its most clamorous was also the period of greatest failure. Most of the failures were 'ex-service applicants settled under Government pledge in the post-war period, who being for the most part hurriedly trained in agriculture and subsidised for stock and equipment could not stand up against the heavy fall in agricultural prices that occurred before they were properly established.' Some three-quarters of all the unsuccessful holders on the Department's estates had been settled between 1919 and 1924. It is sadly ironic that the situation which led to land becoming available to far greater number of smallholders than ever before – the ending of World War I and consequent demobilization of soldiers – benefited those who came after far more than those for whom the legislation was actually framed.

[59] Whetham, AHEW, VIII, p138.

[60] For the government's disengagement from land settlement since then see A S Mather, 'The rise and fall of government-assisted land settlement in Scotland', *Land Use Policy*, July 1985, pp.217–24.

[61] BOAS, *Twenty-Seventh Report*, 35–46. (The Board became a government department in 1928.)

French Agrarian History after 1750 – a Review and Bibliography*

By M C CLEARY

SINCE the late 1960s, French rural history has flourished as never before. From the village monograph and peasant autobiography to the massive regional *doctorat d'État*, the variety, depth and quality of rural history has been striking. But a prodigious increase in output in recent years has not lessened debate about how the rural world should be analysed. Methodological discussion about the place of agriculture, the importance of industry, and rural-urban linkages coexists with more empirically-based disagreements about the place, character and dynamism of the peasant sector, and the chronology and nature of agricultural modernization.

Such debate typifies the richness of much rural historical writings. As Le Roy Ladurie has noted,[110] a new rural history has emerged in recent years. More quantitative and analytical in emphasis, its development has mirrored that of the *Annales* school which has sought a more problem-oriented history employing theory and fostering interdisciplinary interpretations. At the same time it has become increasingly popular with the public. Rural histories and peasant novels have become best-sellers and the images and symbols of rural France have become an integral part of television and cinema output. This review, which includes, where possible, works published in translation, seeks to highlight some of the more important work of the last two decades, work, which, it is argued, typifies the current state of research in French rural history since about 1750.

* Place of publication is Paris unless otherwise indicated

I

Something of the variety and wealth of agrarian history in France has been evident in recent general works. The four volume *Histoire de la France Rurale*,[52] published some ten years ago, although at times uneven in the place accorded to interpretation over description, nevertheless provides a valuable and richly-illustrated introduction to the evolution of rural France since the early Middle Ages. Equally, the more substantial volumes of the *Histoire Economique et Sociale de la France*[22] provide an excellently documented history of the rural sector and a clear assessment of its links with urban and industrial France. For the doyen of French historians, Braudel, it was rural and agricultural France, with its distinctive *terroirs* and *cultures*, influenced by environment and circumscribed by tradition, that created that particular *Identité de la France* which was the subject of his last book before his death in 1985.[23] General histories by *inter alia* Zeldin,[165] Magraw,[116] Price[145] and Forster and Ranum,[65] have introduced material on French agricultural matters to English audiences.

The often massive *doctorat d'État* remains the basis for much rural historical work. If the place of these multi-volume works, usually anchored in a particular region, has been the subject of some debate within French academic circles, there can be little doubt that they continue to form the core of much agrarian history. The recent theses of Rinaudo on the Var,[145] Hubscher on the Nord,[88] Mayaud on the Doubs,[119] Mesliand on the Vaucluse,[125] Garrier on the Beaujolais[71] and Gavignaud on Roussillon[73] have

focused on the agricultural and rural economy in its regional context. Such work, in conjunction with the classic monographs of historians and geographers from earlier periods, has given the historian of rural France a depth and richness of regional work which the British historian might well envy. These monographs, particularly where they move beyond narrow departmental confines and past the temporal divide of the Great War, have a descriptive and analytical depth which reflects the nature of the French doctoral system. As Table 1 shows, this corpus of regional work constitutes a rich reservoir of material for the agrarian historian researching on both regional and systematic themes, although that coverage remains somewhat uneven.

Alongside these larger monographs, the local study, usually centred on a particular village, has continued to form a major part of rural historical output. Large scale interdisciplinary projects, organized under the auspices of the CNRS, have produced volumes on the Aubrac[27] and Brittany[26, 129] which include important historical sections, whilst village studies by Higgonet,[85] Rosenberg,[148] Ackerman[1] and Zonabend[166] have sought to move beyond what Morineau[132] saw as the limited antiquarian focus of much local history in France.

TABLE 1
Major regional monographs and theses

Region	*Author (Date)*
North/East	Dion-Salitot (1972); Frélaut (1983); Hubscher (1979); Juillard (1953); Pinchemel (1957)
West	Bois (1960); Burguière (1977); Dallas (1982); Desert (1975); Dupeux (1962); Frémont (1967); Julien-Labruyère (1982); Morin (1971); Tilly (1964);
Centre	Béteille (1974); Bonnamour (1966); Corbin (1974); Durand (1946); Durand (1979); Garrier (1973); Marres (1935); Meynier (1931); Jones (1985)
South	Agulhon (1982); Barral (1962); Dugrand (1963); Fabre and Lacroix (1973); Gavignaud (1983): Judt (1979); Le Roy Ladurie (1974); Livet (1962)

II

At the base of work on the agricultural economy under the *ancien régime* has been the evolution of the landscape itself. As Clout has noted,[38] work on landscape history has been rather less prolific in France than in Great Britain; indeed, until the recent volume by Pitte[141] there was no single survey of the history of the French urban and rural landscape. In recent years, however, an increased interest in the cultural morphology of landscape can be detected. If the earlier works of Flatrès[61, 62] were important in highlighting the history of particular landscape features (most notably the *bocage* landscape of western France), more recent studies have attempted a broader view of the landscape. In conjunction with more traditional reviews of landscape gardening[2] and interdisciplinary work on the *bocage* [93, 126] an emphasis on the relationships, both physical and symbolic, between *paysan* and *paysage* can be detected in work by Bertrand,[13] Deffontaines,[47] and Cloarec.[37] Such developments are likely to press the exploration of the iconography of the landscape in ways similar to that in Britain through seeking to interpret the morphology and social meaning of different landscape types.

Alongside such work an interest in the cultural geography of the landscape continues to be expressed in work on rural vernacular architecture. At a time of increasing concern about the heritage, detailed work on rural house types[70, 120, 121] has emphasized the richness and complexity of regional building traditions. The built-form of the countryside, especially in its functional structures, can, it is argued, be 'read' in the same way as the landscape itself.

The degree to which *blé*, that catch-all term to describe wheat of all hues and colours, dominated the economy of the *ancien régime*, has been emphasized in an important paper by Mulliez.[133] It was the constant necessity to produce wheat for

the market in order to raise tax revenue which, he argued, was a potent factor in preventing strong regional specialization well into the nineteenth-century. This view of a series of largely autarkic regional peasant economies accords with that of Goubert, whose two translated volumes provide a classic introduction to the period.[75, 76] Diversity of agricultural techniques and productions also underlined the work of Faucher[59] who, in an influential set of papers, emphasized the complexity of regional economies. The work of Forster[64] and Morineau[130] posed the question of the extent of dynamism within the agricultural economy in the eighteenth-century; a more recent paper by Hickey[84] examined the question in relation to the Dauphiné region, stressing once more the importance of variations in regional growth rates, first identified by Toutain.[159] Such diversity is splendidly shown in Clout's examination of agricultural structures in the early decades of the nineteenth-century.[39] Comparisons between Britain and France, a chronic historiographical feature since the time of Arthur Young, have been the subject of a book by O'Brien and Keyder[135] in which the character of the agricultural economy is judiciously considered.

Alongside such work, the traditional structures of the economy have continued to receive attention. The reliance of the southern economy on the chestnut, the staple diet of the poorer peasant family, was stressed by Bruneton-Governatori[25] whilst Pitte[142] has documented the place of the chestnut in the European economy generally with particular attention to French examples. Work by Brisebarre[24] considered the place of transhumance in the southern economy whilst a pioneering paper by Molinier and Molinier-Meyer[128] has examined the place of the wolf in the economy and ethnology of early modern France.

If, in comparison with the nineteenth-century, work on the agricultural economy of this period has been somewhat sparse, the same cannot be said of village social structures. The nature of *ancien régime* society has been fundamental to the historiography of the Revolution and such interest has spawned a considerable body of work on social themes. Whilst a detailed consideration of revolutionary history is beyond the confines of the present paper, the place of the peasantry is reviewed in *inter alia* Hunt[92] and Soboul.[151] From the wealth of regional studies on the Revolution, one can note the contributions of Le Goff and Sutherland on Brittany,[106] Gauthier on the Picardy region[72] and the volume edited by Lucas and Lewis,[114] each stressing the difficulties of postulating common patterns of rural protest in diverse regions. The work of Cobb,[41] always sensitive and provocative, remains central to an understanding of the complex relationships between town and country in a period of political turmoil.

The nature of the rural community, its structures, geographical variations and mentalities have been considered by Jones.[94, 95] His critical examination of the way in which the notion of community has been employed by historians and geographers has highlighted both the extent of local variations in communal loyalties and the unifying role of the Church. Gutton[82] has similarly focused on the meaning of community whilst work on the place of religion in rural society by Jones,[96] Cholvy[30] and Tackett[154] has been important in highlighting its central role which continued into the twentieth century.

The place of migration within the community has been a continuing theme in historical work. Regional studies by Béteille[14] and Corbin[43] emphasized the importance of seasonal and temporary migration in permitting overcrowded rural communities to rid themselves of excess mouths during the hungry season. Patterns

established during the *ancien régime* were reinforced when permanent exodus began in the early nineteenth-century. Such linkages have been examined by Pitie[140] and Chatelain[29] whilst the work of Hufton[91] provides a comprehensive and sensitive overview of both poverty and the migration patterns it created during this period, distinguishing a cottage-bound north and east from an essentially restless and rootless south and west.

III

Between the Revolution and the Great War the economy and social structure of rural France was dramatically transformed. For Weber,[162] this change from *Peasants into Frenchmen* resulted from the effect of a trilogy of factors: military service, compulsory education and improvements in communications. If critics have sometimes disputed the model of modernization espoused by Weber[116] few disagree about the profundity of change, and about the wider significance of his work.

It can be argued that the debate about peasant France engendered both by Weber and Duby and Wallon[52] has obscured the real progress of capitalist agriculture. The image of a small, owner-occupied peasant sector was at odds with many parts of France where a highly capitalized, rented farm sector existed. Clout's reconstructions of the agricultural geography of early nineteenth-century France indicate the highly developed agriculture of areas such as north and north-eastern France, the Beauce and parts of eastern France.[39] Such trends had been reinforced by the end of the century – again Clout's painstaking work makes clear the wide disparities in agricultural structures and productivity on the eve of the Great War.[40] For the start of this period of change, Lepetit's detailed reconstruction of the major economic zones in 1830 represents a noteworthy attempt to quantify economic development using multivariate analysis.[107] He distinguishes five main zones of economic development centred on the north and east. As Hohenberg argues,[86] rural France was far from being stagnant in mid-century – many areas had highly active property markets and had embarked on radical technical changes. Grantham[77] and Newell[134] have also made clear that parts of France did experience radical agricultural revolutions (increased property size, mechanization, the elimination of the fallow) although both note that the lack of demographic growth may have inhibited market expansion and the full development of a market-oriented agriculture.

Work on particular aspects of the agricultural economy is typified by the paper of Heffer *et al*[83] which provides a detailed reconstruction of the conditions of production and marketing of wheat. Such work needs to be extended to other products in the production system in order to build on the pioneer work on Augé-Laribé.[4] Viticulture has, not surprisingly, received attention. Gavignaud[73] has examined both the structures of production in Roussillon and the sometimes vexed relationship between *viticulteur* and the State. The trauma of the phylloxera epidemic has been considered by Ordish,[137] with Stevenson[152] providing detail for the case of *Hérault*. The character and transformation of pastoral economies in the south is discussed by Cleary.[35] Finally, the end-product of production, consumption and the resultant dietary patterns, is dealt with by Mennell[123] for the better-off classes and Bonnain-Moerdijk[18] for the peasantry.

The nature of property units has been a central theme in historical work. The *Histoire Economique et Sociale*[22] provides a detailed reconstruction of the geography of property units with diversity the main theme. From the large, well-capitalized rented farm of the north, to the sharecropping farm of central France to the small peasant holdings of the south-west, this

diversity almost defies generalization. But two important papers by Hubscher[89, 90] have sought to define more precisely the character of farm units and to explain their persistence by a more rigorous discussion of how farms actually functioned economically. Attention to the detailed material in farm account books is beginning to dispel a number of myths about the technical backwardness and capital shortages of French farms. Finally, the importance of salaried workers in agriculture, often the first to flee to urban and industrial employment has been examined by Grebouw.[78]

The relationship between agriculture and other sectors of the economy is touched upon in the general econometric history of Levy-Leboyer and Bourguignon,[112] although their approach has not been without its critics.[153] The relationship between agriculture and migration, a central theme in a number of regional monographs,[14, 43, 49] has also been examined by Winchester[163], whilst Ogden[136] saw migration as the prime force behind the collapse of traditional peasant society. Patterns of migration, their chronology and geography, have been well documented by Pitié[140] and Merlin.[124] For Price,[144] the role of the railways in stimulating agricultural change was fundamental – it was the improvement in communications from mid-century which acted as a catalyst for two closely-related trends to take effect, the disappearance of food shortages and the onset of agricultural specialization. The place of industry in the countryside is also beginning to receive the attention it deserves. As Rinaudo[147] has convincingly demonstrated, occupational diversity was fundamental to the peasant economy with people moving from one job to another on a temporary or seasonal basis. Such diversity was threatened as large-scale industrialization undermined rural artisans and industry.

To what extent were such economic transformations reflected in changes in the fabric of rural life? Research on the social, cultural and political character of village life has multiplied in the last decade or so. Education has increasingly been seen as fundamental to economic change. The problems of peasant literacy in the pre-Revolutionary period are considered by Siddle.[150] The classic volume of Thabault identified the development of a coherent, compulsory schooling system from the 1860s as the key factor in helping the economic and social transformation of Deux-Sèvres.[156] The text of Furet and Ozouf[69] provides an excellent introduction to the debate about the effectiveness of legislation, the intentions of the legislators and the geography of schooling and literacy. Such work has been extended by Grew, Harrigan and Whitney[80] who have introduced more precise definitions of schooling density into their spatial analysis. The often parlous standards of the teachers themselves are entertainingly described by Day[45] using the reports sent in by teachers themselves to a government enquiry of the 1860s. The relationships between agricultural structures, settlement patterns, political affiliation and literacy provide challenging research problems for those interested in the character and modernization of rural France at the turn of the century.

The role of military service, seen by Weber as fundamental to the process of economic change, remains curiously under-researched. Whilst the military records themselves have been extensively used by historians (eg, 161) because of the information they contain on the size, degree of education, and physical condition of conscripts, work on the experience of that service remains to be done. Yet the uprooting of peasants for military service or the experience of life in the trenches of the Great War cannot but have helped reshape mentalities and attitudes and widened the horizons of the typical *poilu*. Peasant autobiographies (eg, 79) hint at such influences.

The way in which the peasant com-

munity was organized has been an important theme in recent research. The strength of the French tradition of rural sociology has meant that the role of individuals and association in organizing the rural community has been much studied. As Francois and Reichardt[66] have argued, a wide range of groupings, both formal and informal, structured the rural community. For both Barral[9] and Houée[87] the place of economic and social organizations (the agricultural cooperative and syndicate, the rural bank) was central in the transformation of rural France. Work on syndicates and their place in economic and political change has been carried out by Baker,[5, 6, 7] Berger[12] and Cleary.[33, 34] Mutual-aid groups (for insuring animals, houses and individuals) and the development of agricultural credit, crucial for the break-up of peasant routine, have been examined by Gueslin.[81] Such studies reveal both the development of national networks of provision and their importance in the local context.

The Church, a central component of rural society, has, not surprisingly attracted considerable attention. The pioneering work of Boulard[20] has been developed by Le Bras.[105] His 1976 volume provides a useful summary of the work of religious sociologists whilst Launay[103] has considered the place and character of the clergy in the nineteenth-century. Jones[96] has detailed the way in which religion shaped the collective conscience of countless rural communities for whom the pulpit was the mouthpiece of village loyalties. Yet parts of France were strongly anticlerical; such tendencies emerged with vigour after the separation of Church and State in 1905. Nor did religion imply the triumph of rationalism. As Devlin[50] makes clear, the roots of superstition ran deep in the French countryside, usually blending with religion to provide a reservoir of ritual and belief.

The notion of community, its tensions and alliances, has also been an important theme in work on the politicization of the peasantry. Whilst Weber was right to insist that peasant political behaviour must be viewed in its often highly localized context, such an interpretation should not obscure the extent to which political behaviour in the peasant community is explicable in national terms. As Berenson[11] notes, to reduce politics to the local and parochial is to deny that the peasantry could make rational political choices. The work of Agulhon[3] has convincingly demonstrated that highly sophisticated political alignments were part of the southern tradition. Similarly Judt[97] has forcefully argued that the historian should not dismiss the rural environment as being outside conventional political analysis. The concept of economic and social modernization employed by Weber cannot be divorced from a analysis of political alignments and choices which were central to the peasant community.

IV

In some respects the First World War continues to represent a kind of barrier beyond which historical work all too rarely ventures. Yet it was in the inter-war period that the image of a peasant France, centred on the family farm, accorded most closely with reality. Massive outmigration in that period led to an improvement in the position of many farmers, able, thanks to post-war inflation, to pay off their debts and acquire new land.[22, 101] Debate about the extent to which protectionism acted as a brake on technical progress in farming continues to animate historical work.

The extent of agricultural innovation again varied markedly from one region to another as monographs by Mesliand,[125] Gavignaud[73] and Garrier[71] make clear. For most observers the thirty years after the war (a period usually referred to as the *Trente Glorieuses c.*1945–1973) were ones of unrivalled growth and modernization in

the farm economy, cut short only by the energy crisis of the mid-1970s and government retrenchment in the early 1980s. If the impact of change in the peasant sector has been relatively well studied (eg, 32) there is a continuing paucity of work on the more advanced farming regions, especially the north and north-west, where capitalist farming was making major strides. The recent *140 cartes sur la France rurale*[42] identifies some of the geographical dimensions of those changes whilst Mendras[122] provides the classic account of the final disappearance of the peasantry as the social and economic structures of that community were broken under the wheel of capitalist progress.

The nature of agricultural innovation and the new dimensions of rural France are considered by Bodiguel[15, 16] and Chapuis.[28] Cleary[36] has examined the organizations of rural France *post*-1918 and their responses to the progress of capitalist agriculture, whilst Maresca[117] focused upon the actors in the drama; her analysis of peasant leaders draws on detailed autobiographical material. Gueslin's work on the *Crédit Agricole* continues to remind the researcher of the vital importance of credit in agricultural modernization.[81] The place of agriculture under the Vichy regime is examined in detail by Boussard.[21] Personal testimonies to the rapidity of change in rural France are to be found in Debatisse[46] and Forget[63] whilst the new face of agriculture is well described by Klatzmann[102] and Chombart de Lauwe.[31] Kayser[100] has provided a valuable summary of this 'new' rural France, increasingly distanced from its agricultural base, and more reliant on the service sector than the farm.

V

What then, is the current state of health of rural historical writing in France? If one considers the range, diversity and depth of output it is undoubtedly good. Writings on both regional and systematic themes continue to further insight into the way in which the agricultural economy functioned in the past, into rural social structures and into the nature of economic and social change in the village. With *La fin des paysans*, interest in agricultural and rural history has if anything intensified.

A diverse focus of interests continues to characterize output. Work on the more traditional areas of agricultural history – tools and techniques for example – has tended to fade in recent years. It has perhaps been replaced with a sharper focus on the social fabric of farming. The emergence of capitalist agriculture, its character and methods, and the patterns (both temporal and spatial) of its diffusion occupy much space in the literature. Paradoxically, such a trend, reinforced through the strong interdisciplinary links which characterize history in France, is likely to turn researchers back towards a more critical, and regionally differentiated examination of agricultural techniques and methods. Equally important has been the shift in focus amongst rural historians from specifically agricultural to more rural questions. The place of artisanal and small-scale industrial production is being given increased weight particularly through the growing recognition of the place of part-time farming in this century.

Other new foci of interest include the area of state-farming relationships and the character of agricultural groups such as cooperatives, syndicates and banks. As government intervention in farming (symbolized by the famous Méline protectionist tariffs of the 1880s, but certainly pre-dating that legislation) has developed, the importance of the political economy of agriculture has become apparent. The complex relationships between the state, farming organizations and political parties constitute an increasingly significant area of research interest.

As historical interests cross the barrier

of 1914 it is likely that the questions which preoccupy contemporary social scientists – the disappearance of the peasantry, the character of capitalist agriculture, the development of a non-agricultural rural sector – will serve to illuminate aspects of the rural past. The boundaries between the historical and contemporary are in any case mere disciplinary niceties. It would be encouraging indeed to think that Marc Bloch's dictum about the present being the key to the past holds truer today than when he first wrote his *French Rural History* in 1931.

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Annual List and Brief Review of Articles on Agrarian History, 1987[1]

By RAINE MORGAN

THE use of highly sophisticated analytical techniques has again permitted fresh insights into the relationship between prehistoric man and the landscape. Scaife and Burrin (199) for example use palynological analysis of floodplain and valley fill deposits from the High Weald to demonstrate the environmental impact of woodland clearance. Results show that the effects were not site-specific but caused widespread soil degradation, and that these areas were not avoided but exploited to a degree previously unrecognised. The results of palaeoecological investigations in northern England are discussed by Simmons and Innes (208). They link demographic pressure to evidence of an intensified use of game and vegetable resources during the later mesolithic, and stress the gradual, adaptive nature of change from foraging to food production. More studies are challenging an anthropogenic interpretation of the elm deline. Hulme and Shirriffs (126) employ pollen and microfossil analysis and radiocarbon dating of cores from Perthshire to show that here it preceded cereal cultivation. And although similar investigations in western Ireland by Molloy and O'Connell (163) indicate that cereals and climatic change came first, they are persuaded that disease rather than man was the major factor responsible for the subsequent vegetation change. Also on forests Goransson (87) argues that nemoral broad-leafed trees were a pre-requisite for cultivation that were exploited by man rather than destroyed, while on Ireland Woodman (244) considers the distinctiveness of the environment there and the implications for early colonisation and the spread of farming. The correlation between cairn distribution and arable land during the Scottish Neolithic is confirmed by Perry and Davidson (176), using simulation analysis. Results also show that crop husbandry was negligible at first but became increasingly significant thereafter. The possible functions of the remarkably large field systems laid out on coaxial principles are examined by Fleming (76), in an update of research, and Williamson (239) reconstructs a spectacular example of this type of large-scale landscape planning on the East Anglian boulder clays. Dating from as early as 2000 BC Williamson suggests that co-axial fields may represent a recurrent method of alloting open space at times of pressure on the resource base. The dichotomy between such organized communal agriculture and the piecemeal farming pattern identified on the East Moors of the Peak District is considered by Barnatt (12) in his study of Bronze Age land division. He argues that regional siting and topography are the important explanatory factors. Halliday (96) reports on a distinctive type of ridged field system in the borders dating from *c.*500 BC and Jobey and Jobey (136) discuss early plant remains including cereals. These suggest that although spelt had been introduced into the area by the later Iron Age it had not yet become the principle wheat species. The discovery in Dorset of the earliest known, Neolithic, grape pip (*Vitis vinifera L*), subsequently destroyed by the dating process, is described by Jones and Legge (138), while Needham and Evans (166)

[1] Publications are dated 1987 unless otherwise noted. References to articles or off-prints should be sent to the Bibliographical Unit, Institute of Agricultural History, University of Reading. The Master Index containing over 30,000 classified references on British agrarian history and rural society can be consulted by appointment.

report how developments in the techniques of chromatography and spectroscopy are providing a greater understanding of prehistoric diet. Beeswax has been identified on sherds for example and it is inferred that forest beekeeping may have been widespread during the Neolithic. Sophisticated measuring techniques have been applied by Ryder and Gabra-Sanders (197) to plant fibres from early textiles in an attempt to detect evolutionary trends similar to wool. But the most remarkable feature of flax samples was their similarity regardless of age or source.

The significance of hillforts in later prehistoric Britain is widely discussed. Stopford (219) challenges Cunliffe's view that there was a change of function during the Iron Age and argues from evidence at Danebury that they were communal food storage centres within a system of seasonal exploitation of different environments, and occupied for only short periods. Bowden and McOrmish (25) believe there were underlying military needs but that they served mainly as a base for a 'detached' military élite who saw in the hillfort rampart a symbol of security, status and power. The formation in the eighth century of a system of public fortifications in England is considered by Haslam (107) who links it to a new system of 'urban' markets and Hogg (116) provides an extensive list, index and abstract of articles on hillforts in Wales. The degree of continuity in land use by prehistoric and later cultures is a recurring theme. Bradley (30) offers a new explanation of the striking juxtaposition of prehistoric and early medieval monuments which he maintains were reused by a social élite seeking to legitimize their position. Using evidence from the boundary clauses of late ninth- and tenth-century charters Hooke (120) reconstructs estates in the Vale of White Horse. Here she detects a continuity in farming patterns and estate demarcation up to modern times but few links with the Celtic or Roman past. The study also highlights the importance of the source material for gaining an understanding of contemporary regional economies and land use. On the evolution of Welsh administrative units Gresham (92) puts forward the theory that parish boundaries were laid out in the twelfth century in close relation to township boundaries and that the latter were firmly based on landownership. A number of individual charters are brought to our attention. Hart and Syme (103) describes the earliest known Suffolk example, relating to the grant of Chelsworth, and considers some of the interesting questions it raises about land tenure before the Norman Conquest. There is a separate report (102) on a rare tenth-century royal diploma for a Northamptonshire estate, while a unique charter by which Llwelyn ap Gruffud granted an estate to his tenant is noted by Smith (210). Also on Welsh source material Pryce (187) offers a critical assessment of Gerald of Wales's *Descriptio Kambriae*. Although the single most important work on medieval life and economy, the picture it provides is incomplete without evidence from complementary sources including the Welsh law books. The usefulness of the codes of the Welsh laws is attested by Butler (36) who had incorporated information with archaeological evidence to provide a detailed picture of domestic buildings at all levels of agrarian society. The huge potential of wetland archaeology for increasing our knowledge of the past is stressed by Coles (47), a potential amply demonstrated by Allen and Fulford's study (3,4) of the Severn estuary margins. Their geological and geomorphological surveys together with artefacts and field evidence reveal much of the local Roman economy including iron making, glassworking and trade, as well as settlement and reclamation. In a disturbing article Moffatt (161) compares evidence of land use in the pollen, sedimentary and documentary records of the Battle Abbey estates.

Neither the Black Death nor many minor events had an unambiguous impact upon the pollen profile, while a major event shown by sedimentological analysis apparently went unrecorded by contemporaries. The value of art works as historical documents is rarely exploited and Camille's (39) study of the Luttrell Psalter's ploughman demonstrates how images must not always be taken at face value. Created at a time of crisis the ploughman represents a nostalgic vision of an earlier 'golden age' of feudal order. The problem of deserted sites continues to attract scholarly attention. Dyer (67) focuses upon the medieval Cotswold village of Aston Blank and links its decline to isolation and small size which made it vulnerable to periodic farming difficulties and increased taxation preceding the Black Death. A disastrous medieval sandstorm is identified by Pollock (181) as the likely cause of the abandonment of a Scottish upland site while Smith (211) cites sheep and deer as the effective depopulators of farms and shealings in the Braemar area. The danger of relying on documentary material alone is stressed by Davison (59) who found that his field survey of a Norfolk site told a different story. On the English economy Mayhew (157) examines the movement of prices after the Black Death using a technique which neutralizes the impact of variable harvest yields, and Ormrod's study (171) of the reform of the customs in the mid-fourteenth century illustrates the crucial role of the wool trade in restoring financial security to the Crown. The sensitivity of pastoral farmers to trends in the market economy and their response to the problems of recurrent livestock disease are documented by Mate (155) in a detailed regional account, but otherwise farm practices have been largely ignored. More attention has been paid to the peasant economy. Dewindt (62) rejects the village-based approach which has relied on court rolls and calls for a wider field of vision: since individuals were highly mobile the regional community study is more appropriate. The value of the broader perspective is illustrated by Biddick's investigation (20) of the links between marketing strategies and different peasant wealth groups. Using thirteenth-century tax rolls for Bedfordshire her analysis suggests that the wealthiest peasants dealt in malting grains and wool within a regional marketing system while the poor produced a different mix of commodities for sale locally. An accepted view is that the demesne mill held a monopoly position in processing corn. However, Holt (119) traces changes in tenure of mills on the Glastonbury estates and demonstrates that by the twelfth century most were effectively under the control of a wealthy peasantry. Only during the thirteenth century, as conditions came to favour the lords were legal proceedings and financial incentives used to regain seigneurial control and a stake in the profits. Dyer (68) assesses the roles of manorial courts and points out that although they dealt with disputes between peasants and defined customary law, their main function was to defend lordly interests. The influence of lords usually gave them victory according to Hilton (112). Yet the peasantry was not totally powerless since the wealthy and middling sort were relied upon for the smooth running of courts. The combined effect of population increase, assarting and seigneurial pressures at this time also led to bitter conflict over woodland common rights according to Birrell (21) who also shows (22) that peasant hostility to forest laws was well-grounded. They impeded access to resources that were vital for subsistence and imposed a significant burden on forest dwellers in fines, litigation and harassment. The contribution of women to the rural economy, unlike their urban counterparts, has been largely overlooked. But in his analysis of indictments brought under the Statute of Labourers Penn (175) remedies this neglect and maintains that peasant

women were not only highly mobile and independent workers but participated in field and harvest tasks normally reserved for men, and even received comparable rates of pay. The discovery by Crook (58) of legal records relating to Derbyshire shows that the rising of 1381 was not confined to the south and east of England as is often assumed, while the fact that the rebellion was both inspired and led by the gentry confirms that the title 'peasants revolt' is an inadequate one. On the Black Death Benedictow (17) offers a detailed analysis of plague morbidity at home and abroad in order to re-affirm that rat-fleas were the chief vector and that the late medieval population decline was indeed due to the disease.

There is a dearth of significant articles on the agrarian history of the modern period. Husbands (130) challenges the ecological and market-based explanations of regional development in England and offers a different approach which focuses on movements of population and aggregate wealth. He concludes that there were important relocations of both during the sixteenth and seventeenth centuries, linked to urban growth and proto-industrialization. On productivity growth in agriculture Clark (45) maintains that historians have tended to overplay the role of technical change. It is his view that few gains were derived from this source and that the major increases flowed from the greater labours of individual farm workers who could vary the time taken to perform tasks by 3 to 1 or more. Kjaergaard (144) proposes that the key prime mover underlying progress in agriculture was the printing press and the stimulus it gave to the diffusion of knowledge. On the post-dissolution land market Gray (91) uses the Close Rolls for Monmouth supplemented with local material to trace the part played by Crown property in the development of estates. Judged against other areas studied, there was a more gradual pattern of purchase by locals of comparatively low social class who showed little inclination to resell. Hoyle (125) offers a new definition of the customary form of land tenure known in the north west as 'tenant right' and argues that it was not a static entity but a flexible device which was adjusted during the sixteenth century to meet the demands of lords. The inheritance strategies of two Midland gentry families during the seventeenth century are detailed by Larminie (146). Despite the increased use of family settlement at this time there was considerable adjustment both in response to particular circumstances and the personalities of individuals. The damaging effect of the Civil War and sequestration on estate finances is described by Broad (32) in a further account of the Verneys. On farming Bowie (27) assesses current ideas on the role of watermeadows in the light of documentary evidence. Yields, he finds, have been exaggerated: their main value lay in the reliable fodder they provided at seasons of scarcity before roots and artificial grasses rendered them obsolete. Duthie's account (66) of the role of immigrant communities concludes that although the French Huguenots may have had some influence on English horticulture their main achievement was to promote flax growing in Ireland, while in England the Flemings and Walloons were responsible for the notable improvement in market gardening after 1650. On social issues Arkell (8) attempts to measure poverty in the later seventeenth century by focusing upon contemporary perceptions of hardship, while on the language of social structure Wrightson (246) links change between the medieval period and 1700 to shifts in contemporary perceptions of society. The static, harmonious view of the English class system is rejected by Corfield (53, 54) who points to a new sense of innovation and challenge in the social terminology of eighteenth-century England. The antics of the London 'mob' at this time are

discussed by Shoemaker (205). He detects similarities with rural disorder which he argues have implications for understanding the differences between urban and rural society generally.

There are a considerable number of important articles on documentary sources of the modern period. Income tax records have been increasingly used lately in wealth-structure studies and Jubb (140) shows why it is important to understand how taxes were administered before embarking on their analysis. The strengths and drawbacks of the death duty registers for assessing the value of personal estates are described by Collinge and English (49, 70) while Brooks and Short et al (33, 206) highlight the research potential of the massive documentation arising out of the Finance (1909–10) Act. Although variable in reliability and coverage there is no other comparable national survey of landownership and occupation. Higgs (111) assesses the reliability of occupational breakdowns in the census report and warns that they should be treated with extreme caution, especially in relation to women's work. The process of accumulation and organization of data was undertaken by male enumerators with their own distinct view of female roles in society. Consequently statistics should be approached with a knowledge of local conditions as well as a grasp of shifting administrative conventions. Phillips (179) compares data on land use and cropping in the tithe files with evidence from the cropping books of Cheshire estates and finds serious weaknesses. Not only were rotations more involved in reality than the tithe files described them, but the crop acreages were suspect and the static view of land use belied the essential flexibility of farm practices at this time. The 1854 statistics of agriculture are considered by Dodd (64). He concludes that they are a valuable source for reconstructing contemporary land use, with a higher degree of accuracy than some later returns.

On the economy, the dynamics of Britain's performance between 1700 and 1850 and the role of agriculture are debated by leading econometricians. Crafts (55) stresses the position of agriculture as the engine of growth which achieved impressive advances in labour productivity, released manpower for industry and permitted vital structural change, while Williamson's interpretation (237) disputes the argument that farming was the leading technological sector. A lack of reliable output data for agriculture is the central problem and Mokyr (162) uses his own revised estimates of productivity (using factor prices as a surrogate) to illustrate the extremely fragile nature of existing calculations. The effect upon the Irish economy of the loss to England of half a million of its people in the immediate pre-Famine period is researched by Shergold and Nicholas (204). Contrary to the usual assumptions that the Irish had little to offer but muscle power, emigrants were typically the young, skilled, literate males whose departure seriously constrained Ireland's growth. Nor did England benefit since systematic discrimination ensured that skills were not utilized, reducing the output and raising the price of skill-intensive products, and through lower wages, reducing aggregate demand. A new agricultural prices index for Ireland is presented by Turner (227). Based upon variable weights which reflect the changing product mix it supersedes the quasi-official construction of 1915. The role of labour is the focus of considerable scholarly interest. Collins (50) returns to the subject of mechanization and argues that until the last quarter of the nineteenth century farmers were loath to substitute capital for labour because it was neither economic nor politic for them to do so. Using new evidence on wages Hunt and Botham (129) support the traditional view of a general advance in real incomes after 1750 in occupations linked to indus-

try, resulting in a growing disparity between the developing north and Midlands and the rural south. The failure of unskilled labourers to participate in a marked upturn in living standards after 1820 is also stressed by Williamson (237). On the related issue of population movements Nicholas and Shergold (167) have amassed data from the indents of convicts transported abroad to construct an internal gravity-flow migration model. Results suggest that while there were regional biases, labour market signals were not only heeded by migrants but were effective in correcting the rural-urban supply-demand imbalances. Finch's investigation (74) of farm labour in Devon, however, reveals that despite considerable out-migration wages fluctuated around subsistence level until the 1860s, when they rose steeply. Seasonal labourers were a vital component of certain regional economies and Withers (242) demonstrates how the annual flows to Scottish lowland farms helped small crofting communities to survive. Also on Scotland, Jones (138) provides a theoretical Marxian framework to allow different forms of migration over long periods to be integrated and assessed, and Caird (38) uses documentary material to illustrate how crofting townships in the Highlands and Islands were created from small tenant farms to accommodate population, increase rents and maintain labour supplies. In a reinterpretation of the sexual division of labour in English agriculture and mining Humphries (127) argues that it was fears about the moral consequences of unsegregated employment that caused families to withdraw females from the labour market, leading to declining participation rates in the nineteenth century. To provide a more accurate estimate of the amount and type of land subject to Parliamentary enclosure Chapman (42) presents the results of his important national survey based upon a 10 per cent sample of English and Welsh awards. Figures for the acreage affected far exceed previous estimates while the 'typical' arable enclosure is shown to be heavily overshadowed by enclosure of waste for reclamation. In his detailed local account Coney (52) explores the circumstances surrounding the legal battle to enclose a Lancashire common. An unusual socio-economic structure with a strong freeholder class meant that the bitter dispute continued for almost a century. The changes in farm size since early Victorian times are traced by Grigg (93) in an article which underscores the importance of methodology and the nature of statistical sources. Findings show that although the large farm now accounts for more of the agricultural area, the structure of farm size has changed little. Livestock production has received more than usual attention. Bowie (26) describes from contemporary accounts how Hampshire flockmasters responded to the rising demand for mutton from the late eighteenth century by fashioning new breeds and adopting more intensive feeding regimes. On structural changes in dairying Taylor (221) charts development in the English liquid milk trade after 1860 as imports hit traditional butter and cheese making, while on Irish poultry production Bourke (24) shows how the various reforming schemes of the 1890–1914 period either transferred management away from women or proved unworkable. Using the Breton breed of cattle as a case history Baker and Manwell (10) explain how factors other than biological or economic fitness led to decline and extinction. Mismanagement, quarantine regulations and the availability of similiar breeds sealed its fate. On crop production Harris (101) examines the history of chicory and the circumstances surrounding its introduction in the nineteenth century and subsequent decline.

As usual there are a considerable number of articles on conditions of the labouring poor and unemployed. The issue of unrest has commonly been treated as a national

problem but Afton (1) takes a different approach and exploits a wealth of local documentary material to expose the economic and political forces that culminated in the Hampshire riots of 1830. Howkins and Dyck (124) try to make sense of the songs of rural protest in the nineteenth century and conclude that they mainly reflect a popular dislike of socio-economic change and a nostalgia for an idealized ordered past. The religious dimensions of land agitation in the Highlands are explained by Meek (159) who shows how crofters used biblical parallels to encourage support for reform in the 1880s. It is commonplace that the Webbs' classic account of the Victorian poor-laws is coloured by their political views. Yet even their academic work is condemned by Kidd (143) who maintains that they relied little on their own immediate research efforts and instead used the findings of assistants, recycled much old material and generally produced a 'scissors and paste' concoction lacking in true scholarship. The ideology which underpinned the New Poor Law is considered by Mandler (154) who argues that reform was essentially the result and embodiment of property-based gentry values. Social historians have often emphasized the humanitarian side of welfare provision in the later nineteeth century. In an econometric analysis of rateable values and different levels of indoor and outdoor relief, however, Mackinnon (153) offers a different interpretation: the shifting of the rate burden in the 1860s increased the incentive for Guardians to economize and they restricted spending on out-relief even to the deserving poor. MacCuish (150) summarizes legislation of the past century which has improved the status of crofters and Savage (198) analyses the influence of officials on the development of social policy at the Ministry of Agriculture between the Wars. Despite pressures to cut expenditure Ministry officials worked more vigorously than did civil servants in other departments, partly because of their expert knowledge of farming, but also because agricultural labourers were so vulnerable. On property Lindert (147) has re-worked the original detailed returns of owners of land (1873) to shed new light on wealth distribution. The data show that although real estate was peculiarly concentrated at this period, it was little different from the best estimates of the seventeenth and eighteenth centuries. The Church Commissioners' land and property holdings in more recent times are examined by Hamnett (97): in a radical break with tradition the Commissioners have sold assets and adopted the keen commercial attitudes shown by the insurance companies and pension funds of the present day.

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By RAINE MORGAN

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Book Reviews

H H LAMB, *Weather, Climate and Human Affairs*, Routledge, 1988. xiv + 364pp. 9 plates; 120 line drawings. £60; J M GROVE, *The Little Ice Age*, Methuen, 1988. xxii + 498 pp. 166 line drawings; 57 plates; £85.

The likelihood that recent increases in the greenhouse gas concentrations in the atmosphere will cause significant changes in global climates has generated a growing interest in the study of climatic changes. The atmosphere is naturally highly variable and before it is possible to predict likely climatic consequences of increasing atmospheric greenhouse gases it is necessary to know the range and understand the causes of this natural variability. Thus to predict future climatic trends it is essential to understand the past. The most important impacts of climatic change are those on agriculture. This was recognized fully when the United Nations Environment Program and the International Institute for Applied Systems Analysis funded an international integrated climate impact assessment for the agricultural sector, the results of which are published in the volumes edited by Parry *et al* (1988). Again to understand the impacts of future climatic changes it is necessary to understand the nature of past climatic impacts. This is an area where the Climatic Research Unit, University of East Anglia, first under the direction of Professor H H Lamb and now under Professor T M L Wigley, has been particularly active.

Very large climatic changes have been observed in the geological past but they are not particularly relevant to the study of the changes taking place now because boundary conditions are not the same. That is, the distribution of land and sea or large ice sheets was different in the past. The most relevant period of study is therefore the recent historical period. During this period the largest and most interesting variation was from about 1430 to 1850 and is commonly known as the Little Ice Age. Historians differ about its dating, because the long cold period was punctuated by warmer decades and the effects differed from place to place. The Little Ice Age and its consequences are discussed in the definitive work by Jean Grove. In contrast, the book by Lamb is a wide-ranging collection of essays covering much of historical time.

Weather, climate and human affairs by H H Lamb is a collection of essays. Six of the chapters have not been published before. The rest, taken from a variety of sources, have been thoroughly revised and brought up to date. The book is divided into three parts, with the chapters concerned with climate and society in the prehistoric and historical past grouped together in Part I, as nearly in chronological order as possible; Part II deals with the mechanisms of weather and climate and their changes; and Part III contains one chapter which looks at the climatic future of the earth. There are many illustrative case histories of how societies lived in climates that differed from today's and in climates which had become erratic or were changing significantly.

Lamb is at his best when describing the history of climatic changes. He starts his book with a chapter on long-term geological changes but the bulk of the book is about climate and history over the last thousand years. There is a wealth of detail about climatic changes. Thus for western Europe Lamb establishes temperature levels for the warmest and coldest times including the medieval warm epoch around AD 900–1300 and the Little Ice Age in more recent centuries. Important case studies include climate and life during the Middle Ages in the mountains of Europe, transgressions of the sea along European coasts, the Great Irish Potato Famine of the 1840s, and African drought. There is a sample sequence of daily weather maps for the summer of 1588 partly based on observation data reported by the ships of the Spanish Armada. Part II contains interesting chapters on birds and wind circulation, weather fronts, and a particular interest of Lamb – volcanoes and climate.

The style of the book makes it more suitable for the general reader than the professional scientist, and as such it should appeal to many people interested in history. Lamb has published several books and the question arises as to how this book differs from previous works. It updates and amplifies *Climate, History and the Modern World* (1982), but it lacks the detail of Lamb's major work *Climate: Present, Past and Future*, Volume 1 (1972) and Volume 2 (1977). The person seeking an in-depth study of climatic change over the historical period should consult the latter.

Lamb takes a broad view of climatic history, in contrast Grove concentrates on one important element of that history – the Little Ice Age. *The Little Ice Age* is a major research work and in this respect should be compared to Lamb's major work. Grove considers that the Little Ice Age may be seen as beginning in the thirteenth and fourteenth centuries and then, after an interval of more clement conditions, culminating between the mid-sixteenth and the mid-nineteenth century. It was also a period of lower temperature over most if not all of the globe, sufficiently marked to have had important consequences, especially in certain sensitive areas in high latitudes and at high altitudes where conditions for plant growth and agriculture are marginal. Indeed, in late medieval times and in succeeding centuries, the impact of climatic fluctuations was felt most painfully and persistently in highland areas.

Historians sometimes not only overlook but deliberately discount the influence of climatic change on human affairs. This attitude may be explained in part by historians having made use of climatic chronologies that are now known to be incorrect. Some early climatic historians were less rigorous in their use of sources than is now required and they often made use of compilations and other secondary material, some of which was unreliable. This is not true of recent work, such as that by Jean Grove.

The early chapters of Grove's book present a history of the Little Ice Age based on the records of glacier advance and retreat in northwest Europe. Information is then brought together about the behaviour of glaciers in this period in other mountainous parts of the world. The Little Ice Age is set in the longer time perspective of the Holocene, the period since the time of the last glaciation, and finally an attempt is made to assess the significance of the research presented for an understanding of human affairs. This last chapter is reporting the results of climatic impact research along the lines of that in Parry *et al*, *The impact of climatic variations on agriculture*, (2 vols, Dordrecht, 1988). Indeed it is a pity that the book does not contain more on the agricultural impacts of the Little Ice Age. The book is scholarly, with a wealth of data contained in many diagrams, and contains an extensive bibliography listing all the main sources.

Both books are expensive and this may limit their sales. Lamb's book should be published in a cheaper form as a paperback, it would then sell well. Grove's book is a major research text and as such should be in the library of every institute studying climatic history.

J G LOCKWOOD

A-G HAUDRICOURT, *La Technologie Science Humaine. Recherches d'Histoire et d'Ethnologie des Techniques*, Maison des Sciences de l'Homme, Paris, 1987. 343 pp. numerous diagrams. 230 Fr.

This is a volume of collected essays and extracts by the polymathic André-Georges Haudricourt. His training in genetics, botany, linguistics, folklore and geography are reflected in his flair and insight, based, as it were, on skilled detective work that integrates his learning into a consistent ethnological outlook. As a practical man, he believes firmly that the inventory, the listing of things and along with them their names, and description of the inventory items in their contexts, should precede the construction of theory.

For him the inventory should also include the human being along with the whole assemblage of movements and actions of everyday living, which he believes are not genetically inherited but are part of the social milieu in which the performer finds himself. The essays frequently touch on muscular movements as the primary techniques which, when extended through the use of handled tools, foot-operated levers and pedals, etc., lead directly from the human being into technology. This is one of the bases for his view, strongly supported by Francois Sigaut in his 32-page preface, that technology is a social science, part of the cultural patrimony of mankind. Both argue strongly that 'technical culture' is in no way a contradiction in itself.

In exemplification of the point, Haudricourt ranges widely in time and place. He looks at forms of transport by man and beast, and seeks to show the evolution of harnessing equipment as burdens came to be pulled rather than carried on the head or back. The drawing of ploughs and ards by animals forms part of the story. The evolution of such equipment is seen in terms of function and geographical determinism, and he prefers a classification of types that does not depend on purely structural criteria (like three- or four-sided frames). In this context, the book he wrote jointly with Mme Jean-Brunhes Delamarre, *L'Homme et la Charrue à travers le Monde* (1955) gives an even fuller expression of his ideas and ideals. Alongside the question of tools and equipment, he also considers the domestication of plants and animals, invariably making strong use of linguistic data as an auxiliary in tracing origins and movements. For him, Europe is almost a promontory to Asia, a recipient area for early agricultural influences, including certain kinds of equipment, as much as an area of origination.

This is a stimulating book by a writer with a lively mind. It makes the reader think; the question of whether or not there is agreement on all points is secondary. But the essential plea is for a proper awareness of technology, the science of productive forces based on techniques, (i.e. knowledge of the human actions or acts necessary to attain desired results), as an autonomous discipline.

A FENTON

MARIE-CLAIRE AMOURETTI, *Le pain et l'huile dans la Grèce antique: de l'araire au moulin*, Centre de Recherches d'Histoire Ancienne Volume 67, Annales Litteraires de l'Université de Besançon, Paris, 1986. 376pp. 9 maps; 34 figures; 41 plates. No prices stated.

The title of this work does not reveal its central theme, which is a discussion of the 'blocages des techniques', that is the problem of the apparent lack of technological development in the ancient world. As Amouretti admits, this is something of a peculiarly French obsession. One thinks immediately of Lefebvre des Noëttes and of the 1935 edition of *Annales*. Not that it has been entirely ignored by other scholars and, indeed, it is a subject worthy of wide attention. There is a useful debate still to

be had between agricultural historians of both the classical and medieval periods and economists concerned with why capitalism fails to 'take off' in many under-developed countries. Amouretti notes correctly that the agrarian systems of Classical Greece have received considerably less detailed analysis than those of the Roman world. Her approach owes much to those scholars, such as André, White and Kolendo, who have so illuminated Roman agriculture in the last thirty years. Her decision to concentrate on cereals and oil and to omit viticulture, the third of the Mediterranean triad, seems eccentric – all the more so since the production of wine involved the gradual development of kinds of vine and the introduction of some new technology which so neatly supports her overall thesis. Her main target is those French historians who see no significant development between the eighth century BC, the period of Hesiod, and the fourth century, the time of Theophrastus (she recognizes that Anglo-Saxon scholars have been far less dogmatic). Her approach is to examine in turn the techniques of cultivation, set against the geographical and meteorological background, the production of bread and oil, and the manpower involved. The careful analysis of Greek terms for agricultural implements and processes has an antiquarian flavour about it, but performs the same sort of useful task as K D White has done for Roman farm equipment. Amouretti is quite skilled in her use of the scattered literary evidence. She also produces a variety of interesting comparative material from other periods, although both here and elsewhere in the work there are significant omissions in her reading (Gordon Hillman's demonstration of what can be learned from plant remains about the processes involved in gathering and treating corn would have been a help). Although she asserts the importance of archaeological evidence, she shows little knowledge of the important results of recent field surveys in Greece on land use. Her conclusion is sensible and unsurprising, that the classical period saw slow adaptation and development rather than major technological advance. It might have been more exciting, if she had enlarged on her acute perception that the failure to use technological advances in agriculture, even when they are theoretically available, is not a sign of lack of rationality. Faced with the geography of the land and with the climate, the ancient farmer had a limited range of choices available and it was far from clear that the expenditure on rotary mills, water wheels and the like would certainly increase his income.

JEREMY PATERSON

A EVERITT, *Continuity and Colonization, The evolution of Kentish settlement*, Leicester UP, 1986. xxi + 426 pp. 16 maps. £47.50.

There is a growing dilemma in the history of early English settlement. As the evidence for agrarian continuity from Romano-British if not prehistoric times accumulates, continuity of population, if more debatably of occupation and the organizing structures of settlement is indicated. Comparatively full exploitation of the landscape is pushed further and further back. Yet almost a millenium later, there is clear, documentary evidence for new settlement and internal colonization from the twelfth century onwards. The dark centuries between are becoming a crux of settlement history. Were they static, maintaining relatively intact the pattern produced by the end of the Roman era, a long prelude to the new colonization and population pressure of the high middle ages? Or was colonization and/or population growth continuous? If so, was it clearance of secondary woodland, of land abandoned during population recession at the end of the Roman period? Or has the degree of early permanent land-clearance been exaggerated: was the scope for internal clearance still large? It is to this period and dilemma that Everitt addresses himself, to argue for both continuity and colonization, but allowing a major role for the latter between the seventh and eleventh centuries. If this exceptionally fine study leaves me still open-minded, it is a sign of the intractability of the problem in the current state of the evidence.

The early Kentish landscape and economy emerges clearly. It was an economy dominated by woodland and pasture, by transhumance from Foothills to Downland and Marsh, from Downland and Foothills to Weald. The resulting landscape was one of dispersed settlement lacking common fields, it and its social structure set apart from the fielden areas of England, though Everitt's wide-ranging comparative conclusion blurs such simple divisions. The sharp regional contrasts within Kent forbid any general picture of either exceptional wealth or high population. The role of London in shaping its early economic development is especially questioned: settlement and its extension progressed in a north-east/south-west direction, early centres of wealth were in the eastern foothills rather than the west of the county. Soil, land use, settlement pattern, parish and manorial formation and social patterns all are combined in a reading of the landscape. The Weald and Downland were both areas of woodland, colonization and transhumant pastures, but differ in age of settlement and relations with the parent community. The late-settled Weald is characterized by huge parishes and continuing links with remote parents, it was a society of freedom and yeomen. The early-settled Downland was more dominated by close parent settlements, but became an area of separate manors and parishes, the basis for a prosperous gentry.

The Downland is crucial to Everitt's argument,

as the area of transhumant forest pasture allegedly colonized between the seventh and eleventh centuries. A range of evidence converges to indicate early settlement and clearance: the *variety* of place-names for wood and pasture, the siting of churches close to the boundaries of parent parishes, small daughter parishes which were nonetheless of sufficiently early formation to produce daughter parishes of their own. Settlement here was early, but can it be dated? Kent is unrivalled for early charter evidence. 24 per cent of places named in early eighth-century charters were in the Downland, a proportion which had steadied at 36 per cent from the ninth century onwards. Settlement advance, as Everitt claims? Or, given the size of samples and the vagaries of production and survival of documents, an indication that the Downland was already well-settled by the eighth century? Charter, place-name and parochial evidence on which modern studies rely may indicate changes in settlement, but equally in ownership, ideas of property, the nature of ecclesiastical provision. Until historians have elucidated these areas and settlement archaeology been extended Everitt's thesis is possible, highly plausible but unproven.

PAULINE STAFFORD

GRENVILLE ASTILL and ANNIE GRANT, eds, *The Countryside of Medieval England*, Basil Blackwell, Oxford, 1988. 282 pp. 50 illustrations. £35.

Landscape studies have been riding a wave of popularity ever since W G Hoskins' pioneering work was published over thirty years ago. More than twenty county volumes are now available in the *Making of the Landscape* series, and their success has been in presenting academic research to a wider audience in a clear and uncomplicated manner. Clarity and scholarship are both hallmarks of *The Countryside of Medieval England*, but its perspective is slightly different from most landscape texts. Instead of analysing the forces which have formed and shaped the landscape, Astill and Grant are concerned solely with the methods of *utilizing* the landscape, with the management and exploitation of rural resources in the Middle Ages. In ten readable chapters, the book considers the whole gamut of agricultural resources, from land and labour, to tools, plants and animals. The seven contributors, all established scholars, are supported by a battery of maps, diagrams, aerial photographs, and examples from illuminated manuscripts.

Astill and Grant have deliberately drawn upon a wide range of evidence and expertise, from archaeology to botany and history, and the result is a refreshing, multi-disciplinary approach to the medieval countryside. With admirable clarity and brevity, the ten essays present the main outlines of each subject, highlight existing controversies, and point the way for further research. As such, the book provides an excellent synthesis of existing scholarship on a wide range of subjects, and should prove popular and useful reading for undergraduates. The essays are generally well-balanced and structured, and those by Dyer, Smith and Langdon are outstanding. Dyer provides an invaluable summary of the documentary sources available to medievalists, and their limitations, a subject on which little accessible work exists. Richard Smith's prowess as a demographer is well-known, and here he treads a clear path through the thorny problems of medieval demography.

There are few quibbles. Oliver Rackham has made a significant contribution to the history of the countryside, but there is hardly any reference to his important, recent work, and no assessment of its methodology or conclusions. Also, some sections are occasionally lopsided. For instance, there is a whole chapter on the management of woods and parks, but relatively little on meadows, heathland, or moorland, despite the fact that the latter covered a considerably larger area of medieval England.

This should become a valuable text-book. If it has a weakness, then it is born of the nature of countryside studies themselves. Any attempt to reconstruct the features of a 'lost' countryside must inevitably rely upon evidence thrown up by a variety of academic disciplines. Yet to assimulate all of this disparate evidence requires competence in a variety of skills and methodological approaches: unfortunately, our highly specialized academic system is ill-suited to producing such multi-disciplinary knowledge. The book side-steps this problem by inviting specialists to contribute on individual aspects of the medieval countryside: the archaeobotanist writes the chapter on plant resources, the demographer the chapter on human resources, and the archaeologist that on rural settlement. This is an acceptable compromise, but it can create its own problems: hence, the chapter on animal resources – by an archaeologist – is based primarily on evidence of physical remains, and largely ignores the mass of information available in manorial accounts. There is still a tendency to write about the countryside on disciplinary lines, and it is difficult to see how any genuinely integrated work can be produced until the study of the countryside itself becomes an integrated discipline. The book is constantly aware of this, but thus far Oliver Rackham stands as a rare traveller across disciplinary boundaries.

MARK BAILEY

ANTOINETTE FAUVE-CHAMOUX (ed.), *Évolution Agraire et Croissance Démographique*, Ordina Editions for Commission Internationale de Démographie Historique, Liege, 1987. 389pp. $40.

This book consists of eighteen papers on the theme of 'Boserup versus Malthus', presented at a conference held in Stuttgart in 1985, together with two introductory overviews from the editor and Eiras Roel and two postscripts by van der Woude and Boserup herself. The purpose of the conference was to consider the impact of population change on agricultural development and vice versa over long spans of time and in very different geographic, cultural and institutional circumstances. The coverage includes countries in Asia and Latin America as well as the better known European examples and concentrates (although not exclusively) on the sixteenth to the nineteenth centuries. The emphasis of the papers is entirely empirical with very little in the way of theorizing or even explicit model building.

It is to be expected that conference volumes contain items which are distinctly uneven in standard, which stray somewhat from the supposed theme and which would in some cases be quite unacceptable in a refereed journal. The editor's task can be an unenviable one at the best of times in such ventures. Unfortunately in this case the outcome is distinctly unimpressive, the editor appears to have ruled with too light a hand, the variance in quality is excessive and the value for money is very poor.

Most of the papers are much too short to do any kind of justice to their topic and in any event usually are short summaries of already published work. In some cases these serve to whet the appetite through the provision of intriguing detail or an apparently persuasive insight. I certainly thought the work of Aymard and Delille on Italy, Eiras Roel on Spain, Gehrmann on Schleswig-Holstein and Morin on Mexico/Peru seemed of high quality and worth my while to follow up when time permits. Too often, however, the other papers were only loosely connected to the main theme of the conference or were merely superficial or were badly structured. In particular, a self-serving and vitriolic review of some recent historiography on the notion of the Agricultural Revolution by Morineau not only leaves an unpleasant taste in the mouth but contributes nothing on the central issues. It also seems most curious to have four papers on Belgium but nothing at all on many potentially much more interesting countries.

The Boserup thesis that population growth induces technical change and more intensive forms of agriculture receives a good deal of sympathy and is regarded as offering potentially useful insights by many of the authors. At the same time, it is noteworthy that much stress on the importance of land tenure and on reactions to price changes emerges in the course of the volume. On the whole, as has been the case in British demographic history recently, there is considerable emphasis laid on preventive as opposed to positive checks in discussions of the Malthusian side of the relationships between demographic and agricultural change. Both the Boserup and the Malthusian views are becoming 'bien nuancée' by historical research.

It remains to be seen how the research summarized in the papers of this volume really fits in or conflicts with formal models of population change and agricultural development. As both van der Woude and Boserup point out in their brief concluding comments, the lack of an appropriate analytical framework prevented the empirical orientation of the conference from making a serious contribution in this regard – in the words of van der Woude 'the idea behind this conference has been a source of misunderstanding. Ester Boserup and the historian may be regarded as two parties talking on different levels. They hear and understand, but cannot confirm or refute each other.' (pp 383–4)

It would be most interesting to have a major survey article of the kind of material contained in the researches of the authors of these papers looking at where the Boserup thesis now stands. Funding one such serious study would be an eminently better use of scarce resources than financing unproductive conferences.

N F R CRAFTS

ROGER B MANNING, *Village Revolts. Social Protest and Popular Disturbances in England, 1509–1640*, Clarendon Press, Oxford, 1988. xiii + 354 pp. £35.

At first sight Manning appears to have written a book of considerable importance for historians of early modern England. With justice it can claim to investigate a number of neglected areas in a revealing and rewarding fashion. Manning deserves to be richly praised for embarking on the work, but no matter how valuable the contents are, the volume finally disappoints. Sadly, Manning has written a book of chapters lacking a convincing common theme. After a general chapter on agricultural change, we have four chapters on enclosure and one on tenurial and rent disputes followed by chapters on vagrancy, apprentice riots in London and the rebellions of 1596 and 1607, then a chapter on 'social protest in pastoral and agrarian society' and a final chapter on poaching. A short conclusion follows. While each chapter has something interesting to say, the book fails to cohere.

What is the book about? The book, by turns, is not about village revolts, or social protest, or popular disturbance; nor is it solely about England, for it includes Welsh material. The inclusion of the London apprentices offers a clue, for Manning justifies their appearance on the grounds that the London crowd in this period was apolitical in its motivation. Rebellions with political aims – the Pilgrimage of Grace, 1549 (but strangely enough not 1607) – are

excluded because they are aimed at altering the policy of national government. 'Village' therefore means local. But many of Manning's instances are by no stretch of the imagination revolts. They include enclosure riots, rent strikes and even an entry into a close to provoke an action of trespass. Much of the book is barely about social protest. The gentry loom large, using violence to further their disputes over common rights and boundaries especially in the earlier part of the period; they are prominent participants in the chapter on poaching. This gives the game away. The book is largely a thematic discussion of some of the juicier cases from Star Chamber laced with a few from Chancery, dressed up in a framework of agricultural revolution and social differentiation. The theme of violence or revolt is as much a broken-backed fiction as the claims of violence which served to bring individuals before Star Chamber itself.

Chapters 1–6, 10 and 11 have a certain integrity as studies of the way in which agrarian change could result in acts of violence or litigation. Agrarian and local historians will find much to interest them here, if only for the instances of riot, oppression or friction to which Manning refers. But the problem with all these chapters is that Manning is writing about conflicts ripped out of the context not only of the history of the place to which they refer (except insofar as that can be reconstructed from the pleadings) but also of all those manors in which improvement, engrossment and the conversion of customary tenures into leaseholds went on without the notice of the courts. These chapters lead towards a more general account of lord-tenant relations within the period, but this cannot be written from the records of Star Chamber alone. To do so is to offer the equivalent of a study of the modern Anglican clergy culled solely from the columns of the *News of the World*.

The problem is that by basing the book on a limited number of closely worked out case studies from Star Chamber (and to a lesser extent Chancery), Manning raises problems of typicality which are exacerbated by the inadequate statistical underpinning to the book. His chapters on enclosure rest on relatively small samples, seventy-five from Star Chamber in Chapter 2 (1509–1548), 105 from a variety of sources in Chapter 3 for Elizabeth (the middle years of the century being passed over in silence). We are never told in detail how these samples were constructed or what proportion of known cases they represent. No allowance is made for changing patterns of litigation or for the existence of the regional councils. Consequently there are real problems in knowing how seriously to take the conclusions which emerge. Before 1548 the prime area for riots was the east Midlands but after 1558 the most disturbed area of the country became the west Midlands. This may well be the case, but is it simply because the composition of the sample changes to include a number of cases drawn from the duchy of Lancaster records?

In retrospect the sum of the parts is greater than the whole. Manning's discussion of the events of 1607 is important. His chapter on poaching, although limited in range, is the first attempt to examine an interesting subject which cries out for a book itself. At times he says interesting things about the tightening of the definition of riot by judicial decision. There is much valuable material on rent strikes, on the ability of tenants to collect common purses and obtain legal counsel, again areas which are too infrequently considered, but no sustained discussion. The book will be heavily drawn upon for the richness of its cases. But it is inadequate in both vision and execution.

R W HOYLE

CHARLES W J WITHERS, *Gaelic Scotland: the Transformation of a Culture Region*, Routledge, 1988. xiv + 464 pp. Maps. £47.50.

The transformation of the Scottish Highlands during the eighteenth and nineteenth centuries is a theme which has received a good deal of attention in recent years. Dr Withers himself has made a notable contribution in his work on topics including the changing geography of the Gaelic language, and Highland–Lowland migration. Here he sets his detailed research within the wider framework of social and economic change in the Highlands and their closer integration with the rest of Britain. The chapters relating to economic changes, such as the one on 'Population growth and the transformation of Highland agriculture *c*1690–1891', are based almost entirely on secondary published work and stalwarts like the Old Statistical Account. Although the review is a competent one there is little here that has not already been covered by other specialists, notably James Hunter in *The Making of the Crofting community* or Eric Richards' magisterial survey of *The Highland Clearances*. Much the same comment can be made of the sections on the failure of industry to provide a more diversified economic base for the region. The sections which are strongest are those which relate most closely to Dr Withers' own research, particularly the ones on the Anglicization of the Highlands and on the Gaelic reaction to cultural transformation. These contain a far greater amount of original material and new insights.

Perhaps the greatest shortcoming of the book is its failure to examine in any detail the nature of the culture which was subject to 'improvement' and Anglicization. Although economic and social changes in the Highlands during the late seventeenth and early eighteenth centuries are reviewed, the

background against which they took place is not clearly delineated. The 'old order' in the Highlands, which is briefly described at the start of the book, is depicted as static through time, and geographically uniform. Traditional Highland society is treated as if its features are so generally known and have been so exhaustively studied that they require minimum treatment. In fact, as Robert Dodgshon has pointed out recently, while vast amounts have been written about Highland clans and the 'clan system' remarkably little is known about their actual structure and operation and the central role which kinship played in them. Because of the failure to explore in any detail the traditional culture of the Scottish Highlands it is difficult to find a yardstick against which changes can be measured.

Despite this, the book is a useful survey of social change in the Highlands. The author's focus on cultural geography provides a useful framework within which a wide range of themes is integrated. One unfortunate feature is the price which will put it beyond the reach of all but the more affluent institutional libraries. Given that the publishers felt compelled to charge so much for the volume it is a pity that it was produced from camera-ready copy. The dense, dark, slightly fuzzy print looks unattractive and is more conducive to eyestrain than enjoyment.

IAN D WHYTE

CHARLES H FEINSTEIN and SIDNEY POLLARD, eds, *Studies in Capital Formation in the United Kingdom, 1750–1920*, Clarendon Press, Oxford, 1988. xvii + 477. £48.

This volume has a dual role in the long-running game of attaching numbers to the amount of capital invested, or productively employed, in the British, or the United Kingdom, economy over the long period since the mid-eighteenth century. First, to resume and refine the enterprise of making discrete sectoral estimates which Sidney Pollard and J P P Higgins started at a memorable conference in Sheffield in 1969 in the bright dawn of the age of fire insurance valuations, tax-series proxies, and cumbersome computers. Second, to revise, refine, and splice into a single continuous time series the comprehensive, all-sector, estimates which Charles Feinstein has published for separate sub-periods in 1972, 1978, and 1982 in a series of well-known works which are the bibles of historical national income and capital accounting. The volume, accordingly, falls into two halves. The first, a collection of essays by individual experts on a selection of economic sectors treated over varying periods falling between 1750 and 1860, which look in some depth at coal, iron, cotton, wool, corn milling, steam engines, and roads and canals, as well as agriculture, but which do not claim to be all-embracing: housing, for example, which has always been the largest item in the national domestic capital stock at around a quarter of the total value throughout the period 1750–1920, has not found a historian brave enough to mount a frontal statistical attack. The second, a substantial, closely-argued, and tightly-footnoted exposition by Feinstein of the sources and methodology he has used in estimating domestic reproducible capital, stocks and work in progress, overseas assets, and the unimproved value of land, which leads up to the presentation of 46 pages of tables recording recording the resulting estimates of capital formation and capital stocks in a continuous time series, by decades from 1760 to 1850 and annually from 1850 onwards.

This cornucopia of figures, swollen by the many smaller and intermediary tables which support the text in both halves of the book, will be seized by innumerable researchers as an inexhaustible quarry both to support general arguments about the dynamics of economic growth or inter-sectoral flows, and to put a price tag on a vast range of particular assets, whether a farmhouse in 1800, a windmill in 1816, a steam engine in 1820, or a cart in 1908. They should be warned that quarries are dangerous places, and that there is not a lot of firm bedrock in any of these figures. Feinstein's global figures are extremely plausible, and indeed he candidly describes a fair amount of nudging and fudging of some of the separate components precisely in order to ensure that the overall totals are plausible. The ingenuity, subtlety, sophistication, and careful cross-checking with which he has built up his series item by item, sector by sector, is unsurpassed and could not be bettered. The sharpest mind in the world, however, cannot raise the quality of the underlying data, and the underlying data are patchy, discontinuous, and often no more than contemporaries' hunches that chance to have been expressed in numbers as well as words. Just as the balance of payments figures in the 1980s are no doubt roughly right but can still only be made to balance by regularly inventing an enormous 'balancing item' because even the modern bureaucratic state is incapable of tracking down major monetary movements, so the historical capital formation figures are probably roughly correct but subject to wide margins of error in their individual components which the economic historian prays may cancel each other out.

The pitfalls of the numbers game are well illustrated by comparing the essay on capital formation in agriculture, 1770–1860, which B A Holderness contributes to the first part of this book, with Feinstein's own, independent, treatment of agriculture in the second part. Holderness has been in the business of quantifying agricultural investment since the 1969 conference, and has developed his tech-

niques for measuring farming or tenant's capital through the measurement of the output of crops and livestock both at the 1978 International Economic History Congress and in Volume VI of the *Agrarian History of England and Wales*. In the present contribution he provides a systematic evaluation of investment in farm buildings, enclosure and reclamation, fencing and underdrainage, woodlands, and working capital, using printed sources and secondary works published before 1980, when his chapter was written. His methodology is as conscientious and his results as plausible as those of Feinstein, but he uses different underlying data and hence comes up with different results. Holderness's figures indicate that the total reproducible capital in agriculture (valued at current prices) increased by 136 per cent between 1770 and 1860, while Feinstein's tables shows an increase of 283 per cent in the same period. For tenant's capital embodied in crops and livestock they arrive at more similar figures, an increase of 58 per cent according to Holderness and of 112 per cent according to Feinstein, which is not so surprising since they both start from similar numbers for crop acreages and livestock.

If there is any relationship between the thematic or sectoral chapters, such as that by Holderness, and the work on the national statistics by Feinstein, it is nowhere mentioned and the reader is left to guess that the two parts of the book proceeded in stately independence towards interesting but not altogether consistent conclusions. It is vaguely reassuring to know that the amount of capital employed in agriculture grew in parallel with, though not precisely in step with, the great growth in agricultural output until the 1870s, and then declined gradually – agricultural capital in 1914 was, in real terms, 95 per cent of its peak, 1887–9, level in the Feinstein calculations – while total output, changing in its product mix, remained fairly steady. The comfort, however, is almost purely technical and far from robust, since both capital and output estimates have a dominating common ancestor in the estimates of crop acreages, yields, and livestock numbers. Above all, the capital estimates are not sufficiently independent or accurate, in spite of the illusory precision of tabular statements, to bear the weight of any refined calculations of trends in the productivity of capital in farming. The spadework, economic logic, accountancy expertise, and mental gymnastics which have gone into these fabrications of historical statistics are to be saluted. Orders of magnitude have been established, which are authoritative, unlikely to be upset, and which are very important for aggregate economic analysis. The specialist agricultural historian, with an eye only for the agricultural parts of the estimates, needs to be extremely wary before trusting the literal accuracy of the detailed components of the global figures. The safeguard is that the unwary is unlikely to shell out £48 for the problematical benefits of this experience.

F M L THOMPSON

CORMAC Ó GRÁDA, *Ireland before and after the Famine: Explorations in economic history, 1800–1825*, Manchester UP, Manchester, 1988. vii + 179 pp. £25.

This book is in a familiar Cormac Ó Gráda mould and the secret lies in the subtitle, 'Explorations' in economic history. This is achieved through five essays essentially on agrarian and demographic issues.

The background to the catastrophe which befell Ireland in the 1840s is reassessed in the first essay in the light of a catalogue of variables usually used to portray Ireland as the classic Malthusian country. In turn the author reviews and reassesses poverty, dependence on the potato, the degree of commercialization and regional differentiation in the economy, and of course overpopulation. We learn that potato failures were not uncommon, they were part of contemporary Irish life. But the 1840s witnessed two and then three back-to-back poor years. Therefore while Malthus could see famine in Ireland as a check on population growth – because this demonstrably happened anyway – he could not see it as a factor producing a sudden stop in population growth. At the same time we learn that population growth rates had slowed down in the thirty years or so before the Famine, demonstrating that the country was coming to terms with its headlong population. Overpopulation, therefore, was not necessarily a deciding factor in the excesses of the Famine. The conclusion is that 'The pre-Famine economy, for all its problems and injustices, did not contain the seeds of its own inevitable destruction by famine', instead – and this no doubt will cause a few raised eyebrows – 'Ireland was disastrously *unlucky* in the timing of the blight' (author's emphasis pp 34, 35).

All too often agriculture has been studied in terms of tenure, not least because of political considerations associated with absentee landlords, the middleman system, rack renting and so on. In the second essay Ó Gráda switches attention to the tillers of the soil and to their output and productivity either side of the Famine. His reassessment of the distribution of agricultural output refines two views of Irish agriculture: contrary to some recent assessments pre-Famine Ireland was not characterized by a switch towards pasture; and agriculture was less backward and more commercial, with a higher export context, than some would believe. Overall there may have been an increase of 80–100 per cent in Irish agricultural output in the half century before the Famine. Taking 1854 as a post-Famine benchmark Ó Gráda finds that the aggregate adjustment in agriculture

to accommodate the greatly changed circumstances resulting from the Famine produced a fall in output in real terms of only 17 per cent. A shift from tillage to livestock was striking and this continued down to the Great War. My one quibble with his findings having also looked at agricultural output is that 1854 is an unfortunate benchmark to choose, especially for tillage, and particularly for potatoes within tillage. There is a pronounced high point in the value of output that year and according to my estimation output was not as much on trend as Ó Gráda assumes.

The third essay is on the Famine itself. Non-Irish specialists might be surprised to learn that remarkably little research has been conducted on such a monumental event. In one chapter Ó Gráda can hardly rectify this but he does offer various new estimates and insights into old debates. He discounts accusations of artificially high prices due to hoarding. Food shortage was real enough and this is an important point in rebuffing political/ideological accusations of genocide. 'Food availability *was* a problem; *nobody* wanted the extirpation of the Irish as a race' (author's emphasis p. 122).

In the fourth essay, on long run agricultural change, Ó Gráda establishes that Irish agriculture did not perform poorly. Instead there was an increase in output and productivity and a redistribution of returns to the non-landlord sector. He offers an antidote to those who suppose that agricultural backwardness is explained by the much debated Land Question, by Irish indolence, and the lack of technical change. If you substitute increasing output and productivity for backwardness then you must substitute for the traditionally held brakes on efficiency. What we see instead is a ready and rational response to economic forces.

The final essay is on post-Famine inheritance, emigration and fertility. Was the Famine a watershed in Irish inheritance customs marking the move from partible to impartible inheritance? Was the long held belief in Irish backwardness a result of egalitarian provision for all siblings and did it give way to selected and therefore inequitable inheritance? Using a narrow but intensive regional sample (Cavan and Cork) Ó Gráda uses wills to identify estate succession *c.*1900 and overturns a number of long held views: physical subdivision was rare and it was more common among the rich than the poor; sibling rank order is no sure guide to inheritance; the inheritor was destined to accept late or non-marriage, but yet general fertility remained high; and emigrant sons were not so much disinherited but rather their fathers recognized that they made a successful fist in the promised land (as witness the size of remittances which flowed back to Ireland) and that more was owed to those who stayed behind and worked the soil.

All in all these are extremely thought provoking essays and are sure to make an immediate impact on Irish research.

MICHAEL TURNER

DONALD HARMAN AKENSON, *Small Differences: Irish Catholics and Irish Protestants, 1815–1922: An International Perspective*, McGill-Queen's UP, Montreal, 1988. xiii + 236 pp. $29.95.

D H Akenson is not only perhaps the most prolific scholar at present writing on the history of modern Ireland – twelve books to date plus four related works of fiction – but is also rapidly becoming one of the most interesting. Whereas some of his earlier books were long, thorough, and rather dull, his more recent publications have become shorter, no less thorough, and increasingly exciting both as to content and technique.

In *Small Differences* he tackles one of the great 'truths' of Irish prejudice and historiography, a truth more often acknowledged than examined, namely, that Irish Protestants and Irish Catholics have long been and are today fundamentally different in almost every sense. Their social aspirations differ, their patterns of settlement as emigrants differ, their attitudes to the land, to farming, to making a living, indeed, to economic behaviour generally, are, according to this accepted wisdom, marked by a gulf of impassable distinctiveness. And hundreds of books and thousands of articles concerned both with the Irish at home and (above all) the Irish in the United States attest to the fact that such differences have long been universally consigned to that category of things which 'everybody knows'.

In a book of considerable power and analytic bite Akenson, with an iconoclastic verve which obviously gives him considerable satisfaction, lays a sharp axe at all of this. He manages to do so by utilizing the evidence provided by various collections of statistics which have hitherto been shamefully ignored by scholars with similar interests. The most important of these sources are nineteenth- and twentieth-century census data from New Zealand, Australia, and Canada – all countries to which large numbers of Protestants and Catholics emigrated and all countries which, unlike Ireland, Britain, or the United States, published official materials which make it possible to examine immigrant communities over long periods in statistically valid ways or in, as Akenson would say, 'clean laboratory' conditions.

The conclusions which emerge from this process are startling. It is shown that Irish Catholic emigrants did *not* become disproportionately a city people and that they cannot, therefore, be seen as huddling together in Boston and New York because their supposed technological backwardness and their 'traumatic' experiences of farming at home had led

them to shun the agricultural sector. Indeed, both Catholic and Protestant emigrants (and the latter were by no means few in number) behaved in much the same way. Certainly there is little evidence that religious differences as such placed Catholics lower in the occupational scale either overseas or in Ireland itself. Everywhere Catholics showed a notable enthusiasm for farming, so much so, that in Australia, for example, they can be said to have 'exhibited a veritable obsession with the acquisition of land and livestock'. If in the United States Irish Catholics (as well as Protestants) in the late-nineteenth century became an increasingly urban group, this is simply because the whole population of America was rapidly moving in a similar direction.

Akenson's arguments are invigorating and deserve a careful response, though no doubt there will be weeping and gnashing of teeth among those who have made heavy political and scholarly investments in the accuracy of traditional verities. Naturally more work on the sources will be needed. In addition, Akenson's last two chapters, in which he attempts to explain why impressive mental and practical stockades have of course been erected by Catholic and Protestant communities alike *despite* their seeming lack of substantial differences, require a good deal of expansion and refinement. But the importance of this book for modern Irish history in general (and also for agricultural historians who will be obliged to see several Hibernian aspects of their subject in new ways) cannot be denied. If it is unlikely that every detail will emerge unscathed – Thomas Larcom was not, for example, Under-Secretary in 1851 – it is certain that the historical landscape will never be the same again.

K THEODORE HOPPEN

ELEANOR and REX C RUSSELL, *Parliamentary Enclosure and New Landscapes in Lincolnshire*, Lincolnshire County Council, Recreational Services, Libraries, Lincoln, 1987. 224 pp. Maps. £9.95 + £2 p & p.

This is the fourth and final volume in a series of books that Eleanor and Rex Russell have written on Parliamentary enclosure in Lincolnshire. Altogether they have summarized the enclosures of 131 parishes and mapped the open field systems operating immediately prior to, and the new landscapes created by, enclosure. It has been a considerable undertaking, but one for which all agricultural historians must be thankful, because here is the raw material which can be used to support or challenge any theory of enclosure. The Russells have shown that two- and four-field systems were at least as common as three-field systems in Lincolnshire, and that open-field systems were not directly related to the county's agricultural regions. The present volume examines thirty-seven enclosures in the former Lindsey division of Lincolnshire, and provides a wealth of detail on the enclosure history of the area, including the landed accretions of the better off landowners, the rural clergy, and the bishops of Lincoln and Carlisle.

The opening chapters of the book give a general overview illustrated with pertinent examples from the case studies which follow. These chapters look at the process of enclosure by legislation, the sixty-seven men who acted as enclosure commissioners and their twenty-four land surveyors, and the open-field systems operating in Lindsey prior to enclosure. The majority of the text consists of the series of case studies which present the evidence relating to each enclosure alongside Rex Russell's beautifully executed maps. In many cases the Russells can offer only summary evidence about the division of the land before and after enclosure, but one or two accounts are rather more detailed, most notably the long study of the enclosure of North Kelsey where twenty-seven years elapsed and endless meetings occurred between the Act of 1813 and the Award of 1840. This is the last of the series, but can we now ask the Russells to produce the general synthesis which they, and they alone, can offer on Lincolnshire enclosure? This reviewer knows he is not alone in hoping that there might be a fifth book in the series which pulls all the evidence together and offers a general study of Lincolnshire enclosure.

J V BECKETT

IEUAN GWYNEDD JONES, *Communities: Essays in the Social History of Victorian Wales*, Gomer Press, Llandysul, 1987. 370 pp. £14.95.

This volume offers a number of always perceptive, sometimes seminal essays. After dealing in Part One with the motivations underlying the mid-nineteenth century building of Anglican Churches, Professor Jones in Part Two examines the culture of the emerging South Walian industrial communities. He marvels at the range of cultural activities engendered by the industrial workers' own efforts, all against the improbable backcloth of a brutalizing environment. Fundamental in working this civilizing process, it is emphasized, were the Welsh-speaking chapels. In so underlining nonconformity's positive achievement, Professor Jones is nevertheless alert to the importance of the alternative 'pub' culture, though perhaps he too readily averts his glance from the drunkenness of pay-Saturday nights, the vulgarity of the portable theatres and the like. Also, while his emphasis that the chapels were the people's own creation is undeniable, at the same time he underestimates the contribution of the late nineteenth-century Welsh coalowners in financing chapel buildings.

Another feature splendidly conveyed is the variation as between one valley community and another. Fundamentally, the steam valley communities with

their single industry base differed from the more variegated occupational structure of the older, early nineteenth-century iron towns, while the latter, with no settled independent middle class, differed from the social structure of the old corporate towns like Swansea, Neath, Cardiff and Newport where a more developed middle class was in evidence. It was the inter-relationship between these differing social structures and the level of political activity which concerns Professor Jones in Part Three. After showing that whereas it was filth in towns which generated disease, in the countryside it was poverty which produced it, he proceeds to demonstrate that the implementation of government legislation concerning town improvements from the Public Health Act of 1848 onwards was dependent upon the social structure of the towns concerned: in those places where a middle class was well-developed far more was achieved in the way of providing improvements by the 1870s. In the towns, the working classes for their part accepted the dominance of their masters just as the rural peasants accorded deference to the squire; they did so, he convincingly argues, precisely because they were immigrants from the countryside.

In so far as the politicization of the lower classes was concerned, it was, perhaps surprisingly, in the Welsh countryside that the first challenge to old forms of illiberal dominance occurred. Professor Jones points to the differing role played by nonconformity as between town and countryside in determining that this should be so: whereas in the towns it acted as a conservative force and steered the working classes around mid-century 'into the paths of middle-class righteousness', in the countryside about Bala the supposedly 'conservative' Calvinistic Methodist denomination through its incipient middle-class élite of deacons and college lecturers mounted a radical onslaught against an anglican and anglicized oligarchy antipathetic towards nonconformist claims for civic equality. The sociology of rural politics which Professor Jones here serves up is fine. His insistence, however, that 'Nonconformist ministers in nineteenth-century Wales did not create out of their fertile imaginations imaginary grievances' is doubtful: arguably nonconformist Liberal leaders manufactured or *at least* deliberately heightened tenurial grievances in order to achieve political and religious freedom from an 'alien' landed élite.

DAVID W HOWELL

RICHARD LOWITT AND HAROLD LEE, (eds), *Letters from an American Farmer. The Eastern European and Russian correspondence of Roswell Garst.* Northern Illinois University Press, Delkalb, 1987. xxxii + 230 pp. No price given.

In 1959 the Soviet leader, Nikita Khrushchev, visited the farm of Roswell Garst an American midwestern farmer. The visit was the culmination of several years correspondence between Roswell Garst and officials in the Ministries of Agriculture in Romania, Hungary and the USSR. The correspondence was sustained until Roswell Garst's death in 1977 and it survived events such as the invasion of Hungary, the U2 affair, the Cuban missile crisis and Khrushchev's dismissal. The volume of Garst's letters edited by Lowitt and Lee makes fascinating reading adding colour and proportion to the subject of socialist agricultural development in the post-war period. Garst's primary purpose was to persuade the Soviet Union and Eastern Europe to purchase seed grain, machinery, fertilizers and a host of other products from America. In developing his case to the Russians for such purchases he gave a detailed analysis of the problems of Soviet agriculture in the 1950s. He painted a picture of a grossly under-capitalized agriculture, operating within severe environmental constraints. The Soviet Union, he believed, was too cautious in its agricultural policy; it needed to adopt an ambitious programme of intensification in production and the development of rural infrastructure. The priorities, as he saw them, were to expand the livestock sector through increasing the acreage sown to hybrid corn and sorghums, the development of the chemical fertilizer industry, the improvement of rural roads and grain storage facilities and improved animal breeding. Garst's enthusiasm for new technologies in agriculture pervade his letters and he clearly believed that with the appropriate 'technological fix' the Soviet Union could rival the USA in agricultural production. He had little to say about the 'collectivist' form of agricultural organization that existed in the Soviet Union, criticism of which has formed the central theme of much subsequent American writing on Soviet agricultural problems.

The impact of his ideas on Soviet agricultural policy was much less than he imagined, but Roswell Garst was clearly an instrumental figure in forging agricultural trade links between East and West. In the correspondence dealing with the details of contracts and shipments of supplies the Soviets are shown as cautious and bureaucratic; the contrast with the American way of doing business could not have been greater. Despite numerous delays, which on occasions left Roswell Garst threatening to withdraw his help, a number of deals went through. Of these, the sale of hybrid corn seeds, much from Garst's own farm in Coon Rapids, Iowa, had the most immediate impact upon Soviet agriculture, providing Khrushchev with the raw materials for his 'corn campaign'. This campaign is normally treated in western literature as one of Khrushchev's many agricultural disasters contributing to his eventual downfall in 1964, but a reading of the Roswell Garst correspondence presents it in a more measured light and suggests that the policy needs to be re-

examined within the context of the technical advice Khrushchev was receiving at the time. One of the achievements of the campaign to which Garst drew attention was that the Soviet Union made the changeover from open-pollinated varieties of corn to hybrids in five years compared with fifteen years that had been needed in the USA. By contrast with corn hybridization, the recommendation that investment be made into developing a network of rural roads apparantly fell on deaf ears. Today, such a programme of rural road construction is acknowledged by Soviet specialists to be a vital area for investment in Soviet agriculture.

Roswell Garst was a successful businessman and his interest in 'selling to the Russians' was prompted by commercial considerations. He was among the first in the West to recognize the market opportunities that existed in the East and he pursued that market single mindedly, overcoming the problems that arose as a result of mutual suspicions of the two great powers. Garst was no supporter of Soviet socialism, but he believed that trade with the eastern bloc was necessary in order to break down the barriers between East and West. He was the forerunner of the generation of Western policy makers who believed that through technology transfer socialist societies could be made dependent upon the West. By the 1980s this view had lost popularity as Western leaders realized that the power of technology and example was less than had previously been thought. Just as the birth of technology transfer policy was anticipated in Roswell Garst's correspondence, so the reasons for its demise are evident in Garst's lack of understanding of, and apparent lack of interest in, the organizational and ideological basis of Soviet socialism. The collection of letters in this book, therefore, provides much more than an account of agricultural developments in the Soviet Union, Romania and Hungary over three decades, which is fascinating in its own right, but is of relevance to an understanding of the development of the politics of East-West trade in the post-war period.

JUDITH PALLOT

A R DESAI (ed), *Agrarian Struggles in India after Independence*. OUP/India, 1986. xxvi + 666 pp. £22.50.

During the prolonged struggle for independence, the Indian National Congress from 1922 repeatedly committed itself to freeing the peasantries, workers, and other depressed classes and castes from economic and political exploitation, and fighting both British imperialism and Indian feudalism. After more than a decade of independence, Nehru himself stated in 1959 that he was 'not prepared to envisage a future in which this vast agricultural population remains on the verge of subsistence. I would rather have a million revolutions in India'. However, one important Indian irony is that the sole rural revolution is a capitalist agrarian one under the auspices of socialist governments. The Indian state has pumped vast funds into the modernization of the agricultural economy, and has succeeded in radically – if disproportionately – increasing productivity. An almost equally vast legislative offensive to transform 'medieval' social structures and economic relationships has essentially failed, principally through the marked ability of larger landowners illegally to preserve their holdings, and élites of wealthier farmers to take incommensurably large slices of the profits of enhanced production. The former were aided immeasurably by their historical heritage – adaption to the demands of the imperial power – combined in the post-independence era with corrupt officials and inert bureaucracies. The latter's inflated productive capacity made them indispensable to both national and state governments. The result, according to Desai's introductory survey of the massive sub-continent, is two major forms of struggle. On the one hand the proprietory classes of rich farmers, economically viable middle peasants and the 'streamlined landlords', demand more concessions, greater facilities and multifarious assistance from the politicians. On the other hand, an exploding agricultural proletariat, and poor peasantries, have experienced an intensifying economic and political exploitation, intertwined with oppression in many forms, notably cultural, caste, religious and gender.

A combination of additional key factors, especially demographic growth and the dispossession of smaller peasant proprietors, has fiercely fuelled proletarianization. 'Medieval' survivals, quasi-feudal relationships between landlord and tenant are in part responsible, together with the perennial activities of the ubiquitous money-lender. The latter's capacity to compete with official agencies as the effective provider of capital – often in kind, seed and livestock – and the exaction of interest at rates of up to 75 per cent, reveals a remarkable tenacity. The statistics – in as far as they can be known – are incredible. Official surveys state that between 1960–1 and 1968–9 alone, there was a 16 per cent rise to 54 per cent of 'rural people' existing below the calculated 'minimum level of living'. Expressed numerically, this represents an increase from 135 millions to 230 millions in under a decade, most of them casually employed and seasonally unemployed. The weakest sections of the peasantries, and the landless, have an alleged history of apathy and acceptance – somewhat shaken by several contributors to this volume – and as one puts it, 'the peasantry has always remained a potential rebel . . . The role of the ruling party, whether it is the East India Company, or the British Government . . . or the Congress Party, is the same. It sends its armed troops to protect the village gentry and crush the rebels'.

In some senses this comment sums up the experience of agrarian struggles since 1947, including perhaps the most spectacular all-India land-grab movement which climaxed in 1970, when 335,000 acres are known to have been seized, at least twenty-six people killed, and allegedly 82,000 arrested. Many other movements, galvanized by the slogan 'land to the tiller', are, however, of restricted relevance; in fact, 'land to the tenants' is more appropriate, but this excludes many millions who have, by any definition, historical or legislative, no rights to land, because a combination of capitalism and caste systems has spawned a huge class of permanent field labourers. Increased militancy by this category since the 1960s has included targets commensurate with the slogan 'land for the landless', with attempts to seize cultivatable waste and forest, together with the 'excess' land held, despite legal ceilings, by many of the ex-zamindar classes. These campaigns have been diluted, on occasion, by thrusts to remedy other grievances, including forced labour. Moreover, the essential divisions between a proletariat and a poor peasantry, have posed many strategic and ideological problems for the communist movement in India, and provided one of the numerous ingredients in the irrevocable splits in the Communist Party in the 1960s and again in the early 1970s.

Desai's collection is dedicated to the 'anonymous grassroot activists and leaders carrying on heroic struggles of agrarian poor in India and third world countries' [*sic*]. It comprises two sections, each with an introduction by the editor, one with eight articles composed from an all-India perspective, and the other with seventeen regional case studies. Several are written by activists, others by field researchers. Both categories of authors have been exposed to the very real personal dangers deriving from any involvement in these campaigns. 'It would have been impossible . . . to make a study of the peasant movement in . . . a village in Burdwan, without taking a chance of being murdered', writes one academic; another field researcher into Kakdwip Peasant Insurrection in the late 1940s, and one of the few contributors to provide detailed source references, notes that present political circumstances dictate that 'the name of this reporter cannot be identified' in print nearly forty years after the event. Readers of this collection should be forewarned that a combination of the precise political positions and allegiances of many of the authors, and other factors, including obvious linguistic difficulties, mean that it is not a consistently scholarly work in the traditional sense. It has its values, especially in the exposure of events and details of movements commonly and deliberately obscured by the Indian press and official agencies for political purposes. While some of the contributors do, as the dust cover claims, 'give a flavour of grass root authenticity', the apparent lack of a proof reader revealed by hundreds of silly misprints, aggravate the difficulties of wrestling with the often chaotically presented pieces constituting this huge volume.

ROGER WELLS

Notes and Comments

ANNUAL GENERAL MEETING, 1989

The 37th Annual General Meeting of the Society will be held at 9 am on Tuesday 4 April 1989 at Burwall's Conference Centre, University of Bristol. 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 28 March 1989.

Conference Report: Winter Conference 1988 'Agriculture and the Village'

By H S A FOX

Because of the intricate and ever-changing nature of the connections between villages on the one hand and agrarian social structure and technology on the other, members of the British Agricultural History Society and of the Historical Geography Research Group found much to discuss at their winter conference which was devoted to those links. The paper with the earliest focus was given by David Austin on 'North and south: two medieval agricultural landscapes'. He described his impressive programmes of rescue excavation at Thrislington, County Durham, and at Okehampton Park, Devon, demonstrating just how much agrarian history can be extracted from thorough excavation combined with field survey, especially when the archaeologist is goaded by the quarryman's pneumatic drill, which threatened both sites. Thrislington, until deserted through a process of engrossing which was well illustrated in the archaeological record, was a 'regular village' of two facing rows, with a manorial hall-garth as integral part of the plan – a type so common in North-East England, but relatively rare elsewhere. When and under what circumstances did the type originate? Austin's excavation confirmed that the regular rows at Thrislington were planned as a unity. Another of several novel findings was that the planning took place in the late twelfth century and not as part of a programme of agricultural reconstruction in the immediate wake of William's 'harrying of the North' (1069–70) which, until now, has been seen as the context for these regular villages. What he did not explain is a question which has always perplexed this reporter: namely, where *was* the settlement of these townships (Thrislington is, after all, a very respectably pre-Norman name) before their replanning? The answer, together with his own interpretation of the context for the planning, will not doubt be found in his forthcoming monograph to be published by the Society for Medieval Archaeology. Austin's second example provided a complete contrast, a loose scatter of separate farmsteads in a moorland environment 'frozen' by the creation of Okehampton Park; they originated at roughly the same time as the new settlement of Thrislington, but here was no village centre at all, merely farms which, in Harrison's phrase, stood 'scattered abroad, each one dwelling in the midst of his own occupieng'. Comparisons of differences can be illuminating and in this case the individualism of the farms in Okehampton Park can perhaps be attributed to a lack of the seigneurial control which was so evident at Thrislington and also to the very abundance of that agrarian resource – rough grazing for animals – whose scarcity may have been the catalyst behind the development of communal farming systems and their associated nucleated villages in much of lowland England.

In crusading mood, Austin vigorously but cheerfully chided economic historians for neglecting the results of excavations and field survey carried out by archaeologists; accordingly, in thinking about John Broad's paper, 'Population, occupations and enclosure in the Claydons, Buckinghamshire, *c.*1600–1800', I rushed at once to the 1" and then to the 2½" map to search for traces of the striking contrasts which he exposed between these adjacent villages. The greatest contrast was between demographically buoyant Steeple Claydon, an 'open' village with a long-persisting 'open' field system finally enclosed by Act of Parliament in 1795, and declining Middle Claydon which became a classic 'closed' village during the period covered by Broad's paper. And, sure enough, there on the maps was Steeple Claydon, large in size and irregular in plan (very unlike Austin's tightly controlled Thristlington) with several named 'ends', perhaps once the homes of immigrants and the poor, and with a chapel on the outskirts; there too was Middle Claydon, a lone church and a house in a park and several farms, one significantly named Townsend, which look as if they have been pushed to the edge of the parkland as it expanded. The paper was an excellent illustration of how a village could be propelled by its lords into the closed category during the seventeenth and eighteenth centuries. Successive members of the Verney family secured enclosure of the common woods on the edge of the parish, enclosed one of the village's three common fields (causing the villagers to complain bitterly about reduced numbers of livestock), and eventually abolished the remaining fields by agreement. There was as much social engineering as there was enclosure: the family bought out freeholders and copyholders; they may well have been behind the rapid turnover of occupiers, well demonstrated by a clever analysis of rentals, which must have facilitated amalgamation of holdings; they discouraged rebuilding of some farmsteads; and, in one case, they prevented a youth from marrying in the parish because (there is a modern ring here) he was unemployed and squatting in a barn. Such forms of social control, it was suggested, rather than enclosure itself, led to sharp

decline in the population of the village which no doubt looked for labour, for services and for entertainment to neighbouring Steeple Claydon with its large population, high poor rate and, according to an eighteenth-century comment, an 'uneasy sort of people'. One was left wondering only about the origins of these contrasts: could it be that the decline of such villages as Middle Claydon was related not only to lordship but also to features of their original settlement, having always been secondary places (the map was helpful here too), small in size and perhaps with a social structure which was easy to manipulate?

Broad examined the all but total disintegration of a village as a result of changes in agrarian and social structure. John Beckett, on the other hand, helped to explain how Laxton, Nottinghamshire, has survived as a *working* village because of the survival of at least some elements of its traditional farming system. His lively paper ('Laxton: the evolution of an open-field farming system') was largely concerned with changes in the village's fields since the seventeenth century. He did begin, though, by speculating about the origins of one of the fields there, Southfield, which, he believes, was brought into cultivation relatively late, in the post-Conquest period, through stage by stage reclamation of its individual furlongs or 'flats'. These speculations ignored the most recent views on the origins of the furlongs within the Midland system, which represent them not as accretions through assarting but as subdivisions of earlier farming units. But perhaps, in this case, Beckett is right, for although often considered as a 'typical' Midlands village, the context of Laxton, as the 1" map again so clearly shows, is a forest-edge one. Late reclamation is to be expected here. It was exciting to hear the results of recent research, from a wider range of sources than those examined by the Orwins fifty years ago, on the ways in which Laxton's field system changed during the post-medieval period. Some land was taken out of the fields in the seventeenth century: it is rather ironic that this 'classic open field village' is one of the places at which the last enclosure commission, Charles I's feeble enquiry of 1630, found scope for enquiry. Meadows and woods were enclosed in the eighteenth century, and new farms created from the edges of the fields, thereby allowing some farmers to develop flexible grazing arrangements far more sophisticated than those of the deprived husbandmen of Middle Claydon. Later on, strips were amalgamated and finally, in this century, ridge-and-furrow was cast down (to serve the needs of combine harvesters) and fallow grazing abolished. What remains at Laxton, Beckett stressed, is a much attenuated and altered open-field system bolstered by what he called the 'set pieces' of jury day and the court leet. As historical monuments the village and fields of Laxton pose severe problems of conservation: the village with its clustered working farms and muddy streets, and the unenclosed strips can only be maintained by also preserving a way of life which brings little profit to the farmers themselves.

Latest in terms of chronological coverage was Peter Bigmore's paper on 'The estate village and the antiquarian pursuit in nineteenth-century West Suffolk'. He concentrated on the fascinating intensely patrician landscape close to Bury St Edmunds where a combination of poor sandy soils (on which parks could be created without loss of good agricultural land) and closeness to the abbey town, 'crowded with nobility and gentry' according to Defoe, encouraged a good number of the Suffolk gentry to make principal seats of their manors in the vicinity. He gave a new twist to the theme of the conference with a novel discussion of how profits from agriculture in the form of rents purchased leisure for the gentry which was then turned to good use in the compilation of some of our earliest village and local histories which are still of such value to us as agrarian historians today. Involvement by the gentry in antiquarian research is, of course, well known: Lambarde in Kent, the first of them all, Westcote and Risdon in Devon, and so on. But it was the *concentration* of antiquarian activity in these seats close to Bury St Edmunds which so fascinated Bigmore. Here were written Sir John Cullen's *History and Antiquities of Hawsted* (1784), a very early parish history by any standards, John Gage's *History and Antiquities of Thingoe Hundred* (1838), remarkable for its topographical content, and the transcripts of local records which flooded from members of the Hervey family. Neighbourly contacts, emulation, and no doubt a little local competition over the lustre of a family's history were, I suspect, some of the forces at work here. Important, too, was the closeness of Bury St Edmunds, a town of much polite and literate society, with its accoutrements of institutions and libraries, and moreover a town whose historians liked to claim for it an illustrious place in national history, on account of a saint far more English than the upstart George.

Members of the British Agricultural History Society, and indeed *any* readers of the *Review*, who have not attended one of these winter conferences held jointly with the Historical Geography Research Group are strongly urged to do so, and will be made to feel most welcome. The content is always, by definition, inter-disciplinary, the papers are frequently illustrated (this year we saw slides of, among other things, a medieval granny flat and a Laxton juryman asleep at a meeting), the atmosphere always friendly and the setting – the secluded local history room of the Institute of Historical Research, kindly made available by F M L Thompson – designed to take thoughts well away from Christmas and the end of term.

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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.

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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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VOLUME 37 1989
PART II

*

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Pre-Conquest Woodland: its Distribution and Usage*

By DELLA HOOKE

Abstract
This study demonstrates the extent of the regeneration of woodland after the Roman period, and employs place-name evidence to identify the territorial linkages between midland woodlands and more southerly estates, which were based upon their significance as pastures. Woodland's importance as a resource was indicated by its deliberate management for timber, fuel, and coppice from the seventh century, in addition to pasturage for pigs and horses. The evidence of Anglo-Saxon charters is cited to reinforce doubts as to the quality of the Domesday record of woodland and its use, and the study cites place-name and other evidence to demonstrate that hunting and the use of woods as game reserves were more important before the eleventh century than has previously been recognized.

ONLY a few decades ago many aspects of settlement history were apparently inspired by conceptions of frontier settlement by the American pioneers – groups of hardy settlers – in this case, Anglo-Saxons – establishing their stockaded villages in river valleys and subsequently pushing into a relatively untouched, woodland environment, gradually planting 'daughter' settlements as they proceeded. This view has been regaled with disdain by more recent prehistorians, as aerial photography has revealed evidence of extensive field systems, and hence widespread clearance, throughout eastern and southern England, so much so that woodland has been almost ousted from the scene. Those more closely concerned with the Anglo-Saxon period, however, especially in the West Midlands, have stubbornly refused to concede that all woodland had vanished[1] and now the wheel seems almost to have turned full circle in some regions, with the scenario recently proposed for Kent by Professor Alan Everitt[2] who sees the presence of woodland as fundamental to the early English settlement pattern of that county.

Upon the basis of several types of evidence, archaeological, place-name and topographical, he envisages a series of initial 'Jutish' estates being founded in the coastal foothill region of north Kent and in the vale of Holmesdale further inland. From these, further settlements were established, first on the then-wooded Downland and subsequently within the interior Weald itself. Evidence of the early connections between the home estates and their associated woodland is preserved for us in a number of Kentish charters. One hears, for instance, of the *Weowerawealde*, 'the wood of the men of Wye', and of the *Limenwearawealde*, 'the wood of the men of the Lymne region', in an early eighth-century charter,[3] while the reference to *ðæm denbærum in limen wero wealdo 7 in burh waro uualdo*, 'the swine pastures in the

* This paper is based upon research funded by the Economic and Social Research Council whose support is gratefully acknowledged.

[1] For an excellent description of Old English woodland, see D P Kirby, 'The Old English Forest', in T Rowley (ed), *Anglo-Saxon Settlement and Landscape*. British Archaeological Reports, Br ser 6, Oxford, 1974, pp 120–30.

[2] A Everitt, *Continuity and Colonization: the Evolution of Kentish Settlement*, Leicester, 1986.

[3] P H Sawyer, *Anglo-Saxon Charters: an Annotated List and Bibliography*, 1968, S 1180; W de Gray Birch, *Cartularium Saxonicum*, 3 vols and index, 1885–99, B 141a.

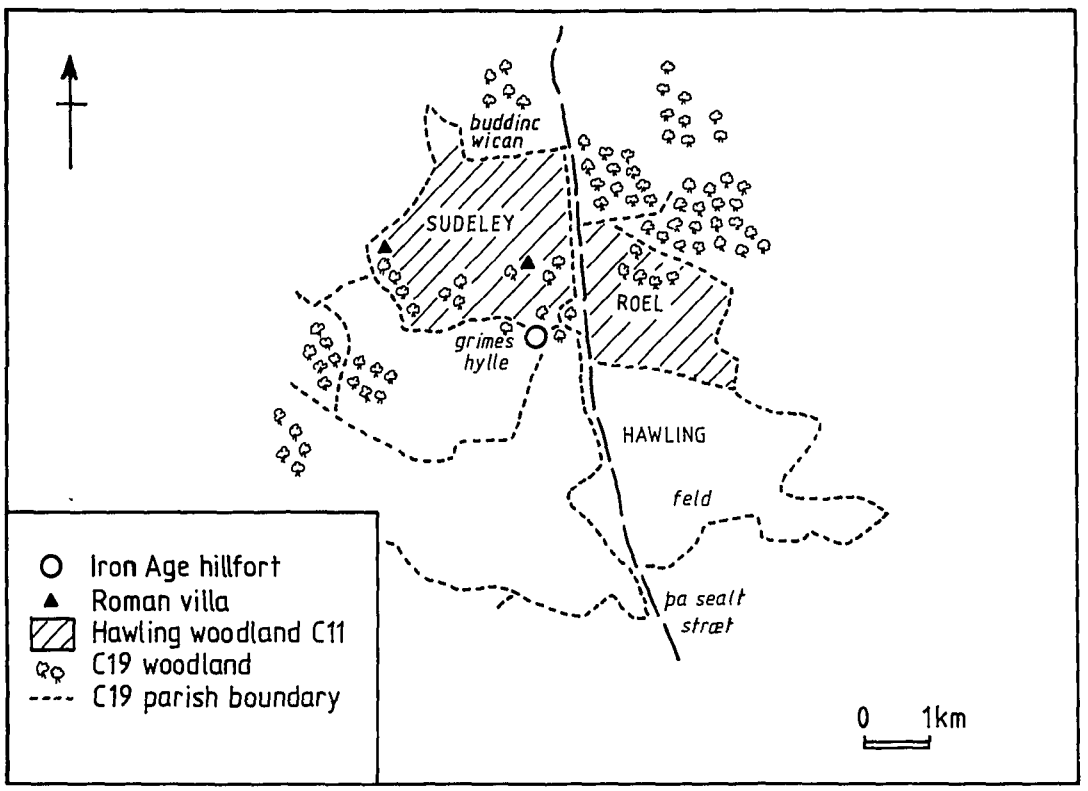


FIGURE 1
The pre-Conquest woodland of Hawling, Gloucestershire

wood of the men of the Lymne region and in the wood of Canterbury',[4] clearly indicates the usage of these woodland tracts.[5]

Without reinstating the concept of the survival of primeval woodland, there is little doubt that it is possible to identify regions in which woodland was relatively plentiful in early medieval England. In many areas, woodland regeneration seems to have occurred after the end of the Roman period. Roman villa sites lie within the documented bounds of the woodland of Hawling in Gloucestershire (Fig 1), and in Hampshire and Wiltshire Celtic fields and associated enclosures lie well within later woodland which had apparently re-established itself by the middle of the Anglo-Saxon period at least.[6] In some cases this may have been related to a degree of economic collapse and perhaps a sharp decrease in population numbers, in others to a changing agricultural economy, but undoubtedly much marginal land went out of cultivation, reverting either to pasture or woodland.

There are some regions in which woodland regeneration may have been actively encouraged for political reasons and it may not be entirely coincidental that the frontiers of some German provinces were also characterized by belts of dense woodland.[7] In England this seems to have been the case along almost the entire boundary of

[4] S 125, B 248.
[5] K P Witney, *The Jutish Forest: a Study of the Weald of Kent from 450 to 1380 AD*, 1976.
[6] D Hooke in preparation 'The landscape regions of south-central England'.
[7] W Metz, 'Das "gehagio regis" der Langobarden und die deutschen Hagenortsnamen', in *Beitrage zur Namenforschung in Verbindung mit Ernst Dickenmann, herausgegeben von Hans Krahe*, Band 5, Heidelberg, 1954.

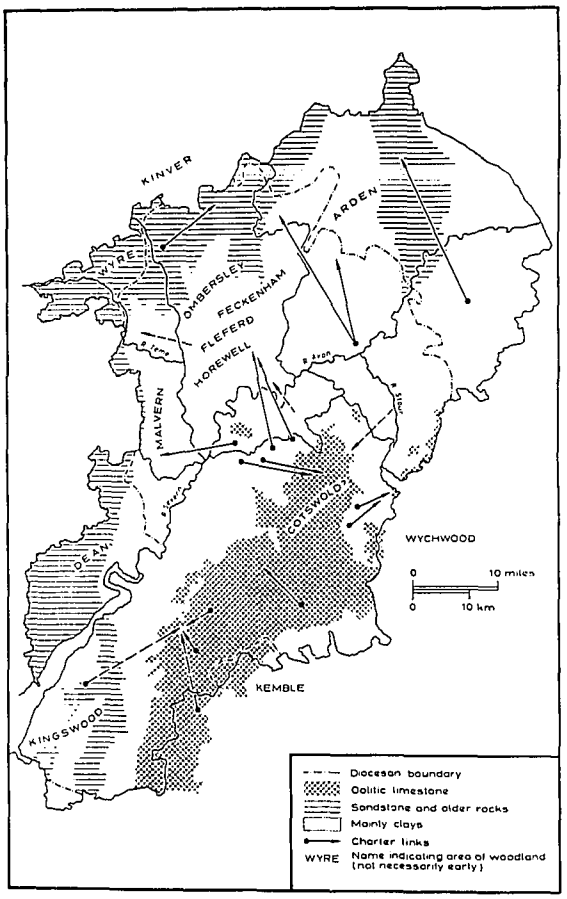


FIGURE 2
The kingdom of the Hwicce: pre-Conquest woodlands and medieval forests.

Source: D Hooke, *The Anglo-Saxon Landscape: the Kingdom of the Hwicce*, Manchester, 1985.

the Hwiccan kingdom, which comprised most of the present-day counties of Worcestershire and Gloucestershire, together with the western part of Warwickshire (Fig 2).[8] Along its northern boundary with Greater Mercia (now the boundary of Staffordshire) lay the later forests of Morfe and Kinver, while within its western boundary lay the woodlands of Wyre, then the more extensive *Weogorena leage*, extending southwards into the region of the later Malvern and Corse Forests before reaching the river Severn. Beyond, to the south-west, lay the later Forest of Dean. On the southern boundary of the kingdom, the wood of Kemble lay within the basin of the Upper Thames, and beyond its south-eastern boundary lay Wychwood, now in Oxfordshire. To complete the circuit, the boundary with Greater Mercia ran through the middle of the Warwickshire Arden. Similarly, the Magonsætan kingdom in Herefordshire and Shropshire was marked by thickly wooded countryside along its northern boundary with the Wreocensætan in Shropshire.[9] Many such examples can be cited, among them the great Forest of Selwood which ran along the western bounds of Wiltshire and for long marked the western fringe of Anglo-Saxon settlement in the south-west.

I

One aspect of woodland usage which is of particular interest to rural historians is the utilization of resources revealed in the territorial links between cultivated regions and wooded areas. In Kent, Witney, Everitt and others have been able to show that the woodlands were linked in a system of transhumance, in which they provided pasture which was used seasonally by the riverine and coastal estates. Everitt[10] traces a pattern of drove-ways across Kent which influenced the subsequent pattern of settlement, communications and parish demarcation. Such links are equally clear in Warwickshire and have been examined by Ford.[11] The linkage here may have been initially one of transhumance, and a similar pattern of routeways runs across Warwickshire from the wooded Arden to the more heavily cultivated Feldon, some of them

[8] D Hooke, *The Anglo-Saxon Landscape: the Kingdom of the Hwicce*, Manchester 1985.

[9] D Hooke, 'Early units of government in Herefordshire and Shropshire', *Anglo-Saxon Studies in Archaeology and History 5*, D Brown, J Campbell and S C Hawkes (eds), Oxford, forthcoming.

[10] Everitt, *op cit.*

[11] W J Ford, 'Settlement patterns in the central region of the Warwickshire Avon', in P H Sawyer (ed), *Medieval Settlement: Continuity and Change*, 1976, pp 274–94.

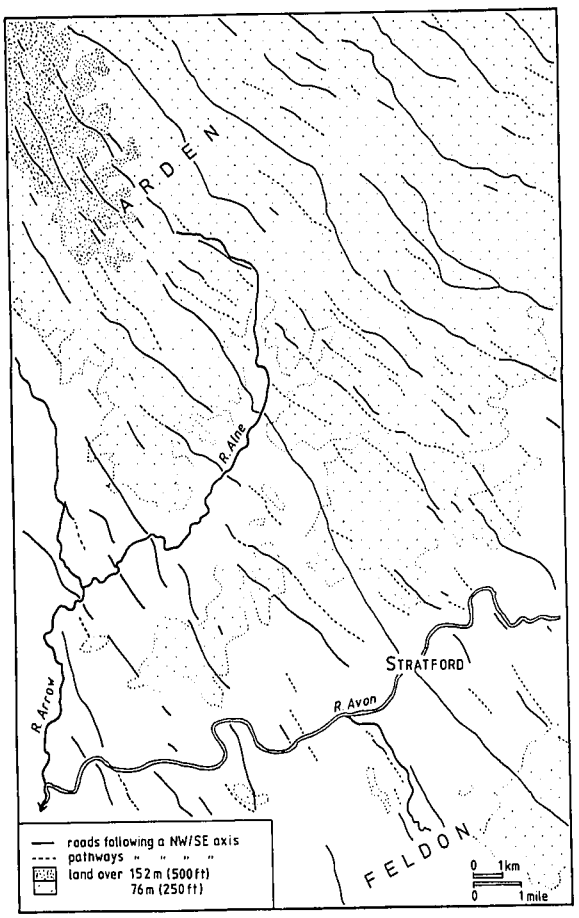


FIGURE 3
Warwickshire trackways linking the Arden and Feldon

referred to in pre-Conquest charters (Fig 3).[12]

The wooded nature of Arden in the Anglo-Saxon period is indisputable. Even in the Roman period, tile and pottery kilns were established to make use of the abundant fuel, and pre-Conquest charters sometimes refer specifically to parcels of woodland here being granted with more southerly estates. Thus a very early eighth-century charter[13] granted woodland at Nuthurst in Warwickshire and at King's Norton in north Worcestershire with an estate at Shottery in the Avon valley. Place-names confirm, especially in the distribution of the *lēah* term, the wooded nature of Arden in the Anglo-Saxon period. Permanent vaccaries and granges must soon have replaced seasonal shielings but the territorial links were to survive long enough to become fossilized in administrative links – detached parts of hundreds, manorial connections such as that between the southernmost Feldon estate of Brailes with Tanworth in Arden, and ecclesiastical dependencies between mother and daughter churches. A close scrutiny of the pre-Conquest charter evidence for Worcestershire permits the recognition of a similar pattern of territorial linkages throughout the northern part of the Hwiccan kingdom[14] and there are hints of a similar arrangement within the Magonsætan kingdom to the west.[15]

II

The territorial linkages of the kind noted above seem to have been founded upon the utilization of woodland as pasture. This is most often described as a provision for herds of swine, and many pre-Conquest charters refer to swine-pastures or the right to mast. Some of the best-known references are to the *den-bæra* of the Weald, which will not be enumerated here, those attached to Borstal, south of Rochester, said to lie *in commune saltu*, 'in the wood for common use'.[16] Privileges granted to the bishop of Worcester for an estate at Bentley in Worcestershire in 855 included freedom *a pascua porcorum re[g]is quod nominamus fearnleswe*, 'from the pasturing of the king's swine which we call "fern-past-

[12] D Hooke, *Anglo-Saxon Landscapes of the West Midlands: the Charter Evidence*, British Archaeological Reports, Br ser 95, Oxford, 1981.
[13] S 64, B 123.
[14] Hooke 1985, *op cit*, pp. 78–88.
[15] D Hooke, *Anglo-Saxon Territorial Organization: the Western Margins of Mercia*, University of Birmingham, Department of Geography Occasional Publication No 22, 1986.
[16] S 165, B 339.

king's swine which we call "fern-pasture"'.[17] Disputes sometimes arose over such rights, as in 825, between an earlier bishop of Worcester and the swine-reeve of the king, over *wudu leswe to su tune ongægum west on scirhylte*, 'wood-pasture at Sinton, towards the west in *Scirhylte*.[18] *Swin sceade* and *mæstredenne* are other terms used in charters to refer to such rights of pannage. The use of woodland for swine-pasture stands out in the Domesday survey to such an extent that in southern England woodland is entered in the record according to its swine-rent.[19] Other domestic stock, however, such as cattle, horses, goats, and even sheep, could be pastured in woods.

Many long-distance links had become merely administrative by the late Anglo-Saxon period but still Domesday entries refer specifically to *silua pastilis*, and many large woodland tracts seem to have served as regions of intercommoning for surrounding vills before boundaries were rigidly demarcated. The Forest of Needwood in Staffordshire was used in this way and the Forest of Neroche in Somerset served vills as much as twelve miles away. In the Domesday survey, such woodland is frequently entered under the name of the head manor and this has meant that its presence at that date has not always been accurately shown on distribution maps. Parcels of woodland on the Malvern foothills, for instance, were held by estates situated to the east across the Severn and do not appear in Domesday. The estate of Berrow, for example, was a dependent manor of Overbury on the Worcestershire/Gloucestershire border and the Arden estate of Tanworth in Warwickshire, a dependent manor of Brailes, has already been noted.

There are several place-name terms which seem to relate specifically to such practices, including the *dens*, or swine-pastures, of Kent. *Stede*, a term which also shows a concentration in south-eastern England, has been studied by Sandred[20] who believes it was most usually applied to 'pasture (probably enclosed)'. In Hampshire, at least, the term occurs most frequently on the fringe of wooded areas and Fig 4 shows a sample area which lay within the forest of Bere-Ashley in medieval times. Today the area is known as the Forest of Hursley. After disafforestation several deer-parks were established here, a number of them recorded by the thirteenth century,[21] but large tracts of woodland survive and, in addition, several extensive areas of common pasture. Three *stede* names appear on the map: Slackstead, Silkstead and Hawstead, all referring to settlements tucked in against woodland near parish boundaries.

Woodland, of course, had other uses and there is little doubt that it was being managed to a certain extent by the seventh century. At that date the Laws of Ine instituted penalties for the destruction of timber trees: 'If anyone destroys a tree in a wood by fire; and it becomes known who did it, he shall pay a full fine. He shall pay 60 shillings, because fire is a thief'.[22] For the felling of trees by other means the fine was 30 shillings for three trees. The number of times that parcels of woodland were granted in charters also illustrates the role it played in the regional economy. Sometimes woodland rights are specified, as in an early tenth-century charter of Elmstone Hardwick in Gloucestershire, which included the lease of *ða wudu rædenne in ðæm wuda ðe ða ceorlas brucaþ*, 'the right of cutting timber in the wood which the peasants enjoy',[23] and another

[17] S 206, B 487.
[18] S 1437, B 386.
[19] H C Darby, *Domesday England*, Cambridge, 1977, pp 172–4.
[20] K I Sandred, *English Place-Names in -Stead*, Uppsala, 1963.
[21] L Cantor, *The Medieval Parks of England*, Loughborough 1983, pp 34–5.
[22] F L Attenborough (1922), *The Laws of the Earliest English Kings*, Cambridge, pp 50–1; Ine, c. 43.
[23] S 1283, B 560.

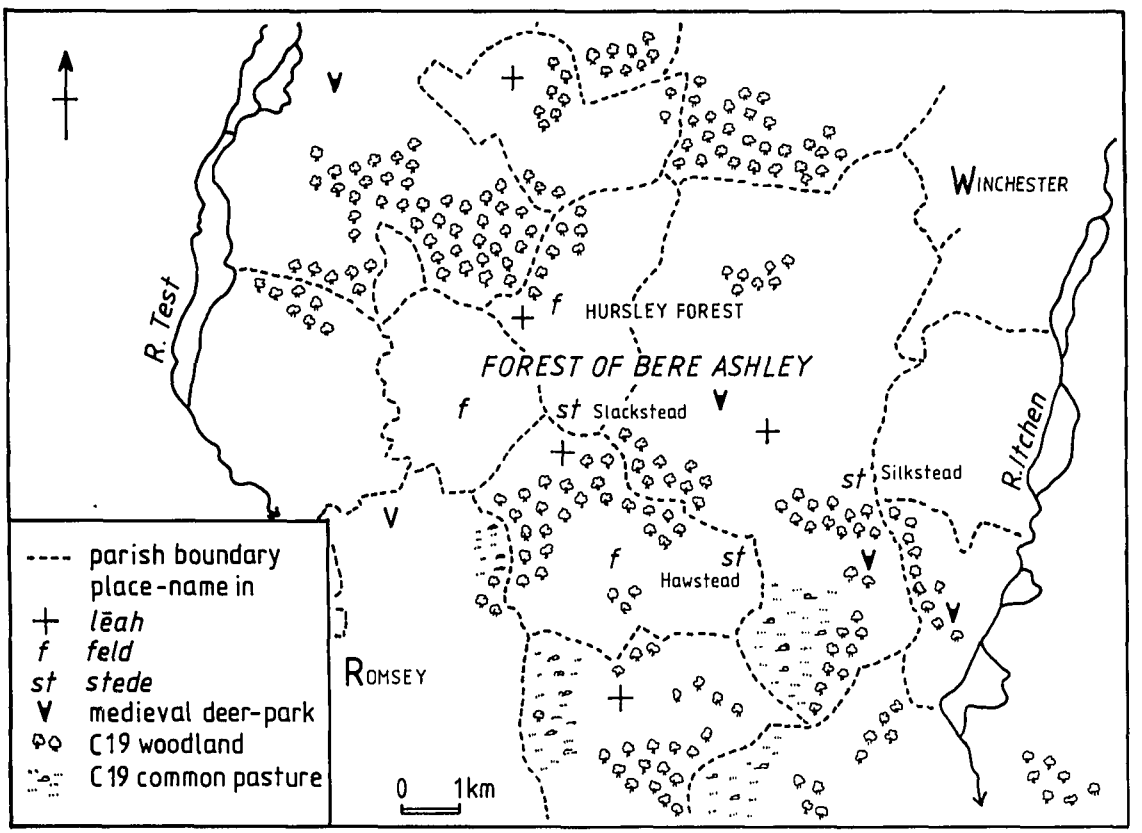


FIGURE 4
Stede place-names in Hursley Forest, Hampshire

tenth-century lease of Thorne in Inkberrow, Worcestershire, which ordered that *seo wudung on gemænan grafe to þordune*, 'the right of cutting wood in the common copse [shall belong] to Thorne';[24] another of Seckley in Wolverley, Worcestershire, dating from 866, notes not only pasturage for swine but 'five wainloads of good brushwood, one oak annually and other timber necessary for building, firewood sufficient for his needs and other rights in woodland and open land pertaining to the two *manentes*'.[25]

Archaeological evidence is now revealing details of a form of building construction in post-Roman times peculiar to Britain, apparently drawing upon both British and Continental traditions.[26] Some of the buildings were particularly impressive, among them the thegnly hall found at Cowdery's Down, Hampshire, which formed the focus of the seventh-century settlement.[27] Shingling for roofs has been found in eleventh-century levels at Winchester and carpentry was sufficiently skilled to produce not only relatively sophisticated buildings but such fine objects as the lyre and maplewood cups of Sutton Hoo, and the flutes in carved applewood and hawthorn from the Danish levels at York.[28] Carpenters' tools have

[24] S 1305, B 1110.
[25] S 212, B 513.

[26] S James, A Marshall, and M Millett, 'An early medieval building tradition', *Archaeological Journal*, 141, 1984, pp 182–215.
[27] M Millett with S James, 'Excavations at Cowdrey's Down Basingstoke, Hampshire, 1978–81, *Arch Jnl*, 140, 1983, pp 151–279.
[28] D M Wilson, 'Craft and industry', in D M Wilson (ed), *The Archaeology of Anglo-Saxon England*, 1976. pp 253–82.

been found, mainly on three sites in Durham, Cambridgeshire and Yorkshire, where ninth/tenth-century levels yielded hammers, adzes, boring-bits, a gouge, a plane, a draw-knife, saws and a wedge. It was, however, the axe which was the basic tool both for felling the trees and lopping the trunks and for forming the wedges used to split the trunk.[29]

Although woodland was especially plentiful in Worcestershire, covering over half of the land area,[30] in that county it had to supply both domestic and industrial needs, for Droitwich was the great inland salt-producing area and enormous quantities of timber were required to fire the ovens where evaporation of the saline liquid took place. A tenth-century charter of Bentley, Holt, includes *siluam necessarium on Bradanleage ad illam præparationem salis*, 'the woodland at Bradley necessary for the preparation of salt',[31] and the location of places possessing salt rights, many of which, in payment, evidently sent timber to Droitwich, suggests that wood was obtained from a wide area, even beyond the frontiers of the Hwiccan kingdom.[32] In Herefordshire, Leominster and Much Marcle held salt privileges which were directly related to the manorial woodland, although in 1086 both were paying 5 shillings each to buy wood in Droitwich for their salt. In the case of Leominster this money was drawn from its own woodlands. There was also an additional render there of 8 shillings for salt, which may represent the commutation of a former service of carting wood to Droitwich to be used as fuel for the saltworks.[33]

Similarly, a ninth-century charter of Lenham in Kent[34] notes that the wood of Blean in Kent provided cartloads of wood for the manufacture of salt. Here coastal evaporation had been practised on a large scale in the late Iron Age and Roman periods in the northern salt marshes and was still recorded in the Domesday survey.[35] In Worcestershire, charcoal may have been used in salt manufacture, for several *colford* crossings of rivers are noted near Droitwich.[36] A charter of Apsley Guise in Bedfordshire, dating from 969, seems to refer to *þone ealdan coll pytt* which may have been a reference to a charcoal-pit,[37] although other translations are possible.

III

Less is known about the practical management of woodland in the pre-Conquest period. There is a charter reference to a *coppeden ac*, 'a copped oak-tree'[38] but rather more to 'copped thorns'.[39] *Copped* in the sense of 'polled, without a top', occurs in later-recorded place-names as at Cobdenhill and Copthorne, both in Hertfordshire, both referring to *þorn*, 'a thorn-tree', Copdock in Suffolk (an oak-tree) (1195), and Cowbeach in Sussex (*bece*, 'a beech-tree'). At Coppet in Herefordshire and Copster in Lancashire the reference may be to woods of pollarded trees.[40] Such trees are also shown in a well-known Anglo-Saxon calendar representation.[41]

[29] *Ibid.*

[30] O Rackham, *Ancient Woodland: its History, Vegetation and Uses in England*, 1980, p 115.

[31] S 1301, B 1087.

[32] D Hooke, 'The Droitwich salt industry: an examination of the West Midland charter evidence', *A-S Stu Arch Hist*, 2, D Brown, J Campbell and S C Hawkes (eds), Oxford 1981, pp 123–69.

[33] H Round, 'Introduction to the Herefordshire Domesday', in W Page (ed), *VCH Hereford* Vol I, 1968, p 295; Domesday Book, fos 180, 179b.

[34] S 324, B 854.

[35] A Miles, 'Salt-panning in Romano-British Kent, in K W de Brisay and K A Evans (eds), *Salt, the Study of an Ancient Industry*, Colchester, 1975, pp 26–30; H C Darby, *op cit*, pp 265, 267.

[36] Hooke 1981, *op cit*.

[37] O Rackham, *The History of the Countryside*, 1986, p 81; S 722, B 1229.

[38] S 359, B 594 (Stoke by Hurstbourne, Hampshire).

[39] S 645, B 994 (Battersea, Surrey); S 351, B 740 (Worthy, Hampshire); S 566, B 909 (Alwalton, Huntingdonshire); these features are now listed in *A Microfiche Concordance to Old English*, Dictionary of Old English Project, Centre for Medieval Studies, University of Toronto, 1938–.

[40] A H Smith, *English Place-Name Elements, Part I*, E Place-Name S 25, Cambridge 1956.

[41] Anglo-Saxon Calendar, B L Cotton Tiberius B V.

The various terms used in place-names certainly seem to indicate different types of woodland, although it is difficult today to know precisely how these terms were used. Because *holt* usually occurs with a specific species of tree, it has been taken to indicate a wood containing only one species.[42] *Ācholt*, 'oakwood', is common, but ash, lime, beech and wych elm also appear in this context. It probably indicated a managed wood, and there are several names combining *holt* with OE *spere*, 'a spear shaft', indicating 'a wood where (shafts for) spears are got', such as Sparsholt which occurs as an estate-name in Berkshire and in Hampshire. Similarly, Throckenholt, in Cambridgeshire, indicates 'a wood where throcks were got', a *þroc* being a 'prop, support', as in ploughshares and perhaps, also, trestle tables. The same Anglo-Saxon calendar referred to above shows timber being collected from the woods and in one scene stakes seem to be being hardened in the fire before being used for building. The calendar pictures also show, however, woodland and rough ground being cleared and assarted, and we are reminded of the Old English poem which describes the ploughman as *harholtes feond*, 'the gray enemy of the wood'.[43]

A number of pre-conquest (probably eleventh century) documents refer briefly to the management of estate woodlands. An estate memorandum notes that an estate forester 'ought to have every tree brought down by the wind' but gives no other indication of his duties, while the swineherd who had to 'drive his herd to the mast-pasture' was presumably familiar with the woods.[44] The tenants of Hurstbourne Priors had to supply fothers of split wood and poles of fencing as rent, stacking it in their own time.[45] Some indication of the seasons in which work was carried out is given, for the estate reeve had to cut wood in summer and autumn and chop wood in winter. The calendar picture again seems to show the trees being cut down in summer and it is the November scene which depicts timber posts being heated in a fire. Although archaeological excavation may reveal more about timber techniques there is little descriptive detail in the literature about matters with which almost every peasant in Anglo-Saxon England would have been familiar.

IV

Place-name terms indicating the presence of woodland include the term *lēah*. This is said to be derived from an Indo-European root meaning 'light, shining', but the nearest direct equivalent is the Old High German *lōh*, 'a grove, bush-grown clearing', which implies a similar meaning to that suggested for OE *lēah*: 'a woodland with glades'.[46] The term may often have had a meaning closely related to economic usage as 'land used for woodland pasture', and was most frequent upon the edges of dense woodland rather than within it.[47] A Worcestershire charter reference explains that two *lēah* features in Salwarpe were actually woods for the estate boundary ran *betwenan ac wudu 7 wulle lea. 7 swa æfre betwyx þam twam wudan in alra broc*, 'between *ac wudu* and *wulle lea* and so continuing between the two woods to Alder Brook'.[48] It may be noted, too, how *The Anglo-Saxon Chronicle* claims that in 477 a Saxon expedition into Sussex slew many Britons, 'and drove some into flight into the wood which is called *Andredesleag*',

[42] M Gelling, *Place-Names in the Landscape*, 1984, p 196.
[43] *The Exeter Book*, Part II, ed W S Mackie, *EETS* 194, 1934, No 21.
[44] F Liebermann, *Die Gesetze der Angelsachsen*, 3 vols, Halle, 1903–16, I, pp 444–55.
[45] S 359, B 594.
[46] C Johansson, *Old English Place-Names Containing Lēah*, Stockholm, 1975, p 8.
[47] M Gelling, 'Some notes on Warwickshire place-names', *Trans Birm War Arch Soc*, 86, 1974, p 68.
[48] S 1596, B 362.

referring to the Weald.[49] This woodland took its name from the fort of *Anderitum*, Pevensey, meaning 'great ford', but the name of the wood, *Andret*, survived into the eleventh century when it was applied to the New Forest in Hampshire.[50] The wood was said to extend over 120 miles from west to east and 30 miles from north to south.[51]

Woodland was not confined to the margins of the Hwiccan kingdom for it was also noted across the whole north-western section of the region, particularly in the pastoral areas of the Warwickshire Arden, north-west Worcestershire, and, in Gloucestershire, in the Severn Valley and up and over the scarp of the Cotswolds.[52] There is nothing in this region which contradicts an interpretation of *lēah* as 'woodland pasture' and many *lēah* places were flourishing manors by the time of the Domesday survey. The term is, however, largely absent from the more heavily cultivated Feldon regions, the Vale of Evesham and south-east Gloucestershire. It is difficult today to imagine the appearance of the Anglo-Saxon landscape. Although parts of Worcestershire in the vicinity of the Wyre Forest, in particular, are still well-wooded, this is now largely an open, pastoral or arable county.

Pre-Conquest charters, however, help to reconstruct this earlier landscape. They may suggest that an estate was being carved out of an area of woodland, and occasionally state that an estate actually lay 'in a wooded place' or was itself an area of woodland.[53] Wood can readily be detected in the landmarks used in boundary clauses for the same terms occur as are used in settlement place-names: *grāf, hangra, holt, wudu, hurst, wald, fyrhð* etc. It should not be overlooked that rights to woodland were often granted amongst the appurtenances of the estates being granted or leased and that these were rather more than mere scribal formulae. Normally, these rights in woodland are simply referred to as *siluis*, but *siluiunculis*, 'small woods', are specified at Upper Stratford in the central Avon valley of Warwickshire. The *saltibus* of Wootton Wawen, Warwickshire, and *saltuumque densitatibus* of Steeple Ashton, Wiltshire, may have represented denser woodland[54] and *silvarumque densitatibus* occurs in a number of Dorset, Wiltshire and Hampshire charters.[55] Other variants in the charters of southern England include several references to *nemorum, nemoribus*, 'groves'. Even when other rights are specified (usually fields, meadows and pasture), woodland seems often to be omitted in certain areas where it was scarce and the scribal formulae were obviously based upon some recognition of reality. The 'groves' described with their own boundary clauses at *Genenofre* and at Bredons Norton in Worcestershire[56] were obviously seen as specific areas of woodland of limited extent.

Anglo-Saxon charters are particularly important where they reveal inadequacies in the Domesday data. Very little woodland is entered on the manors of Hormer Hundred in the Berkshire folios. This hundred lay within the great bend of the River Thames to the north of Abingdon, an area now taken into the county of Oxfordshire, and most of it had been acquired by the abbey of Abingdon. Indeed, the area may have originally borne a woodland name for the abbey claims to have obtained the large estate of *Æaromundeslee* (*lēah* with a

[49] *The Anglo-Saxon Chronicle: Two of the Saxon Chronicles Parallel*, C Plummer (ed), Oxford, 1892, pp 14–15.
[50] A L F Rivet and C Smith, *The Place-Names of Roman Britain*, 1979, pp 250–2; J Munby (ed), *Domesday Book, 4, Hampshire*, Chichester, 1982, 17, 4; Domesday Book, fo. 44b.
[51] Plummer (ed), *The Anglo-Saxon Chronicle*, AD 893, pp 84–5.
[52] Hooke, 1985, *op cit*.
[53] D Hooke, 'The Anglo-Saxon landscape', in T R Slater and P J Jarvis (eds), *Field and Forest: an Historical Geography of Warwickshire and Worcestershire*, Norwich, 1982, pp 96–7.
[54] S 94, B 157; S 727, B 1127.
[55] E.g. S 474, B 768.
[56] S 1374, J M Kemble, *Codex Diplomaticus Aevi Saxonicus*, 6 vols, 1839–48, K 681; S 1405, J Earle, *A Hand-book to the Land-Charters and other Saxonic Documents*, Oxford, 1888, pp 247–8.

personal name) from King Ine in 687;[57] but this was a troubled frontier region between Mercia and Wessex in the eighth century and these early charters are fabrications, even if they are based on authentic early gifts. Later charters of estates in this area also abound in *lēah* names and it is clear that woodland extended southwards from the present Wytham Great Wood and was particularly dense on the ridge formed by Kimmeridge Clays and Greensand deposits which culminates in *abbedun*, Æbba's hill, now Boar's Hill, which gave its name to the minster estate to the south.[58] Some woodland still remains: *ydyrleage, wadleahe* and *plumleage*, with *wrohthangran*, are now represented by Wytham Great Wood, *catleage, preosta leage* and *riscleahe* by Hen Wood and associated pockets of woodland, while *bacgan leah* is now Bagley Wood.[59] Yet none of these appear in the Domesday folios.

Given that woodland is noted for the majority of counties covered by the Domesday survey, it is not difficult to recognize heavily wooded counties when the woodland is entered by dimension, but it is considerably harder to estimate the amount of woodland present in those counties in which woodland is entered according to its swine rent. Some doubt also remains about the full coverage of woodland which had been taken into the king's forest by 1086.

V

'Forest' is a legal term of Norman introduction and it is well-known that enormous areas of land were officially declared subject to forest law under the Norman kings. The importance of hunting in Anglo-Saxon England, however, may well have been under-estimated, partly because the Laws of Cnut which refer to hunting are known to have been added to after the Norman Conquest[60] and cannot therefore be taken to be reliable. Hunting rights could, however, be specifically mentioned in charters, and a tenth-century lease of Grimley, Worcestershire, for instance, included amongst the appurtenances of the estate *siluis uenationibus*, 'woods for hunting'.[61] Such rights are found as far afield as *Myletun*, near Kemsing in Kent, recorded in 822[62] and Benham in central Berkshire, recorded in 956.[63] Certain manors were firmly associated with hunting, probably maintaining royal lodges, and *illa uenatione uilla quæ Saxonicæ dicitur Bicanleag*, 'that hunting vill which is called by the Saxons Bickleigh', referred to in 904,[64] appears to have been Bickleigh in Devon.

There is ample evidence in the contemporary literature of the type of animals hunted. Ælfric, writing in the later tenth century when in charge of a monastic school at Cerne Abbas in Dorset, states of the hunting of wild boar: *Hundas bedrifon hyne to me, and ic þær, togeanes standende, færlice ofstikode hyne*, 'the dogs drive it towards me, and I stick it quickly, standing there in its path'[65] (the boar was noted for its formidable tusks). Charters are full of references to the hart (stag), the hind, and the roe-deer, and Ælfric again quotes: *Heortas ic gefenge on nettum*, 'stags I catch in nets'.[66] Wolves were also hunted. They were vicious predators of domestic livestock but their coats were also of value. There are many references to wolf pits in charters, used presumably to trap these animals. The same method seems to have

[57] S 239, B 100.
[58] M Gelling, 'The hill of Abingdon', *Oxoniensia*, 22, 1957, pp 54–62.
[59] The main charters for this area are S 673, B 1047; S 614, B 971; S 590, B 932; S 663, B 1002; S 757, B 1222; S 567, B 906; S 605, B 924; S 858, K 1283.
[60] F Liebermann, *op cit*, II, p 185.
[61] S 1370, B 1139.
[62] S 186, B 370.
[63] S 591, B 942.
[64] S 372, B 613.
[65] Ælfric, *Colloquium ad pueros lingua latinae locutione exercendis ab Ælfrico compilatum, Analecta-Saxonica*, B Thorpe (ed), 1846, p 22.
[66] *Ibid*

been used to catch foxes, while beavers, otters, hares, wildcats and martens were also hunted. None of these animals is restricted to a woodland habitat but most of them were more prolific in the wilder parts of the countryside and deer, at least, prefer to have ample woodland for cover. The woods also provided honey from wild bees and numerous 'Honey Brooks' are recorded, especially in Worcestershire.

There is one particular term, however, occurring in pre-Conquest charters which seems to have been connected mainly with hunting. This is the term *haga* and its relevance has frequently been overlooked, Rackham believing it to be merely a variant of OE *hecge*, 'a hedge'.[67] The term occurs in quite different regions and different environmental conditions to the various *hecge* terms, as can be seen from the Worcestershire and Berkshire evidence. Hedges were frequently recorded in charter boundary clauses in areas where woodland was being assarted and had been pushed back largely to estate margins. Here crops would need particular protection from woodland animals. The *haga* term, on the other hand, occurs most frequently in more remote, less-developed regions where thick woodland was plentiful (Fig 5). There can be little doubt that the term meant something quite distinguishable from the ordinary hedge of living shrubs, although it was associated with enclosure, and was sometimes later glossed by the Latin *sepes, sæpes*, 'a hedge, a fence'. It seems, indeed, to have referred usually to a particularly strong type of enclosure fence often found around a wooded area. Sometimes the enclosures themselves seem to have been relatively short but on other occasions *haga* features extended for many kilometres, sometimes appearing to enclose almost entire estates. The word came down into later times as 'hay' (now obsolete), used as a verb 'to enclose or fence in by a hedge';[68] and as 'haw' 'a hedge or encompassing fence: hence, a piece of ground enclosed or fenced in'.[69]

In German, the term developed from a meaning of 'hawthorn, thorn hedge', to a more specialized meaning of (a) 'defensive enclosure'; (b) 'the enclosure of a wood containing wild animals'; eventually becoming attached to (c) 'an enclosed settlement' or 'an enclosed wood'.[70] Although the term *haga* both here and on the continent was, therefore, chiefly associated with the enclosure of land, primarily woodland, it was also used in England to refer to defended settlements: to enclosures within the newly fortified burhs of Wessex and Mercia.[71] Only later were the subdivided properties within these divisions also referred to by the same term. In Germany, *haga* place-names are similarly associated with fortified settlements established along province frontiers. There is also, however, a strong association with royal land rights, whether over fortified settlements or forests.[72] The connection cannot always be proved, but of the Worcestershire woodland *hagan*, half occurred along the boundaries of royal estates or of estates bordering upon royal land, and the English burhs were, of course, also established under royal direction.

A similar Middle English term, 'hay', appears to be related. This was used for a net spread across a gap in a fence to capture game animals, usually, in later times, rabbits. Anglo-Saxon sources, already quoted, also refer to the capture of deer in nets spread across gaps in a fence and of dogs driving the deer towards the nets. 'Hay'

[67] Rackham, 1986, *op cit*, p 185.

[68] *OED*, p 134.

[69] *Ibid*, p 129.

[70] M Heyne (ed), J and W Grimm, *Deutsches Wörterbuch von Jacob Grimm und Wilhelm Grimm*. Vierten Bandes zweite Abteilung, Leipzig, 1877.

[71] D Hooke, 'The hinterland and routeways of late Saxon Worcester: the charter evidence', in M O H Carver (ed), *Medieval Worcester, an Archaeological Framework, Trans Worcs Arch Soc*, 3rd ser, 7, 1980, pp 39–43.

[72] Metz, *op cit*.

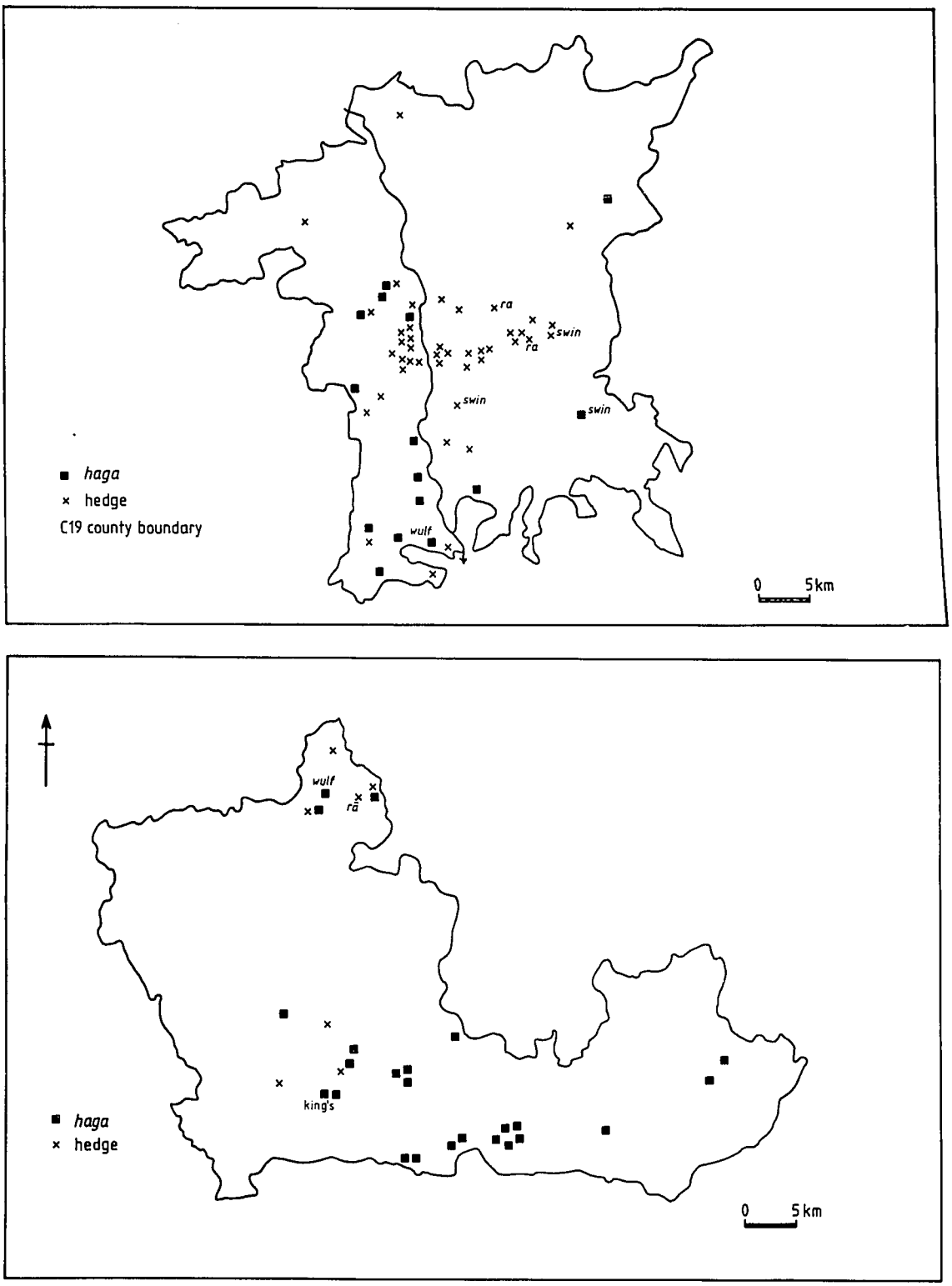


FIGURE 5
The distribution of the *haga* and *hecge* terms in (a) Worcestershire and (b) Berkshire

was, however, also used to describe the fence itself, and became 'an enclosure fenced off for hunting',[73] while a 'hayes' was 'a small hunting park, usually in a woodland area, enclosed for the retention of deer'.[74] These meanings, most of them associated with enclosed woodland, need to be borne in mind.

Under Roman law game had been regarded as *res nullius*, belonging to whoever killed it, regardless of where or on whose land it was killed.[75] By the seventh century, however, royal hunting reserves had been established within the Frankish empire, restricting the right to take particular types of game, notably deer. It is not clear when the concept of royal hunting preserves was introduced to this country, or whether any such limitations upon the taking of game came into effect before the Norman Conquest, but certainly hunting was a notable pastime of the Anglo-Saxon nobility and the king maintained huntsmen, falconers and dog-handlers, with certain estates duty-bound to offer hospitality to such officers. Three Mercian charters freed estates from such services, one of them a grant of 844 by King Berhtwulf to Æthelwulf, *dux*, freeing an estate at Pangbourne, Berkshire, *a pastu principum 7 a difficultate illa quot nos Saxonice dicimus festigmen nec homines illuc mittant qui osceptros uel falcones portant aut canes aut cabellos ducunt*, 'from the entertainment of ealdormen and from that burden which we call in Saxon *fæstingmen*; neither are to be sent there men who bear hawks or falcons, or lead dogs or horses'.[76] A more questionable charter of King Berhtwulf,[77] allegedly of 845, grants similar privileges to the monastery of *Ufera Stretford*, at Stratford in Warwickshire, and a further authentic charter issued by Burgred, King of Mercia, in 855, exempted the minster at Blockley, Glos., from dues which included '*pastu. et ab refectione omnium ancipitrum et falconum in terra Mercensium et omnium uenatorum regis uel principis nisi ipsorum tantum qui in prouincia Hwicciorum sunt*, 'the feeding and maintenance of all hawks and falcons in the land of the Mercians, and of all huntsmen of the king or ealdorman except only those who are in the province of the Hwicce'.[78]

The maintenance of the deer-fence, the *deorhege*, was a recognized part of a landholder's duties at the king's residence.[79] As suggested, this was probably rather more than a mere hedge around cropped ground, rather, a substantial fence or hedge (not necessarily living) marking off the hunting land and possibly playing a part in the actual steering of the game during the hunt (*supra*).

The reservation of vast areas as forest land was undoubtedly an important feature of kingship under Norman rule. *The Anglo-Saxon Chronicle* claims in 1086 [1087] that William 'constituted much protection for game (*deofriþ*) and he laid down laws therewith',[80] instituting penalties for killing the hart or the hind, but one may suspect that it was not such an innovation as has always been suspected. Metz shows how two *hagan* boundaries on lands of Fulda monastery, recorded in 801, coincided with the boundaries of the royal forests of Bramforst and Zunderhart (980), querying: *sollten sich hinter den 'hagon' der Urkunde von 801 gar die beiden Königsforsten selbst im Sinne des 'gehagi' verbergen?* 'does the name "hagon" in the document include the two king's forests themselves in the sense of "gehagi"?' (implying that the *hagan* may

[73] I H Adams, *Agrarian Landscape Terms: a Glossary for Historical Geography*, 1976, p 107.
[74] *Ibid*, p 108.
[75] J M Gilbert, *Hunting and Hunting Reserves in Medieval Scotland*, Edinburgh, 1979, p 5.
[76] S 1271, B 443; D Whitelock (ed), *English Historical Documents, i, c 500–1042*, 1955, p 481.
[77] S 198, B 450.
[78] S 207, B 489.
[79] Liebermann I, pp 444–55.
[80] J Earle (ed), *Two of the Saxon Chronicles parallel with supplementary extracts from the others*, Oxford 1865, p 222.

already have been hunting reserves) and concluding *Fest steht dagegen die Beziehung zwischen Königsforst und Hagen in irgendeiner Art*, 'The connection between king's forests and "Hagen", however, is in some way proved'.[81]

The area of Worcestershire in which *haga* enclosures are most notably concentrated, west of the River Severn and south of the River Teme (Fig 5), was all to become part of the royal forest of Malvern and entries in the Domesday folios show that much of it had been designated as such by 1086. It was a remote and underdeveloped region, still described by William of Malmesbury in the twelfth century as *vastissimo illo saltu quod Malvernum vocatur*, 'that vast/unoccupied wood which is called Malvern'.[82] Much of this border area near the western margins of the Hwiccan kingdom was to be granted by the king to the major abbeys and churches of Pershore, Worcester and Deerhurst, but royal rights were re-established over most of the region, as forests were designated after the Conquest. Pre-Conquest charters show that there were *haga* features along the boundaries of Upton-on-Severn, Longdon and Bushley, and Deerhurst, gates in such features on the boundaries of Leigh and Powick, and other related features in Eldersfield, Hasfield and Tirley, the latter region later to form the separate forest of Corse (Fig 6).

By 1086, Domesday Book records specific enclosures known as *haiæ*, in which game were confined and captured. A *haia* in Kington, Worcestershire, was a place *in qua capiebant feræ*, 'in which wild animals used to be captured', and at Lingen, now in Herefordshire, there were *iii haiæ capreolis capiendis*, '3 hays for taking roe-deer'.[83] The abbey of Gloucester claimed rights

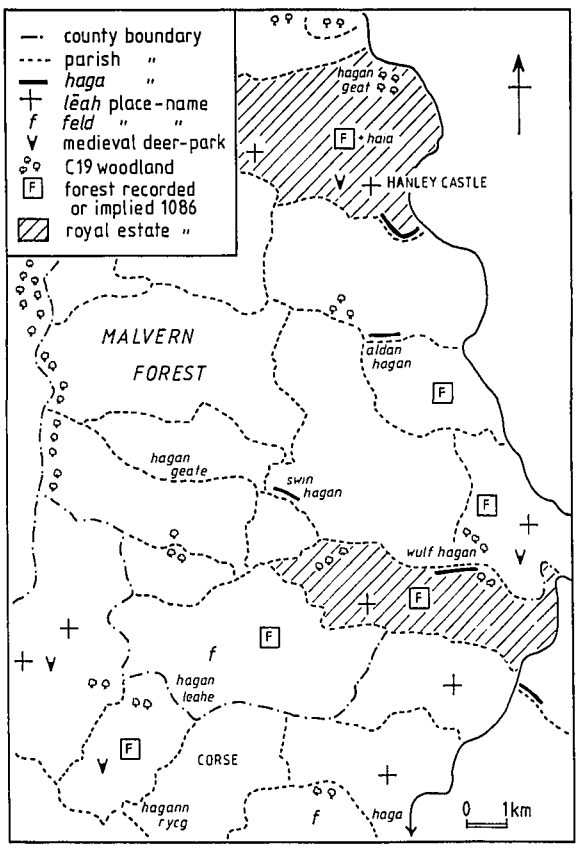


FIGURE 6
The Malvern region of Worcestershire: features associated with hunting and woodland

to hunting in the *haiæ* of Churcham and Morton in Gloucestershire.[84] Within the area shown in Fig 6, one *haia* lay within Hanley Castle, the estate centre of Malvern Forest.[85] In 1315 the main deer-park of Hanley Castle lay in the south-eastern sector of the parish, its boundary coinciding with the *haga* which followed the Upton boundary in 962. There is insufficient evidence to claim that the Anglo-Saxon *haga* was necessarily a fully-fledged deer-park, although the park made by the king at Ongar in Essex in the eleventh century was certainly termed a *derhage*.[86] It does

[81] Metz, *op cit*, pp 41–2.
[82] N E S A Hamilton (ed), William of Malmesbury, *Willelmi Malmesbiriensis Monachi. De Gestis Pontifican Anglorum*, Rolls Series, 52, 1830, pp 285–6.
[83] F and C Thorn (eds), *Domesday Book, 25, Shropshire*, Chichester 1986, 6.14, fo 260b.
[84] J S Moore (ed), *Domesday Book, 15, Gloucestershire*, Chichester 1982, 10.11, fo 165c.
[85] Thorn (ed), *Domesday Book, 16, Worcestershire*, Chichester 1982, EG 1, fo 163c.
[86] B Thorpe, *Diplomatarium Anglicum Aevi Saxonici*, 1865, p 574.

seem, however, to have been an enclosure directly linked with the reservation of land for the preservation and hunting of game. Such features occur frequently in regions which were to be taken into royal forest after the Conquest and often lords were later officially allowed to enclose deer-parks in the same regions, sometimes actually on the site of an Anglo-Saxon *haga*, as at Hanley. Woods often survived on or near the sites of Anglo-Saxon *hagan* until the present day.

The same connection is evident wherever the term appears in charters but one further example must suffice. In northern Hampshire, a block of territory centred upon the royal vill of Hurstbourne Tarrant lay to the north-east of the royal estate of Andover. The southernmost estates of this territory, Whitchurch and Hurstbourne Priors, were alienated to the church of Winchester in the late eighth and ninth centuries, and for a time in the early ninth and later tenth centuries ownership of the Hurstbourne Tarrant estate also passed to Abingdon Abbey, but was retrieved by the crown by the end of that century. Like Malvern, this seems to have been regarded as a marginal zone to be granted into ecclesiastical hands, rather than prime royal property, although the estate of Faccombe remained a royal estate and was the morning-gift of Wynflæd, the grandmother of the kings Edwy and Edgar. There were numerous *haga* features in this area, many of them running for several kilometres. One ran around parts of the western boundary of St Mary Bourne (recorded when the latter was granted to the church of Winchester) separating the then royal estates of Andover and Hurstbourne; another followed the northern boundary of St Mary Bourne between that estate and the adjacent estates of Crux Easton and Woodcott and Litchfield, while others ran along the boundaries of the royal estate of Faccombe and around East Woodhay to the north. Another *haga* followed the

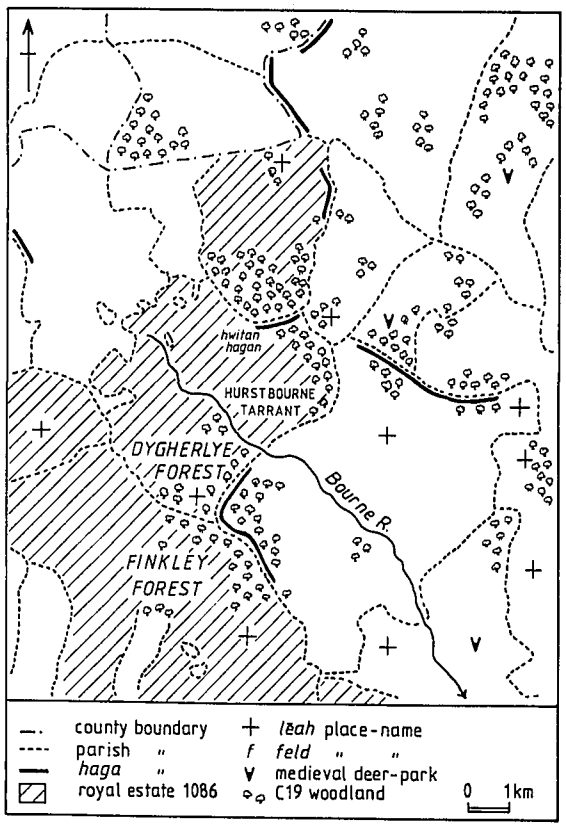


FIGURE 7
North Hampshire: features associated with hunting and woodland

boundary of Vernhams Dean to the west (Fig 7).[87] In most cases, there is a direct or indirect connection with royal ownership.

The majority of *haga* enclosures can also be shown to have been related to actual woodland: often this lay on both sides of the boundary in medieval times and was earlier indicated by *lēah* place-names. Moreover, two of the *haga* fences ran along boundaries which were later those of the medieval forests of Finkley and Dygherlye in Andover parish. Another ran along the boundary of Crux Easton parish which was held by a huntsman in 1086. Surprisingly, perhaps, woodland is not strongly represented in the assessments of the Domesday manors, but Hampshire is one

[87] The main charters are S 689, B 1080; S 359, B 594; S 378, B 624.

of the south-eastern counties in which woodland was entered only according to its pig-rent and, as Welldon-Finn pointed out: 'This may imply that the . . . villagers had no right to feed their swine in their lord's wood',[88] the manors of Crux Easton, Combe, Linkenholt and Upton in Hurstbourne Tarrant only recording 'wood for fencing'. Welldon-Finn thought that the lord may perhaps have been retaining the woodland as cattle pasture but it may be that the woodland was reserved even then as 'forest' (not fully recorded in the Domesday folios for Hampshire), Crux Easton certainly being in the hands of a huntsman. In the medieval period the woods of this region were officially reckoned as part of the Forest of Chute, the bulk of which lay in Wiltshire, and little wood was entered for the manors there, although the wood received one incidental mention, merely as *siluæ quæ uocat cetum*, 'the wood which is called Chute'.[89] Finkley formed the eastern walk of Chute Forest in the mid-thirteenth century[90] and a boundary perambulation of 1298[91] runs 'along the *hayam*' exactly where the charter boundary of St Mary Bourne[92] followed the *hagan*, perhaps suggesting some sort of functional or even administrative continuity. In this area, much of the woodland seems to have regenerated in post-Roman times, for the woods are full of field evidence of field lynchets and enclosures dated by pottery scatter.

In this area, too, there is a little more evidence for the nature of the *haga* boundaries, for at several of the locations there survive clearly defined banks and ditches, the former often several metres in width. While these differ little from later deer-park boundaries and cannot be dated, they are frequently very abraded and restricted to the stretches of *haga* boundary referred to in the charters. On the boundary of Finkley and Dygherlye Forests between Andover and St Mary Bourne, the ditch lay on the Andover side, as if to restrict the passage of animals out of the forest into St Mary Bourne. The bank is still some 4.5 metres across and the ditch about 2 metres across. On the Faccombe estate, animals similarly seem to have been retained by the boundary feature within Faccombe itself, but between St Mary Bourne and Crux Easton the short remaining stretch of *haga* boundary displays a ditch on the southern side, although the adjacent part of Crux Easton had undoubtedly been part of a deer-park recorded there by 1292. It is possible that ditch survival along the last boundary may have been influenced by the slope of the land, which here drops steeply southwards. The 'white *haga* of Faccombe', recorded in 961,[93] is represented by a particularly fine earthwork, the nomenclature explained by the presence of flints in the surface soil. Equally fine woodland banks, in association with ditches, have been identified at several *haga* locations in southern Berkshire and it seems likely that the Anglo-Saxon woodland *haga* boundary consisted of a wide bank and ditch, probably carrying a timber palisade on the bank, like the boundary bank of a medieval deer-park. The connection of the *haga* word with the haw of the hawthorn may suggest, alternatively, that the bank was surmounted by a thorn hedge, either dead or living, but in any case, it was something more than the ordinary field hedge.

One last point in this context may be worth consideration. The archaeological excavations at *Hamwic* (Anglo-Saxon

[88] R Welldon-Finn, 'Hampshire', in H C Darby and E M J Campbell (eds), *The Domesday Geography of South-East England*, Cambridge, 1971, pp 320–1.

[89] Thorn (ed), *Domesday Book, 6, Wiltshire*, Chichester 1979, 1, 19; Domesday Book, fo 65b.

[90] T W Shore, 'Ancient Hampshire forests', *Hampshire Field Club and Arch Soc*, 1, 1888, pp 40–60.

[91] *Proc Hampshire Field Club and Arch Soc*, 9, 1921–5, pp 262–3.

[92] S 359, B 594.

[93] S 689, B 1080.

Southampton) have produced vast quantities of red deer antler. The excavators have been surprised that so many antlers could be collected at just the right stage of growth.[94] However, if the hunting of red deer was officially organized in Hampshire, or the animals deliberately encouraged within actual game reserves, this could be partially explained: the hunting of such game may have been rather more than just 'the sport of kings'. Certainly the numbers of fallow deer hunted increased dramatically under the Norman kings, as excavations at Faccombe have shown,[95] but the conception of woodland reserved for the hunting of game may not necessarily have been an introduction of the Normans. It was a type of land use familiar in the Frankish kingdoms from the seventh century[96] and there is little reason to think that this country was slow to follow continental practices.

[94] J Bourdillon, personal communication.

[95] J R Fairbrother, 'Faccombe Netherton', *Archaeological and Historical Research*, 1, City of London Archaeological Society, 1984.

[96] Gilbert, *op cit*, 1.

Cleaning the Medieval Arable*

By DAVID POSTLES

Vos blez fetes munder e cercler apres le seint Johan qar devant nest pas bone seson.
Vous poez fere sarcler iii acres de blye pur un dener.[1]

Abstract
Discussion of the productivity of the medieval arable has necessarily concentrated on the margin and limits of technology. The suggestion, recently advanced, that one of the principal determinants of low arable productivity was the poor cleaning of the arable, requires further empirical research. Especially is this necessary, since recent research into arable productivity has emphasized more intensive use of, *inter alia*, labour resources, which resulted in higher output. Such conscious increases of the costs of production may have applied equally in the case of cleaning the arable, both through labour-intensive weeding and the potential use of the *rebinatio* (additional fallow-stirring). An attempt is made here to survey how far such labour inputs were employed.

THESE two pieces of advice by Walter of Henley and the anonymous author of the *Husbandry* impute that hoeing or weeding was a common agrarian practice in the late thirteenth century. In a contribution to the debate about low yields in the middle ages, however, Harwood Long suggested that the weediness of the soil may have been the principal determinant of poor arable results. Furthermore, he maintained that the *rebinatio* – the summer fallow stirring of the demesne – was probably not a widespread practice and may have been impotent in combating the problem of weeds. Nevertheless, Long suggested that it might be difficult to establish the exact nature of these problems because the sources were produced for other purposes. To some extent, his latter argument is correct, but the requisite information can be teased out of the sources – accounts, surveys, even leases and court rolls – with diligence. Sufficient data can be accumulated to make some qualitative statements about the nature of the cleanliness of the demesne arable, although quantitative assessments are more difficult to make. Even so the effort is worth making, because Long's contention is such a critical one. What follows is an attempt to address the problem of weeding and the *rebinatio* in a speculative survey, using a wide range of original sources. Both weeding of the grain crop and the ploughing of the demesne fallow in the summer relate to the level of the costs of production and the availability of diverse sources of labour. The conclusion reached is that, although weediness may have been a contributory cause of poor yields of grain, efforts were actively made to combat the problem, according to the resources available at different levels on different demesnes. Low yields of grain were multicausal, reflected in different levels of yields from different *pays* or farming regions.[2]

I

Low yields of grain were predominant in many regions of medieval England, particularly the South, West and Midlands. In

* I owe a great debt to Dr H S A Fox, who raised the question of the *rebinatio* in a paper in 1983, and who has very generously given me unstinting advice. Professor P D A Harvey and Drs B M S Campbell and J A Chartres made helpful comments on a draft. I am sure that I have left many shortcomings for which I alone am responsible.

[1] D Oschinsky (ed), *Walter of Henley and other treatises on estate management and accountancy*, Oxford, 1971, pp 322–3, 442–3, 457.

[2] W Harwood Long, 'The Low Yields of Corn in Medieval England', *Econ Hist Rev*, 2nd ser, XXXII, 1979, pp 459–69, esp 467–9.





Illustrations of Medieval Weeding
Sources: 1, BL, Royal MS, ZB VII, fo 77v;
2, BL, Add MS, 42130, fo 172.
See also: J Langdon, 'Agricultural Equipment', in G Astill and J A Grant (eds), *The Countryside of Medieval England*, Oxford, 1988, pp 96–7.

some, however, higher average yields were achieved, both through natural attributes and effective estate policy – basically a higher input of the costs of production. In NE Norfolk, on some demesnes of Canterbury Cathedral Priory, of Crowland, and Battle Abbeys, much higher average yields were attained through intensive input of labour, intensive sowing rates, more intensive use of the arable (reduction of fallow, incipient convertible husbandry), and greater production of legumes, all interrelated and providing an improvement in agrarian techniques even if the technology was slow to change.[3] Elsewhere, yields were much lower on average. On the Bishop of Winchester's manors at Adderbury and Witney, Oxfordshire, wheat yielded at only 5.68 to 15.92 bushels and 3.44 to 15.12 bushels per measured acre. The highest yields here only approximated to the *average* yields in the more advanced *pays*. Yields at Cuxham, Oxfordshire, ranged from 10.26 to 22.98 bushels of wheat per measured acre. Officials responsible for the demesnes of the Bishop of Winchester in Oxfordshire had a rule of thumb that wheat should yield at six bushels per measured acre (an acre slightly smaller than the statute acre). On these Winchester manors, an allowance of grain was made to some of the *famuli* [permanent estate labourers], who had previously been allowed by custom the issue of one acre. In the late thirteenth century, this allowance was made on the notion of one acre producing six bushels of wheat. The calculation was obviously designed to favour the Bishop, but is still an indicator of the expected yield. Walter of Henley, probably writing about the same region, also required an acre to produce six bushels of wheat to acquit the costs of production and break even. Demesne husbandry in Oxfordshire seems to have been fairly conservative. By contrast, through improved techniques and practices, productivity elsewhere had increased. The improvement in these other regions had something to do with the cleanliness of the soil through higher labour input, but also much to do with a range of higher costs of production and techniques.[4]

In some manorial accounts, weeding initially occurred amongst the *minute expense* or *expense necessarie*. As accounts became more sophisticated, however, with more precise paragraphs, weeding appeared as a separate paragraph, often with mowing – *sarclacio (sarclatura) et falcacio (falcatura)*. The same changes occurred in the accounts of works (customary services). Whereas in some accounts weeding is simply enumerated amongst the summer works, importantly specifying the concentrated time of year for weeding, some more detailed works accounts have separate paragraphs for weeding, such as at Melbourne (Cambs), Wisbech (Cambs) and Launton (Oxon) in the early fourteenth century. These differences and administrative changes reflect the relatively lower costs of weeding compared with some other costs of production. For example, very low costs of weeding can be found at Caversfield (Oxon, Bicester Priory), at 10½*d* and 4*d*; at Maids Moreton (Bucks,

[3] B M S Campbell, 'Arable Productivity in Medieval England: Some Evidence from Norfolk', *Journal of Econ Hist*, 43, 1983, pp 379–404; M Mate, 'Medieval Agrarian Practices: The Determining Factors', *Ag Hist Rev*, XXXIII, 1985, p 26; F M Page, *The Estates of Crowland Abbey*, Cambridge, 1934, pp 274–6, and H W Saunders (ed), *An Introduction to the Rolls of Norwich Cathedral Priory*, Norwich, 1930, p 11, where the *responsio* for grain is given as yield per acre; P F Brandon, 'Demesne Arable Productivity in Coastal Sussex during the Later Middle Ages', *Ag Hist Rev*, XIX, 1971, pp 130–2.

[4] J Z Titow, *Winchester Yields*, Cambridge, 1972, pp 88–120; P D A Harvey (ed), *Manorial Records of Cuxham, Oxfordshire, c1200–1359*, Hist MSS Commission, JP23, 1976, pp 733–6 and 739–49, taking into account the change to a measured acre in 1318 (P D A Harvey, *A Medieval Oxfordshire Village*, Oxford, 1965, p 42); Campbell, *op cit.*; Hampshire RO, Eccles 2/159286 – *In Dat' xiij famulis de consuetudine videlicet j preposito j heyward ij Caretariis vij Carucariis j vaccario j Daye pro stipendiis suis in estate per estimacionem xiij acrarum sicut lacent ix quarteria dimidium ij bus' videlicet vj bus' cuilibet quia estim' j acra vj bus'* (Despite the phrase *sicut lacent*, it was a measured acre at this time, but smaller than the statute acre – P Hyde, 'The Winchester Manors at Witney and Adderbury, Oxfordshire, in the Later Middle Ages', unpublished BLitt thesis, Oxford University, 1954, Bodleian Library, MS BLitt d 473, pp 39–40; Oschinsky, *op cit*, p 325.

Oseney Abbey) at 1*s* 1*d* in 1344–45; at Little Tew (Oxon, Oseney Abbey), from 4*d* to 1*s* 2*d* between 1274 and 1346; and at Stubbington (Hants, Southwick Priory) from 9½*d* to 11*s* 6*d* in the late thirteenth and early fourteenth centuries. Beaulieu Abbey spent 25*s* and 19*s* 10½*d* at Wyke and Coxwell, but only 6*d* to 1*s* 4*d* on other demesnes. At Gussage (God's House, Southampton; Dorset), weeding cost between 2*s* 2*d* and 2*s* 7*d* in the late thirteenth and early fourteenth centuries. Higher expenditure was made by Merton College on its Oxfordshire manors of Holywell and Cuxham, respectively ranging from 2*s* 9*d* to 16*s* 5¼*d* and 6*s* 6*d* to 9*s* 5¼*d*. These figures give some idea of the amounts of cash spent on wage labour for weeding on demesnes of different size and with different resources.[5]

II

These figures, however, do not reveal the full extent of weeding. First, it is important to get behind the sums of money to find out what work was involved. Secondly, these sums represent only the hiring of wage labour, but there were other resources available, through customary labour and the *famuli*. This diversity of labour sources, moreover, makes it difficult to assess costs per acre or precisely how intensive weeding may have been. The work of the *famuli* is not often stated or enumerated in the accounts, except incidentally. When the work of customary tenants is exceptionally enumerated (usually in works accounts which survive only in a small percentage of accounts), it is not costed. The real cost per acre of weeding is therefore probably not precisely calculable. The rate of investment in wage labour may be an indicator, nevertheless, of the intensity of weeding, but it must be used with caution. On the Bishop of Winchester's estates, for example, wage labour was increasingly hired in the fourteenth century to add to the weeding by the customary tenantry, who had seemingly undertaken most or all weeding in the thirteenth century (see further below). So on large demesnes with large reserves of labour services, the additional use of wage labour is a valid indicator of intensive weeding. On the other hand, there were many small demesnes which had few or no customary services, and these had to rely, apart from the nucleus of the *famuli*, on hired labour. Their reliance on wage labour is not an indicator of intensive weeding. Because the cash resources and cash-flow on these small demesnes was so difficult, the amount that could be expended on maintenance and improvement was severely restricted, and it shows in the amount of labour which could be hired for weeding. Such a situation obtained on several small demesnes of Oseney Abbey and Bicester Priory, and probably explains why no weeding was undertaken by wage labour at Hampton Gay (Oseney) in 1274–5, where there was a small demesne of about ninety-two acres. Similarly, no weeding was done by wage labour on the small demesne at Burton Fleming (Bridlington Priory) in 1335–6: all the weeding was performed by the *famuli*. All the grain at Woodland (Dorset) was hoed for 6*s* 1*d* in 1357–8, and wage labour was hired for weeding for 6*s* 8*d* on the

[5] For example, changes in Harvey, *Manorial Records . . . Cuxham*, pp 201 and 235, and L M Midgley (ed), *Ministers' Accounts of the Earldom of Cornwall, 1296–97*, Camden Society, 3rd ser, LXVI, LXVIII, 2 vols, 1945, I, pp 28 and 50; J Z Titow, *English Rural Society*, 1969, p 50; BL Add Roll 25866 ((*Opera*) *Sarclature*); CUL EDR D8/1/5 (*Opera ad bladum domini sarclandum*); Westminster Abbey Muniments 15340–15341 (*Opera sarclacionis*); PRO SC6/957/13 and 15; Bodl Lib dd ChCh O R 93, 98, 100, 104–5, 108–9, 112; S F Hockey (ed), *The Account Book of Beaulieu Abbey*, Cam Soc 4th ser, XVI, 1975, pp 78 and 91; Winchester College Muniments 15376e, 15379, 15381–15383, 15387, Bodl Lib, Queen's College, Rolls 2–5; Merton Muniments 4467, 4469, 4476–4478, 4481, 4486–4487; Harvey, *Manorial Records . . . Cuxham*, pp 201, 235, 320. For example, WCM 15379: *(Sarclatura) bladi. Idem computat in .C.viij. hominibus conductis ad bladum sarclandum quasi per j diem .vj.s.v.d. unde C quilibet eorum per diem ob qua et .viij. quilibet eorum per dimidium diem post prandium qua.*

small demesne of Baldwin de Freyville at the Vern (Herefordshire) in 1358–9, since there were no labour services.[6]

The amount of work represented by the cash payments for wage labour can occasionally be ascertained, more usually in the number of person-days, infrequently in the acreage of grain weeded (Tables 1–2). At Holywell, the accounts consistently show the person-days, varying widely from year to year according to circumstances affecting weed growth presumably. Until the 1330s, the cost of weeding at Holywell, as some other demesnes, was ¾*d* per person-day, but this increased to 2*d* by 1349–50, and to 2¼*d* by 1350–51. In some years, for example in 1296, 1299–1300 and *c*1335,[7] the entire work was performed by women.

At Holywell and Stubbington, few customary services were available, whilst at Little Tew and Cuxham wage labour was supplementary to weeding by customary tenants. The generally higher level of input into weeding at Holywell reflected husbandry more intensive than on most other Oxfordshire demesnes. The author of the *Husbandry* believed that three acres could be weeded for a penny, which suggests the sort of acreage involved in the cash payments, but costs increased sharply in the middle of the fourteenth century. At three acres for a penny, a substantial part of the sown demesne could have been weeded for the sums involved. The effectiveness of this weeding is discussed below. More explicit evidence of the acreage of grain weeded is provided by the Sevenhampton accounts (Wilts, Adam de Stratton) and, to a lesser extent, on some other demesnes (Tables 3 and 4). In many cases, the accounts also indicate that the cash sum was for weeding all the grain (*In omni blado sarclando* or similar). A further example is the rectorial demesne at Checkendon (Oxon). In 1272, the demesne comprised 109 acres, of which 65½ were sown. In 1281–82, 2*s* 6*d* was spent on wage labour to weed 10a. wheat, 26½a. polver and rye, 7a. barley and 17a. oats. Virtually all the

TABLE 1
Weeding at Holywell, 1296–1351*

Date	*Cost*	*Person-days*
1296	11*s* 0*d*	186
1299–1300	3*s* 4*d*	54
1300–1	2*s* 10½*d*	46
1303–4	3*s* 10½*d*	62
1305–6	4*s* 6*d*	63
1308–9	6*s* 5½*d*	95
1309–10	2*s* 9*d*	42
1310–11	7*s* 2½*d*	82
1330–1	3*s* 7*d*	43
1332–3	4*s* 5¾*d*	77
*c*1335	7*s* 2*d*	86
1337–8	4*s* 4*d*	52
1349–50	14*s* 2*d*	85

* Merton Muniments 4466–4508

TABLE 2
Weeding on some other manors (demesnes)*

Manor	*Date*	*Cost*	*Person-days*
Little Tew	1350–1	2*s* 0*d*	24
	1351–2	3*s* 4½*d*	27
	1352–3	2*s* 9*d*	22
Cuxham	1317–18	6*s* 6*d*	105
	1327–8	11*s* 6*d*	126
	1328–9	7*s* 0*d*	84
Stubbington	*c*1281	6*s* 6*d*	104
Combe	1277–8	3*s* 2*d*	51
Coundon	*c*1350	8*s* 0*d*	128
Cotum	*c*1350	7*s* 10½*d*	120
Rickenhall	*c*1350	6*s* 8*d*	80

* For Little Tew (Oxon), Cuxham (Oxon), and Stubbington (Hants), references as in the text. For Combe (Oxon), PRO, SC6/958/3; Coundon, Cotum, Rickenhall (Durham Bishopric), W Greenwell (ed), Surtees Society, 32, 1856, pp 220, 247, 254.

[6] Bodl Lib, dd ChCh O R 93: *Sarclacio. Memorandum quod in sarclacione bladorum nichil computat hoc anno*; Borthwick Institute Mon 1: *Sarclacio. Et in sarclacione per famulos manerii. Summa nichil*; R H Britnell, 'Minor Landlords in England and Medieval Agrarian Capitalism', *Past and Pres*, 89, 1980, pp 9–18; Nottm Univ, Dept of MSS, Mi 6/170/85: *In sarclacione bladi domini ad tascham hoc anno .vj.s.viij.d.*; Mi 5/167/2: *Sarclacio et Falcacio. In toto blado domine hoc anno sarclando .vj.s.j.d.*

[7] See also Simon A C Penn, 'Female Wage-earners in Late Fourteenth Century England', *Ag Hist Rev*, XXXV, 1987, pp 1–14.

TABLE 3
Sevenhampton (Wilts): weeding by customary tenants.*

Date	*Acreage weeded*†	*Works used*
1274–5	488	321
1275–6	629	314
1277–8	481	218
1278–9	474	304
1279–80	480	268
1280–1	468½	296
1281–2	480½	412
1282–3	439	268
1283–4	482½	232
1284–5	448	291
1285–6	478	324
1286–7	439½	116
1287–8	466	340

* M W Farr (ed), *Accounts and Surveys of the Wiltshire Lands of Adam de Stratton*, Wiltshire Archaeological Society Record Series, XIV, 1959, *passim*.
† Figures for this or subsequent year.

TABLE 4
Acreage of grain weeded on some demesnes*

Manor	*Date*	*Acreage weeded*	*Acreage sown*†
Forncett (Norfolk)	1272–3	46 (wheat)	49¾
		63 (barley)	73
		42 (oats)	45½
		– (peas)	37½
Lenton (Notts)	1297–8	62 (wheat)	62
		89 (rye)	89
		101 (barley)	101½
		104 (peas)	108
		183½ (oats)	183½
Framlingham‡ (Suffolk)	1324–5	117 (wheat)	?
		16 (barley)	?
		117 (oats)	?
Crotum (Durham)	*c*1350	189 (all)	189

* F Davenport, *The Economic Development of a Norfolk Manor*, Cambridge, 1906, Appendix VIII, p xl; F B Stitt, *Lenton Priory Estate Accounts 1296–1298*, Thoro Soc Rec Ser, XIX, 1958, pp 29, 33–34; J Ridgard, *Medieval Framlingham*, Suf Rec Soc, 27, 1985, p 79; W Greenwell, *op cit*, p 247.
† Figures for this or subsequent year.
‡ In 1286–7, 347 summer works were used for weeding, which suggests that some 350 acres of grain were weeded, as in 1324–5 one work weeded 1a wheat or barley or 1.7a oats. Ridgard, *op cit*, 45, 79.

acreage under crop was weeded by wage labour. The available evidence suggests that the vast proportion of the demesne grain was weeded (Table 5).[8]

At Sevenhampton, weeding was performed almost exclusively by the customary tenants, although we do not know if the *famuli* were involved. A similar situation obtained on the estates of the Bishop of Winchester in Oxfordshire, and also on some of his other demesnes such as Bentley, where the cost of weeding comprised only the cost of food for the customary tenants, and the accounts also specify that all weeding can be performed by the customary tenants.[9] In the fourteenth century, however, the Bishop resorted increasingly to wage labour to supplement that of the customary tenants.[10] Works accounts for the manors of Wisbech Barton (Bishop of Ely) and Launton (Oxon, Westminster Abbey) also reveal the extent of weeding undertaken by customary tenants.[11]

Surveys and custumals of large estates clarify the amount of customary labour involved in weeding. At Monk Friston

[8] Bodl Libr, dd ChCh O R 103–104, 115–16: *Memorandum quod de sarclacione et falcacione nichil hoc anno quia totum fiebat per famulos et Custumarios et famulos de Barth'* (Great Barton); *Item in xxvij hominibus locatis ad sarculandum omnia blada preter opera Custumariorum et famulorum .iij.s.iiij.d.ob.; Item in xxij mulieribus locatis ad sarclandum bladum preter opera famulorum .ij.s.ix.d.; Idem computat in iiij sarclantibus conductis ad auxiliandum famulos domini pro blado sarclando .iiij.d.*; PRO SC6/957/15: *Idem computat in sarculacione bladi ultra custumarios hoc anno*; PRO SC6/957/27; *In sarclatura .x. acrarum frumenti .xxvj. acrarum et dimidie polver et siliginis .vij. acrarum ordei .xvij. acrarum auene ad taxam .ij.s.vj.d.*

[9] Hants RO, Eccles 2/159288: *Et in expensis de .iiij.^{xx} hominibus sarclantibus per unum diem ante natiuitatem sancti Johannis baptiste .ij.s.ij.d. ob. pro pane et companagio hoc anno quia operabantur tota die* (Witney, 1245–6); Eccles 2/159306: *Et sciendum quod per ipsos* – 44 virgaters – *Bladum sarclatur et prata falcantur et leuantur* (Witney, 1284–5) and *Et sciendum quod isti operarii serclabant totum bladum et falcauerunt omnia prata* (Adderbury, 1284–5); Eccles 2/159408: *In caseo empto pro consuetudine Custumariorum domini sarclantium totum bladum domini* (Bentley).

[10] Hants RO Eccles 2/159322: *In blado sarclando ultra id quod custumarii sarclauerunt .xij.s.iiij.d.* (Meredon); 159246: *In sarculacione Bladi ultra id quod custumarii fecerunt. xvj.s.viij.d. et tantum hoc, anno propter humiditatem temporis* (Knowle); 159246: *Item in iiij^{xx}j hominibus quasi per j diem conductis pro Bladis sarclandis et aliis herbis nocuis in omnibus Bladis extrahendis .vj.s.ix.d. quorum quilibet capit per diem .j.d. hoc anno tantum quia opera non sufficiencia ad destruendum dictas herbas nocuas tempore oportuno pro multitudine eorundem.* (Wargrave).

[11] CUL, EDR D8/1/5; WAM 15340–15341.

TABLE 5
Some comparative costs of weeding

5.1 *Costs per acre**

Demesne	*Date*	*Labour source*	*Cost per acre*
Cotum	*c*1350	wage	½*d*
High Clere	14 cent	wage	1/5*d*
N Waltham	14 cent	wage	2*d*
Holway	14 cent	customary	½*d*
Lenton	1297–8	wage	¾*d*

5.2 *Costs per person–day (wage labour)*

Demesne	*Date*	*Cost per person–day*
Combe	1277–8	¾*d*
Coundon	*c*1350	¾*d*
Rickenhall	*c*1350	1*d*
Holywell	early 14 cent	¾*d*
Knowle	1334–5	1*d*

5.3 *Customary works per acre of weeding*

Demesne	*Date*	*Acres weeded per work*
Forncett	1272–3	0.6 (wheat)
		1.1 (barley)
		1.1 (oats)
Framlingham	1324–5	1.5 (wheat)
		1.0 (wheat)
		1.0 (barley)
		1.7 (oats)
Sevenhampton	1274–88	1–2.5 (all)
Alresford	14 cent	0.25

* These are costs of weeding only part of the demesne in some cases, ie other sources of labour were also used.

† Sources: as table 4, except: High Clere – Hants RO, Eccles 2/159408 (*In xxiij acris ordei Lj acris Auene sarclandis ad tascham xv.d. pro v acris j.d.*); N Waltham – Hants RO, Eccles 2/159324; Holway – Hants RO, Eccles 2/159338 (*precium operis cuiuslibet acre obulus*); Alresford, Hants RO, Eccles 2/159338).

(Yorks), tenants of bovates had to weed for three days with one man without meat in lieu of Peter's Pence and for half a day instead of boons, the service valued at 2¾*d* in the extent. On manors of the Abbey of Bec, customary tenants at Warley owed one day with one man; at Povington two days; at Brixton Deverill three days; at Atherstone two days with one man; and at East Wrotham three days with one man. At Combe tenants ought to hoe for one day according to the survey; the account for 1307–8 confirmed that the villeins had hoed 101 acres wheat, but had been complemented by wage labour costing 3*s*. The 59 virgaters of the Bishop of Lincoln in Wardington and Cropredy (Oxon), owed two days with one man. Customary tenants of Portswood (Hants) in the early twelfth century, hoed half an acre every day between 24 June and 1 August. Tenants on the estates of the Bishop of Hereford weeded for one day.[12]

II

This provision in the surveys for a few days of weeding hardly seems substantive. The days, however, were concentrated in the weeks after the Feast of the Nativity of St John the Baptist (24 June), as illustrated by the services at Portswood. This concentration of effort concurs with the advice of Walter of Henley, who advocated this time as the best for effectively cleaning the ground of thistles and other noxious weeds. Even in the *Rectitudines Singularum Personarum*, in the early eleventh century, the duties of the reeve included supervising weeding in summer (summer defined as May to July). Harwood Long was sceptical whether Walter's advice was implemented. It is clear, however, that weeding was concentrated at this time. The twelfth century surveys of Ramsey Abbey direct weeding to this time, describing June and July as the *tempus sarclandi* or *tempus sarclacionis*, a description found also in the Battle Abbey surveys of the late thirteenth century and at Lympsham in mid-century.

[12] T A M Bishop, 'Extent of Monk Friston 1320', *Miscellanea IV*, Yorks Arch Soc Rec Soc, XCIV, 1937, pp 44–5; M Chibnall (ed), *Documents of the English Lands of the Abbey of Bec*, Cam Soc 3rd ser, LXXIII, 1951, pp 41, 46, 50, 58, 62, 69, 103, 106, 115, 119, 163; Queen's College Oxford MS 366, f xxj^{r}; E O Blake (ed), *The Cartulary of the Priory of St Denys near Southampton*, Southampton Rec Soc, 25, 1981, 2 vols, 2, p 211; Rev A T Bannister (ed), *A Transcript of the Red Book of Hereford c 1290*, Camden Miscellany, XV, 1929, pp 6, 8, 15, 30.

The *magna sarclatura* at Felstead (*c*1223) probably also occurred at this time. In the Burton Abbey survey of Findern, *temp.* Henry I, the customary tenants had to find one man to weed in summer. Similarly, the surveys of the estates of Glastonbury Abbey in the mid-thirteenth century, require weeding in summer, after Whitsun, between 24 June and 1 August (Butleigh, Burton, Newton). [13]

The accounts for Holywell repeatedly reveal why weeding was concentrated in this period: to extract thistles. At Little Tew, in 1337–8, a man and two women were hired to assist the *famuli* to uproot thistles. Thistles and mayweed were tackled by hired labourers at Cuxham in 1318–19 and 1327–8. Increased costs of weeding at Southampton and Gussage in some years (1306–7, 1308–9, 1321–2) were explained by the problem of thistles. Increased costs of weeding at Meredon (Hants), were ascribed to the extravagant growth of thistles. In 1321–2, weeding on some God's House manors was performed by hand to extract thistles and such hand-weeding may have been used at Little Tew and Holywell to combat thistles, as the accounts use the verb *tractare*. Weeding by hand also occurred at Southampton in 1318–19 and at Hickley in 1310–11. In 1306–7, additional labour was employed at Witney because of the heavy growth of weeds. In several years in the early fourteenth century, hand-weeding was used on several manors of the Bishop of Winchester. At Kettering in 1292–3, sixty customary works were used for weeding with hoes, but sixty-six used for hand-weeding because of *herbe nocue*. Many more examples exist of the resort to intensive weeding by hand to combat weeds and similarly of the concentration of weeding in late June or July, particularly to combat thistles. [14]

The effort made to combat weeds is illustrated in illuminated manuscripts such as the Luttrell Psalter. The effectiveness of the effort is debatable. The success or failure of weeding is not illuminated by the accounts; the accounts simply justify the extra cost on the part of the reeve. However, no further technological progress seems to have been made in weeding in the ensuing centuries. Bowden concluded that in the early seventeenth century: 'The cost of weeding was negligible, since many farmers appeared to have attached little importance to the practice, and it was usually undertaken by female workers at about half the ordinary daily wage for men.' He assumed the cost of weeding twenty acres as 6*s* 8*d*, at 4*d* per acre. The effort expended by Henry Best and Robert Loder was hardly more significant. Tusser, writing of East Anglia in 1557, advocated

[13] Long, 'Low Yields', p 469; Oschinsky, *op cit*, pp 322–3; W H Hart (ed), *Cartularium Monasterii de Rameseia*, Rolls Series, 3 vols, 1884–94, II, pp 384–5, III, pp 242, 282, 299; R S Scargill-Bird, *Custumals of Battle Abbey*, Cam Soc, XLI, 1887, p 30; G Wrottesley (ed), 'Burton Chartulary', *Hist Coll Staffs*, 5, part 1, 1884, p 28; M Chibnall (ed), *Charters & Custumals of the Abbey of Holy Trinity Caen*, British Acad Records of Soc & Econ Hist, NS V, 1982, p 92; W Cunningham, *The Growth of English Industry & Commerce during the Early & Middle Ages*, Cambridge, 1910, p 574; for France/Flanders, G Duby, *L'économie rurale et la vie des campagnes dans l'occident médiéval*, Paris, 1962, p 513 (*en juin deux journées de Sarclage*).

[14] MM 4486: *Sarculacio. Idem computat in ij tractantibus cardones Ioue ante Pentecosten .j.d.ob. qua* (and for subsequent days until Mon after Holy Trinity); MM 4485: *Sarculacio. Idem computat in vj sarclatoribus tractantibus lappacia acuta et Cardones per ix dies capientibus in die ob qua* (and five more pulling thistles); MM 4487: *Sarculacio. Idem computat in xiiij tractantibus Cardones die martis post festum sancti barnabe per totum diem .xiiij.d. Et in die mercurii in ix tractantibus Cardones .ix.d.*- and so through to the beginning of August; Bodl Libr, dd ChCh O R 105: *Idem computat in j homine et ij feminis conductis pro cardonibus tractandis per ij dies simul cum famulis domini .vj.d.*; Harvey, *Manorial Records of Cuxham*, p 339; Bodl Libr, Queen's Coll Rolls, 5, 196, 273–274, 277–278, 281 (*pro multitudine cardonum cressencium hoc anno; pro multitudine cardonum et male herbe hoc anno; pro multitudine cardonum cressencium hoc anno; propter multitudinem cardonum hoc anno*); Hants RO, Eccles 2/159322: *In xxx operariis locatis quasi per j diem ad herbas extrahendas de blado domini .ij.s.vj.d. cuilibet eorum per diem .j.d ultra id quod operarii fecerunt propter multitudinem amarc'* (mayweed); Hants RO, Eccles 2/159408: *In Bladis sarclandis ultra illud quod operarii sarclauerunt .xvj.s. et tantum hoc anno propter inimiam multitudinem cardonum* (Meredon); 159244: *In bladis domini tam manu quam unco sarclandis CCCiiij^{xx}viij opera; In bladis dominicalibus tam manu quam unco sarclandis CCCCij opera; In Blado domini manuale sarclando CC opera hoc anno In dicto Blado sarclando cum sarculis Clxj opera*; and similarly *tam manu quam unco* in 159244 and 159246 for demesnes at Pountsford, Hull, Holway, Nailsbourne and Staplegrove; Nottm Univ, Mi 5/167/1: *In bladis domini sarclandis cum manibus per loca et fasciculis per loca .iij.s.vj.d.*; Charles Wyse (ed), *The Compotus of the Manor of Kettering AD 1292*, Kettering, 1899, p 76.

weeding of winter grain in May and the rest in June. He encountered the same predominant weeds as the medieval farmer – mayweed, thistles, wild vetch, cockle and boddle. Hillman's commentary on Tusser, of 1710, still complained of the great problem of weeds, which all had to be removed by hand.[15]

As well as weeding after the Feast of the Nativity of St John, Walter of Henley advocated a stirring of fallow in the summer, about 24 June, to eliminate weeds, particularly thistles. Long dismissed the extensive use of the *rebinatio*, and doubted its efficacy on technological grounds – the inadequacy of the medieval plough. The summer fallow stirring formed part of the agricultural literature of the Romans, although it is not certain how far it was employed, or whether the idea was diffused into NW Europe. Charlemagne, however, designated June the 'Ploughing Month' and Marc Bloch believed the *rebinatio* was in use in the twelfth century. Certainly it was included in a survey of the manor of the Abbey of Lorraine at Loutzviller after 1163. Tenants who ploughed there received three loaves for spring ploughing, two loaves for ploughing in summer, and three for autumn ploughing. Surveys in England during the early twelfth century reveal that it was already present (Table 6 below). Fallow ploughing in summer was to be exacted on four demesnes of Peterborough Abbey, *c*1125–8, at Felstead about the same time, and at Avening *c*1170. The evidence is for fallow being ploughed in summer (*waretare in estate, ad garetum in estate*). Summer was normally May to July in the medieval calendar. It seems unlikely that this would be the fallow stirring about April (Easter). Confirmation that it was a June or July ploughing comes from other twelfth-century evidence. At Finchingfield, *c*1185, tenants had to plough three roods between Whitsun and 1 August. The stock and land lease of Nastock in 1152 required the lessee to surrender the demesne with *totam saisonam Waretatam . . . xl acras rebinatas*. These words signify both a first fallow stirring about Easter and a summer fallow stirring of part of the demesne. Further examples of summer fallow stirring occur in surveys of the manors of Ramsey Abbey, particularly Hemmingford and Holywell, and possibly also on those manors where ploughing services were required from Michaelmas through to 1 August. A lease of a demesne by the Abbey of Bury St Edmunds in *c*1191 is further evidence of its existence in the twelfth century. Much, but not all, of this evidence, occurs for eastern England. Possibly the *rebinatio* had origins there, but equally this distribution may only reflect the survival of better sources from eastern England.[16]

More widespread references to summer fallow stirring occur in the thirteenth and early fourteenth century (Table 6). The reason is undoubtedly the better and more detailed sources. The term *rebinatio* occurs more frequently. The period of ploughing is defined: at Wicham (1222) half an acre by each tenant before 1 August; at Chisenbury about the Feast of the Nativity of St John the Baptist; at Newthorpe from 11 June to harvest; and at Keston between 24 June and 1 August. On the Glastonbury estates, the vaguer references to ploughing or fallow stirring in summer are better defined in the entries for Badbury, Winterbourne, Grittleton and Nettleton: about the Feast

[15] P Bowden, 'Agricultural Prices, Farm Profits and Rents', in J Thirsk (ed), *The Agrarian History of England and Wales*, IV, Cambridge, 1967, p 662; G E Fussell (ed), *Robert Loder's Farm Accounts, 1610–20*, Cam Soc, 3rd ser, LIII, 1936, pp 16, 19, 34–5; T Tusser, *Five Hundred Points of Good Husbandry*, Oxford edn, 1984, pp 105, 111, 115, 283–4, 299.

[16] References in Table 6. Long, 'Low Yields' p 469; Oschinsky, *op cit*, pp 320–1; A M Watson, 'Towards Denser and More Continuous Settlement: New Crops and Farming Techniques in the Early Middle Ages', in J A Raftis (ed), *Pathways to Medieval Peasants*, Toronto, 1981, p 82; G E Fussell, *The Classical Tradition in West European Farming*, 1972, p 30; L White, *Medieval Technology and Social Change*, Oxford, 1962, pp 56, 71–2; G Duby, *op cit*, p 690.

of St John the Baptist; two weeks before 24 June and two weeks after; between Whitsun and 1 August; from the Thursday after 24 June to 1 August. At Rimpton (Somerset, Bishop of Winchester), the accounts included the cost of two men hired for six days to hold the ploughs whilst the ploughmen mowed the meadow, again indicating the specific time of year, as well as the normal involvement of the *famuli* in fallow stirring. Tenants of Ramsey Abbey had to perform a *lovebone* of ploughing about the Feast of St John the Baptist. The Abbot's manorial court of King's Ripton placed four tenants in mercy in late July 1293 for not ploughing, presumably for not coming to summer fallow stirring. These examples confirm that the ploughing was a summer fallow stirring in June or July.[17]

Payments in the accounts reveal that the *rebinatio* was actually being performed (Table 6), as at Wisbech Barton, Tibberton, Cheddington, Newthorpe, Hickley and Southampton, and on several demesnes of the Bishop of Winchester in the early fourteenth century.[18] The specific purpose is described by the accounts for Stevenage, where the *rebinatio* was intended to bring the roots of thistles to the surface to be baked or shrivelled.[19] In the thirteenth and fourteenth centuries, therefore, the *rebinatio* existed in numerous places, with a wide geographical distribution. It existed in regions of Midlands commonfields and regions outside this area. Its recommendation by Walter of Henley merely reflects that Walter was a conservative advocating established practices.

IV

The apposite questions are how much of the demesne was ploughed and how effective was the *rebinatio*? In the custumals, the amount of land to be ploughed is sometimes specified, and is usually quite small. At Cottingham, five virgaters are to plough one acre; at Fletton a customary tenant owed six days of ploughing in summer (perhaps the equivalent of three to six acres); at Northleach, Colne Roger, Ogbourne, Chisenbury, and Bledlow, each virgater ploughed one acre; and at Wicham only half an acre. At Brightwaltham, tenants ploughed half an acre each as *grasacre* in summer and one acre as further fallow ploughing. These figures suggest that the demesne fallow stirred by customary tenants would be some twenty to forty acres, as Walter of Henley maintained that a plough could cover an acre each day at the *rebinatio*. Using the same yardstick, the acreage stirred at Wisbech Barton may have been as much as seventy acres, but at Cheddington only twenty-three acres. On the Winchester manors of Ecchinswell, Widehay, Ashmansworth, High Clere and Burghclere, the acreage covered by customary services was twenty-three, twenty-seven, eight, thirteen, and thirty-five respectively.[20]

By all accounts, therefore, the fallow stirring in summer only affected a small proportion of the demesne fallow. However, the figures relate only to customary services, and it seems certain that some of the demesne would have been fallow

[17] References as Table 6. F W Maitland, *Select pleas in Manorial Courts*, Selden Soc, 2, 1888, p 111; Hants RO, Eccles 2/159323: *Caruce . . . In ij hominibus locatis per vj dies ad carucas tenendas dum carucarii ville falcant prata .vj.d.*

[18] Worcester D&C C792A: *Custus carucarum . . . In expensis vij carucarum ad Warettandum mense aprilis .xix.d. In expensis xvj carucarum ad rebinandum mense Julii . . . ij.s.vj.d.*; Lichfield Joint Record Office D&C SS6: *Expense carucarum . . . In mercede j garcionis euntis ad carucas per dietas a festo sancti Barnabe apostoli* – 11 June – *usque Autumpnum donec j famulus init ad carectas per Lxiij dies . . .*; MM 5531: *Frumentum . . . Item in expensis unius precarie xxj carucarum ad Warectandum et unius precarie xxiij carucarum ad rebinandum j quarterium et dimidium quarterium*; Hants RO, Eccles 2/159323: *Insuper quelibet caruca arabit j acram in estate sine cibo de consuetudine*, Ecchinswell, twenty-three ploughs, similarly on several other manors in this and subsequent years.

[19] WAM 26348: *In cardonibus et filic' siccidendis ad carucas tempore rebinacionis vj opera.*

[20] Oschinsky, *op cit*, pp 316–17; see also C C Dyer, *Lords and Peasants in a Changing Society*, Cambridge, 1980, p 127, and Dyer, *Warwickshire Farming 1349–c1520*, Dugdale Soc Occasional Papers, 27, 1981, pp 14–15.

TABLE 6
References to demesne fallow stirring in summer

Type of doc	*Date*	*Demesne*	*County*	*Lord*
S	*c*1125–8	Fletton	The Soke	Peterborough Abbey
S	*c*1125–8	Fiskerton	Lincs	Peterborough Abbey
S	*c*1125–8	Cottingham	Northants	Peterborough Abbey
S	*c*1125–8	Kettering*	Northants	Peterborough Abbey
S	early 12 cent	Felstead	Essex	Holy Trinity Caen
L	1152	Nastock	Hunts	St Paul's London
S	mid-12 cent	Holywell	Hunts	Ramsey Abbey
S	*c*1170/*c*1200	Avening	Glos	Holy Trinity Caen
S	1185	Finchingfield	Essex	Templars
L	*c*1191	Groton/Semer	Suffolk	Bury St Edmunds Abbey
S	1222	Wicham		St Paul's London
S	*c*1230–47	Ogbourne	Wilts	Bec Abbey
S	*c*1230–47	Chisenbury	Wilts	Bec Abbey
S	*c*1230–47	Bledlow	Bucks	Bec Abbey
S	*c*1235–52	Butleigh	Somerset	Glastonbury Abbey
S	*c*1235–52	Street	Somerset	Glastonbury Abbey
S	*c*1235–52	Badbury	Wilts	Glastonbury Abbey
S	*c*1235–52	Winterbourne	Wilts	Glastonbury Abbey
S	*c*1235–52	Grittleton	Wilts	Glastonbury Abbey
S	*c*1235–52	Nettleton	Wilts	Glastonbury Abbey
S	*c*1235–52	Wrington	Somerset	Glastonbury Abbey
S	*c*1235–52	Burton	Somerset	Glastonbury Abbey
S	*c*1235–52	Damerham	Wilts	Glastonbury Abbey
S	*c*1235–52	Ditcheat	Somerset	Glastonbury Abbey
S	*c*1235–52	East Pennard	Somerset	Glastonbury Abbey
S	*c*1235–52	Doulting	Somerset	Glastonbury Abbey
S	*c*1235–52	Shapwick	Somerset	Glastonbury Abbey
S	*c*1235–52	Ashcot	Somerset	Glastonbury Abbey
S	*c*1235–52	Walton	Somerset	Glastonbury Abbey
S	mid-13 cent	Rimpton*	Somerset	Bp of Winchester
S	mid-13 cent	Barnwell	Hunts	Ramsey Abbey
S	1266–7	Northleach	Glos	Gloucester Abbey
S	1266–7	Colne Roger	Glos	Gloucester Abbey
S	1279–80	Saltford	Oxon	
S	1279–80	Hinton	Cambs	John fitzJohn et al
S	1279–80	Stanton	Cambs	
S	1279–80	Keston	Hunts	Countess de Ferar
S	1279–80	Aylington	Hunts	Ramsey Abbey
S	1279–80	Sawtrey	Hunts	
A	1286–7	Framlingham	Suffolk	

A	*c*1292	Kettering	Northants	Peterborough Abbey
A	*c*1295	Newthorpe	Yorks	D&C York?
A	1297–8	Glatton	Hunts	Earl of Cornwall
S	late 13 cent	Appledurham	Sussex	Battle Abbey
S	late 13 cent	Brightwaltham	Berks	Battle Abbey
A	1322–3	Morebourne	Cambs	Crowland Abbey
A	1322–3	Cottenham	Cambs	Crowland Abbey
A	1307–	Rimpton	Somerset	Bp of Winchester
A	1307–	Ecchinswell	Hants	Bp of Winchester
A	1307–	Widehay	Hants	Bp of Winchester
A	1307–	Ashmansworth	Hants	Bp of Winchester
A	1307–	Ivinghoe	Hants	Bp of Winchester
A	early 14 cent	Wisbech	Cambs	Bp of Ely
A	early 14 cent	Stevenage	Herts	Westminster Abbey
A	early 14 cent	Tibberton	Worcs	Worcester Cathedral
A	early 14 cent	Gamlingay	Cambs	Merton College
A	early 14 cent	Cheddington	Bucks	Merton College
A	early 14 cent	Hickley	Hants	God's House
A	early 14 cent	Southampton	Hants	God's House

* see below for accounts which reveal the performance of the *rebinatio*.
The dates do not imply the inception of the *rebinatio*, merely the first recorded mention. In the case of surveys, they may reflect the position at an earlier time. For example, surveys of the thirteenth century may relate back to conditions in the twelfth or earlier. The type of document is important; surveys may suggest only a theoretical obligation to do the work, whereas accounts record its actual performance.
S = survey; A = Account; L = Lease (covenants).

Sources: T Stapleton (ed), *Chronicon Petroburgense*, Cam Soc, 1st ser, 47, 1848–9, 'Liber Niger', pp 157, 159, 164–5; M Chibnall (ed), *Charters & Custumals of the Abbey of Holy Trinity Caen*, Brit Acad, Rec Soc & Econ Hist, NS V, 1982, p 34; W H Hale (ed), *The Domesday of St Paul's*, Camd Soc, 1st ser, 69, 1858, p 133; W H Hart & P A Lyons (eds), *Cartularium Monasterii de Rameseia*, Rolls Series, 3 vols, 1884–94, III, p 282; M Chibnall, *op cit*, p 65; B A Lees (ed), *Records of the Templars in England in the Twelfth Century*, Brit Acad Rec Soc & Econ Hist, IX, 1935, p 11; H S A Fox, 'Some Ecological Dimensions of Medieval Field Systems', in K Biddick (ed), *Archaeological Approaches to Medieval Europe*, Kalamazoo, 1985, pp 127–8; W H Hale, *op cit*, p 34; M Chibnall (ed), *Documents of the English Lands of the Abbey of Bec*, Camd Soc 3rd ser, 73, 1951, pp 37, 55, 119; C Elton (ed), *Rentalia et Custumaria Michaelis de Ambresbury, 1235–1252, et Rogeri de Ford, 1252–1261, Monasterii Beatae Mariae Glastoniae*, Soms Rec Soc, 1891, pp 7–8, 12, 58, 61, 65, 68, 72, 96, 108, 115, 125–6, 129, 150–1, 153, 156; T J Hunt (ed), *The Medieval Customs of the Manors of Taunton and Bradford on Tone*, Soms Rec Soc, 66, 1962, p 27; *Cart Mon Ramseiea*, II, p 50; W H Hart, *Historia et Cartularium Monasterii Gloucestriae*, Rolls Series, 3 vols, 1863–7, III, pp 181, 205; W Illingworth and J Caley (eds), *Rotuli Hundredorum*, Rec Commis, 2 vols, 1812–18, II, pp 440, 615, 622, 657, 659, 661, 728; J Ridgard (ed), *Medieval Framlingham, Select Documents, 1270–1524*, Suff Rec Soc, 27, 1985, pp 45, 58; Lichfield Joint RO, D&C SS6; L M Midgley (ed), *Ministers' Accounts of the Earldom of Cornwall, 1296–1297*, Cam Soc, 3rd ser, 66 and 68, 2 vols, 1945, p 177; S R Scargill-Bird (ed), *Custumals of Battle Abbey*, Camd Soc, 1st ser, 41, 1887, pp 54, 60; F M Page, *The Estates of Crowland Abbey*, Cambridge, 1934, pp 244–6, 261; Hants RO, Eccles 2/159323, 159324, 159408; CUL, EDR D8/1/1, 3, 5–6; Westminster Abbey Muniments 26348; Worcester D&C C792A; Mrs E Lowry, 'The administration of the estates of Merton College in the fourteenth century', unpublished DPhil, 1933, Oxford Univ, Bodleian Library MS DPhil c 70, p 62; Merton Muniments 5531. MM5531 shows the *rebinatio* in use at Cheddington in 1297–8; Bod Lib, Queen's Rolls 188, 269–271.

ploughed by the demesne ploughmen (*carucarii*), particularly for their summer wage. For example, when the ploughmen at Rimpton were diverted to haymaking, other men had to be hired to plough. Even so, the acreage involved was probably only a part of the demesne fallow. One reason for not ploughing a larger part of the demesne fallow was the need to provide fallow pasture for livestock, particularly sheep. This need would have been particularly great in the thirteenth and fourteenth centuries as flock sizes increased. The need may not have been as great in the twelfth century, when flock numbers were considerably smaller on some estates. In East Anglia, where there were larger reserves of pasture and marsh, more of the demesne fallow may have been ploughed. The lighter soils in East Anglia may also have been more easily worked by the fallow plough than the stiffer soil of the Midland Plain, although references to summer ploughs occur in several places.[21]

An additional strategy to combat weeds was intensive sowing to smother weeds. Campbell concluded that heavy sowing of oats at 6 to 8 bushels per acre in parts of eastern Norfolk was 'clearly intended to act as a smother crop'. Mate reached the same conclusion about intensive sowing on some manors of Canterbury Cathedral Priory, where the rate was also eight bushels. Oats were a notoriously thin, light crop, susceptible to weeds. Even in regions where grain was less intensively sown, oats were normally sown at a higher rate of four bushels per acre. On the demesnes of the Bishop of Winchester in Oxfordshire, where quite conservative husbandry prevailed, oats were sown at five to six bushels per acre. On some other Oxfordshire demesnes, oats yielded so poorly that lords turned to dredge or legumes for livestock feed instead of oats.[22]

With the problem of the cleanliness of the arable, historians are confronted with the margin of technology and the marginal cost of production. The records reveal that efforts were made towards cleaning the soil, often intensively. Technology was restricted to hand-weeding and hoeing, and the summer fallow stirring. An increase in effectiveness, without technological change, depended on an increased input of labour. It seems clear, however, that no more advanced technology was available to the early modern farmer. Differences in productivity between regions in the middle ages, and between the middle ages and later periods, were multi-causal. Basically, these changes derived from improvements in agricultural technique rather than measurable technological advance: increase in and better use of livestock resources, intensive manuring, intensive sowing, intensive input of labour across all tasks, and convertible husbandry. Low yields were the consequence of failure to adopt these practices; weediness was a contributory factor, but not a sole determinant.

[21] H S A Fox, 'The Alleged Transformation from Two-field to Three-field Systems in Medieval England', *Econ Hist Rev*, 2nd ser, XXXIX, 1986, p 537; J Langdon, *Horses, Oxen and Technological Innovation*, Cambridge, 1986, p 140.

[22] Campbell, 'Arable Productivity', p 31; Mate, 'Medieval Agrarian Practices', pp 25–6; Titow, *Winchester Yields*, pp 40–2; D Postles, 'Grain Yields from Some Properties of Oseney Abbey', *Oxoniensia*, XLIV, 1979, pp 30–7; F B Stitt (ed), *Lenton Priory Estate Accounts 1296–1298*, Thoroton Soc Rec Ser, XIX, 1958, p 34 (oats sown at 8 bs per acre near Nottingham).

APPENDIX
A note on the most frequently mentioned weeds*

	Weed	*Latin name*	*Vernacular name*	*Occurrence*
1	Thistle	Cardo		Mereden (Hants) Cuxham (Oxon) Holywell (Oxon) Little Tew (Oxon) Southampton (Hants) Hickley (Hants) Gussage (Dorset) Stevenage (Herts) Frequently in all accounts
2	Mayweed	Amarusca -amarc'	-maythes	Cuxham
3	Sheep's sorrel or dock or greater burdock	Lappacia acuta	-dokys -dokkes	Holywell Forncett (Norf)
4		-filic'		Stevenage
5			-walewrt	Forncett (Norf)
6			-hamerokes	Forncett (Norf)
7			-quiches	Yeoveney (Surrey)

* Both mayweed and greater burdock are invasive of loamy soils rich in nitrogen; mayweed has a penchant for cornfields. Their predilection for rich loamy soils with nitrogen may suggest something about the animal dung content of fallow pastures.

At Forncett, walewrt, hamerokes and docks were weeded out from the wheat. At Yeoveney, quiches had to be weeded from the fallow pasture before the sowing of barley. According to Tusser (1557) and Hillman (1710), mayweed, thistle, were still the predominant problem; thistle and dock infested fallow pastures: 'Thry fallow betime for destroing of weede, least thistle and duck fall a blooming and seede' – Tusser on July. Other problems in the corn were wild vetch or tare, fern or brake, corn cockle (Ayrostemma githago) and boddle or corn marigold (Chrysanthemum segetum).

Corn cockles do not seem to be mentioned in the middle ages, but they may have been a problem. In a charter of 1004, Aethelred II was made to complain of the Danes 'sprouting like cockles amongst the wheat': P H Sawyer (ed), *Anglo-Saxon Charters*, 1968, no 909, cited by Ann Williams, '"Cockles amongst the Wheat" Danes and English in the Western Midlands in the first half of the Eleventh Century', *Midl Hist*, XI, 1986, p 1.

William Cullen's Agricultural Lectures and Writings and the Development of Agricultural Science in Eighteenth-Century Scotland*

By CHARLES W J WITHERS

Abstract
It is now becoming recognized that the Scottish agricultural improvers had earlier antecedents than many of their English and Welsh counterparts. In this article, the work of William Cullen is analyzed to demonstrate the significance of his agricultural lectures at Edinburgh and Glasgow in the 1740s and 1750s, and to suggest the strength of links between the Scottish scientific community and agricultural improvement. Linked intellectually with figures such as Maxwell and Kames, Cullen conducted practical experiments on family farms and represented a striking example of that blend of practice and scientific abstraction which helped transform eighteenth-century Scottish farming through practical education.

WHEN Allan Ramsay wrote in his 1723 poem 'The Pleasures of Improv[e]ments in Agriculture', how Scotland was a 'Nation Long more keen of martial toil/than cultivating of a yeilding [*sic*] soil', he could perhaps not have foreseen those developments that were to characterize Scottish agriculture during the later eighteenth century.[1] Yet, in closing his poem, written in praise of the foundation that year of The Honourable the Society of Improvers in the Knowledge of Agriculture in Scotland, Ramsay points to some of the means by which agricultural knowledge in Scotland was improved and disseminated in following years.

continou Best of Clubs Long to Improve
your native Plains and gain your nations Love
Rowse evry Lazy Laird of each wide feild
that unmanurd not half their Product yeild
shew them the proper season soil and art
how they may Plenty to their Lands impart
Treeple their Rents encrease the farmers store
without the Purches of one Acre more

Much modern research has been concerned with investigating the bases to agricultural change in eighteenth-century Scotland (see below). It has suggested, too, that that image of earlier backwardness epitomized in Ramsay's 'Lazy Laird' and evident in some interpretations of Scotland's agrarian history must be reappraised.[2] Several authors have shown how the late seventeenth century in particular was marked

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[1] In A M Kinghorn and A Law (eds), *The Works of Allan Ramsay*, Edinburgh, 1961, III, pp 171–172.

[2] The image of backwardness and of triumphalist 'revolution' in the eighteenth century is one favoured by J E Handley, *Scottish Farming in the Eighteenth Century*, Edinburgh, 1953; *Idem*, *The Agricultural Revolution in Scotland*, Edinburgh, 1963; H Hamilton, *An Economic History of Scotland in the Eighteenth Century*, Oxford, 1963.

by major advances in land management and in legislation toward an improved agriculture.[3]

Drawing as it did upon this earlier 'impetus to improvement',[4] the eighteenth century (the latter decades especially) may, nevertheless, be distinguished from it as one of the principal periods of change in Scottish agriculture both because of the scale of change then taking place – geographically throughout Scotland (excepting perhaps the Highlands) and in the degree to which new practices were being adopted – and because of the involvement then of particular agencies acting to advance agricultural knowledge in ways not typical of earlier periods.[5] Several related topics have been identified in this latter context.

As Boud has shown, The Honourable the Society of Improvers was the first of many agricultural 'improvement' societies founded in Scotland during the eighteenth century whose concern was with advocating better principles and practices of rural management.[6] Many were short-lived and of only local significance but others provided an important means to the sharing of observations on farming practice and a forum in which to debate innovations in crops and techniques. In their dates of foundation and their attention to agricultural education, many of these organizations in Scotland were in advance of their counterparts in England and Wales although bodies in those countries shared the same concerns.[7]

Additionally in Scotland, there were a number of formal institutions whose agenda, at least in part, covered agricultural improvement. In this category we may include, for example, the Edinburgh Society for Encouraging Art, Science, Manufactures and Agriculture, founded in 1755, which gave prizes for essays on topics such as tree planting and manures; the Royal Society of Edinburgh, begun in 1783, which was at its foundation concerned with agriculture; the Highland and Agricultural Society of Scotland; the Select Society, begun in 1754; and the Philosophical Society, founded in 1737. These and other bodies illustrate the close links that existed between social and cultural institutions, scientific enterprise, and the development of the Scottish rural economy in the eighteenth century.[8] The attention given to agrarian matters by such bodies varied, however, and taken together, their

[3] On this point, see for example, T C Smout and A Fenton, 'Scottish Agriculture before the Improvers – an Exploration', *Agric Hist Rev*, 13, 1965, pp 73–93; I D Whyte, *Agriculture and Society in Seventeenth Century Scotland*, Edinburgh, 1979; *idem*, 'George Dundas of Dundas: the context of an early eighteenth-century Scottish improving landowner', *Scott Hist Rev*, LX(1), 1981, pp 1–13; R A Dodgshon, *Land and Society in Early Scotland*, Oxford, 1981; T C Smout, 'Where had the Scottish economy got to by 1776', in I Hont and M Ignatieff (eds), *Wealth and Virtue: the Shaping of Political Economy in the Scottish Enlightenment*, Cambridge, 1985, pp 45–73; Anand C Chitnis, 'Agricultural improvement, political management and civic virtue in enlightened Scotland: an historiographical critique', *Studies on Voltaire and the Eighteenth Century*, CCXLV, 1986, pp 475–488; *idem*, 'The Eighteenth-Century Scottish Intellectual Inquiry: Context and Continuities versus Civic Virtue', in J Carter and J Pittock (eds), *Aberdeen and the Enlightenment*, Aberdeen, 1987, pp 77–92.

[4] R H Campbell, 'The Enlightenment and the Economy', in R H Campbell and A Skinner (eds), *The Origins and Nature of the Scottish Enlightenment*, Edinburgh, 1982, pp 21–22.

[5] Recent detailed reviews of the development of Scottish agriculture since 1700 include Dodgshon *op cit*; M L Parry and T R Slater (eds), *The Making of the Scottish Countryside*, 1980; G Whittington, 'Agriculture and Society in Lowland Scotland, 1750–1870', in G Whittington and I D Whyte (eds), *An Historical Geography of Scotland*, 1983, pp 141–164; D Turnock, *The Historical Geography of Scotland since 1707*, Cambridge, 1982, pp 66–82.

[6] R C Boud, 'Scottish Agricultural Improvement Societies, 1723–1835', *Review of Scottish Culture*, 1, 1984, pp 70–90.

[7] On such bodies in England, see for example, N P W Goddard, 'Agricultural Societies', in G E Mingay (ed), *The Victorian Countryside*, 1981, I, pp 245–259; *idem*, 'William Shaw "of the Strand" and the formation of the Royal Agricultural Society of England', *JRASE*, CXLIII, 1983, pp 98–104; H S A Fox, 'Local farmers' associations and the circulation of agricultural information in nineteenth-century England', in H S A Fox and R A Butlin, (eds), *Change in the Countryside*, Institute of British Geographers Special Publication 10, Oxford, 1981, pp 43–64 and notes therein; K Hudson, *Patriotism with profit: British agricultural societies in the eighteenth and nineteenth centuries*, 1972; *idem*, *The Bath and West: a bicentenary history*, Bradford-on-Avon, 1976; on Wales, see R J Colyer, 'Early agricultural societies in South Wales', *Wel His Rev*, 12(4), 1985, pp 567–581; H Edmunds, 'The History of the Brecknockshire Agricultural Society, 1755–1955', *Brycheiniog*, II, 1956, pp 32–36; E Wyn Jones, 'The First Carmarthenshire Agricultural Society', *Carm Antiq*, III, 1961, pp 150–156; W H Howse, 'Radnorshire Agricultural Societies', *Rad Soc Trans*, XV, 1945, pp 23–31.

[8] S Shapin, 'The audience for science in eighteenth-century Edinburgh', *Hist Sci*, XII, 1974, pp 99–104.

contribution to agricultural knowledge was certainly less vital than that of the specifically agricultural societies. The Highland and Agricultural Society only took that title from 1834 (being begun in 1784 as the Highland Society of Scotland), agricultural interests having before then vied for attention with a commitment to Gaelic culture.[9] And although the Philosophical Society contained members of The Honourable the Society for Improvers and *declared* agriculture important, only five per cent of *known* topics for discussion in the Philosophical Society in the twenty years from 1748 were on agriculture and improvement.[10]

The involvement of institutions with rural improvement was paralleled by an expansion of published works on agriculture. Texts describing established practices – 'Husbandry, till of late, was intirely managed in *Scotland* by the Vulgar, who, like Moles, ran on blindly in the Track their Fathers had made before them'[11] – were increasingly complemented in Scotland during the 1700s by works which offered, often in combination, practical guides based on experiment and personal experience and philosophical speculations as to the future utility or scientific basis of given techniques.[12] Texts stressing the relationships between agriculture and chemistry were particularly important.[13] Thus Francis Home in his 1757 *The Principles of Agriculture and Vegetation* in part intended his work to educate '. . . those whose minds have never been improved by science, taught to make observations or draw conclusions'. Home chose to demonstrate through experimentation the scientific basis to the 'principles of agriculture', particularly its 'dependence on chymistry'.[14] Lord Kames represented many of these concerns in his work. He was a forward-thinking landlord, a member of several 'improving' institutions and author of *The Gentleman Farmer being an attempt to improve Agriculture, by subjecting it to the Test of Rational Principles* (1776) in which he argued 'Agriculture justly claims to be the chief of arts: it enjoys beside the signal pre-eminence, of combining deep philosophy with useful practice'.[15] And James Hutton, the late eighteenth-century geologist, himself an improving landlord in the then relatively advanced county of Berwick in south-east Scotland,[16] saw the chief concern of his agricultural manuscripts 'to make philosophers of husbandmen and husbandmen of philosophers'.[17]

[9] R I Black, 'The Gaelic Academy: the cultural commitment of the Highland Society of Scotland', *Scott Gaelic Studs*, XIV(II), 1986, pp 1–38; R C Boud, 'The Highland and Agricultural Society of Scotland and the Ordnance Survey of Scotland, 1837–1875', *The Cartographic Journal*, 23(1), 1986, pp 3–26.

[10] R L Emerson, 'The Philosophical Society of Edinburgh 1748–1768', *Brit Jour Hist Science*, 14, 1981, pp 133–176; on the Select Society, see R L Emerson, 'The social composition of enlightened Scotland: the select society of Edinburgh, 1754–1764', *Studies on Voltaire and the Eighteenth Century*, CXIV, 1973, pp 291–329; on such societies in general, see D McKie, 'Scientific societies to the end of the eighteenth century' in A Ferguson (ed), *Natural Philosophy through the Eighteenth Century and Allied Topics*, 1972, pp 133–143; J E McClellan, *Science Reorganised: Scientific Societies in the Eighteenth Century*, New York, 1985.

[11] The quote is from R Maxwell, *The Practical Husbandman: being a Collection of miscellaneous papers on Husbandry*, Edinburgh, 1757, p 339.

[12] J A S Watson and G D Amery, 'Early Scottish Agricultural Writers (1697–1790), *Trans Highland and Agric Soc of Scotland*, XLIII, 1931, pp 60–85.

[13] E J Russell, *A History of Agricultural Science in Great Britain 1620–1954*, 1966; G E Fussell, 'Science and Practice in Eighteenth-Century British Agriculture', *Ag Hist*, XLIII, 1969, pp 7–18; *idem*, *Crop Nutrition: Science and Practice before Leibig*, Kansas, 1971; *idem*, 'Agricultural Science and Experiment in the Eighteenth Century: an Attempt at a Definition', *Agric Hist Rev*, XXIV, 1976, pp 44–47.

[14] F Home, *The Principles of Agriculture and Vegetation*, Edinburgh, 1757, pp 2–4.

[15] H Home [Lord Kames], *The Gentleman Farmer being an Attempt to improve Agriculture, by subjecting it to the Test of Rational Principles*, Edinburgh, 1776, p v; on Kames' work as an agriculturalist and theorist in the context of eighteenth-century Scottish improvement, see G Bryson, *Man and Society: the Scottish Inquiry of the Eighteenth Century*, Princeton, 1945, pp 53–77; Handley, 1953, *op cit*, pp 140–141; 1963, *op cit*, pp 39–49; W C Lehmann, *Henry Home, Lord Kames, and the Scottish Enlightenment*, The Hague, 1971; I S Ross, *Lord Kames and the Scotland of his day*, Oxford, 1972.

[16] R A Dodgshon, 'Land improvement in Scottish farming: Marl and Lime in Roxburghshire and Berwickshire in the Eighteenth Century', *Agric Hist Rev*, 24, 1978, pp 1–14.

[17] Royal Society of Edinburgh, MS C.5; on Hutton's role as an agriculturalist, see J Jones, 'James Hutton's Agricultural Research and his Life as a Farmer', *Annals Sci*, 42, 1985, pp 573–601.

This involvement by prominent scientific men, 'go-ahead lairds',[18] the place of surveyors and other individuals as agents of landscape change,[19] the importance of newspapers and periodicals,[20] even the role of tenants and labourers as initiators of change,[21] was supported in later eighteenth-century Scotland by the development of a more formal educational concern for agriculture. This was evident in Edinburgh at least in Walker's courses of 'Georgical Lectures' and the foundation of Edinburgh Agricultural Society,[22] and in the establishment in 1790 of a Chair of Agriculture at Edinburgh University.[23] Lectures in agriculture were also intended in Aberdeen University that year but not begun.[24]

This conjunction of institutions, individuals, utilitarian philosophy, scientific advance and agricultural prosperity was both shaped, and itself influenced by, those broader concerns of the period with improvements of the Scottish way of life. 'Cultivation' was linguistic, cultural, a matter of manners and civic virtue as it was also a question of rural productivity.[25] The association of agricultural advance with cultural and social improvement was apparent in the involvement of many eighteenth-century Scottish agrarian writers and scientists (themselves landowners and members of the urban élite if not also university lecturers or audience), with what has been called the 'utilitarian impulse'. This impulse was itself part of an expanding Scottish 'earth science tradition' embracing geology, natural history, and, particularly important in relation to agricultural improvement, the science of chemistry.

Natural philosophy and medicine were also essential elements in the intellectual enquiries characteristic of eighteenth-century Scotland.[26] One author has seen these links between the demand for scientific knowledge, social cultivation and the importance attached to utility in terms of an 'institutionalized alliance between agricultural improvement, powerfully argued by the august landed audience, and the rationalizing impulse of scientific intellectuals'.[27] Whilst we might concur with a more recent claim that 'the contributions of the Enlightenment to economic life, whilst admitted, have to be evaluated with care',[28] it is clear that agricultural improvement in eighteenth-century Scotland was

[18] T M Devine (ed), *Lairds and Improvement in the Scotland of the Enlightenment*, Strathclyde, 1978; R H Campbell, 'The Scottish improvers and the course of agrarian change in the eighteenth century', in L M Cullen and T C Smout (eds), *Comparative Aspects of Scottish and Irish Economic and Social History 1600–1900*, Edinburgh, 1977, pp 204–215.

[19] I H Adams, 'The Agents of Agricultural Change', in M L Parry and T R Slater, *op cit*, pp 155–175; S Macdonald, 'The role of the individual in agricultural change: the example of George Culley of Fenton, Northumberland', in H S A Fox and R A Butlin, *op cit*, pp 5–22.

[20] N Goddard, 'The Development and Influence of Agricultural Periodicals and Newspapers, 1780–1880', *Agric Hist Rev*, 31, II, 1983, pp 116–131.

[21] S Macdonald, 'Agricultural Improvement and the Neglected Labourer', *Agric Hist Rev*, 31, II, 1983, pp 81–90; Campbell, 'The Scottish Improvers', *op cit*, pp 210–211.

[22] H W Scott, 'John Walker's Lectures in Agriculture (1790) at the University of Edinburgh', *Ag Hist*, XLIII, 1969, pp 439–445; C W J Withers, 'A Neglected Scottish Agriculturalist: the "Georgical Lectures" and Agricultural Writings of the Rev Dr John Walker (1731–1803)', *Agric Hist Rev*, 33, II, 1985, pp 132–146.

[23] S Richards, Agricultural Science in Higher Education: Problems of Identity in Britain's First Chair of Agriculture, Edinburgh 1790–c1831', *Agric Hist Rev*, 33, I, 1985, pp 59–65; see also chapter VIII 'Agriculture' of the British Association's *Edinburgh's Place in Scientific Progress*, Edinburgh, 1921, pp 162–167 (by J A S Watson); A Smith, 'Agricultural education and its needs', *Scott Jour Agric*, III, pp 155–160.

[24] K Blaxter, 'Agricultural Science and Practice', *Proc Royal Soc Edin*, 84B, 1983, pp 6–7.

[25] N T Phillipson, 'Culture and Society in the Eighteenth Century Province: the Case of Edinburgh and the Scottish Enlightenment' in L Stone (ed), *The University in Society*, Princeton, 1974, II, pp 407–420; *idem*, 'The Scottish Enlightenment' in R Porter and M Teich (eds), *The Enlightenment in National Context*, Cambridge, 1981, pp 19–40; N T Phillipson and R Mitchison (eds), *Scotland in the Age of Improvement*, Edinburgh, 1970; A Chitnis, *The Scottish Enlightenment: a Social History*, 1976; John Robertson, 'The Scottish Enlightenment at the limits of the civic tradition', in Hont and Ignatieff (eds), *op cit*, pp 137–178 places particular emphasis on the institutional impetus to improvement and enlightenment.

[26] R Porter, *The Making of Geology: Earth Science in Britain 1660–1815*, Cambridge, 1977, pp 149–165; Chitnis, 1986, 1987, *op cit*.

[27] Shapin, *op cit*, p 102.

[28] Campbell in Campbell and Skinner, *op cit*, p 8.

part of a longer-running and wider enterprise that was then, simultaneously, a matter of social and scientific advance, individual action, institutional motivation, practical experience, and theoretical reasoning.

With these issues as introduction, this paper is an attempt to contribute to our understanding of the links between agricultural improvement and enlightenment science in eighteenth-century Scotland. What follows aims to cast light upon the means by which agricultural knowledge was advanced within this wider context of improvement by looking at the work and agricultural writings of one individual, William Cullen. Cullen, who was born in Hamilton in 1710 and who died in Edinburgh in 1790, is perhaps best known for his contribution to medical knowledge.[29] But he was much involved with agricultural topics throughout his life. This involvement is evident in several ways: in university and private lectures he gave on agriculture and agricultural chemistry; in his practical research on scientific improvements in agriculture; in his manuscripts, especially his 'Reflexions on the Principles of Agriculture and Remarks on the Principles of Agriculture', the 'Abstract' of his lectures and a never published book, and his lengthy 'Essays on the Plow'; in his close relationship with Lord Kames who at one time saw in Cullen the potential author of 'a treatise on agriculture, better than the world ever yet saw'; and, lastly, in his membership of institutions, most notably the Select Society, the Philosophical Society and the Royal Society of Edinburgh.

Each of the above suggests Cullen was, in some senses, representative of an age. But the breadth of his involvement with agricultural improvement and particularly his lectures on agriculture, agricultural chemistry and the bases to plant nutrition suggests Cullen to have been an important individual figure in agricultural circles in eighteenth-century Scotland. More than that, however, the inclusion of agricultural topics in his chemistry lectures in the 1740s and in his privately-given lectures on agriculture in 1768 highlights that philosophical concern not only of eighteenth-century Scotland but throughout Europe with advances in agriculture based on practical knowledge and theoretical discourse. In examining Cullen's agricultural lectures and writings, what follows has two related aims. The first, given what little attention has been paid to them hitherto, is to introduce to a wider audience the range and content of Cullen's unpublished agricultural manuscripts. The second is to suggest that in examining his work and in the social relations of which he was part, Cullen may be used to illuminate the links between agricultural improvement and scientific knowledge in eighteenth-century Scotland.

I

Cullen's agricultural work may be divided into two sections. In the first are his early unpublished writings and lectures of the late 1740s and 1750s to which very little critical reference has been made, the most important items here being the 'Abstracts' of his lectures, his 'Reflexions on the Principles of Agriculture and Remarks on the Principles of Agriculture' and his work on the plough.[30] In the second are his later lectures, one set of which was a privately-given course in 1768 on agricultural topics which was published in abridged form posthumously[31] and which has received passing attention elsewhere,[32] and an

[29] This principal work was his classificatory work on diseases, *Synopsis Nosologiae Methodicae*, 1769; on Cullen's life and works in general, see J Thomson, *An Account of the Life, Lectures, and Writings of William Cullen, MD*, Edinburgh, 1859, 2 vols.

[30] Cullen's agricultural manuscripts are housed in Glasgow University Library, MSS Box 7.3.

[31] Variously titled *The Substance of Nine Lectures on Vegetation and Agriculture delivered privately in 1768*, 1796 and *Lectures on Vegetation and Agriculture*, 1796.

[32] Emerson, 'The social composition', *op cit*, p 313.

unpublished manuscript entitled 'Lectures on the chemical history of vegetables'[33] dating from about 1755, which has not previously figured as part of Cullen's agricultural concerns. Linking all Cullen's agricultural work is his correspondence and friendship with Lord Kames.

Dating Cullen's first formal involvement with agricultural improvement is relatively easy. He lectured in medicine and other subjects, including chemistry, at Glasgow University from 1744 and was professor of medicine there from 1751 to 1755. He became professor of chemistry at Edinburgh in 1756, was elected to the 'chair of physic' there (essentially physiology) in 1766 and from 1773 until his death was professor of medicine at Edinburgh University. We know that his second course of lectures at Glasgow in 1748 was entitled 'Chemical lectures and experiments directed chiefly to the Arts and Manufactures' and that Cullen saw in these lectures a means to make chemical knowledge useful in an agricultural context.[34] In a letter of 1749 to Lord Kames, Cullen noted

> As the course was intended to teach the elements of a chemistry applicable to arts in general, chemistry claimed a place; and though I was not well prepared on that subject, yet I thought it was proper to make a beginning, and at least to open young gentlemen's views on the subject.[35]

From this letter we know not only that Cullen had already begun his agricultural enquiries but also that further research was planned.

> I now take the liberty you were pleased to allow me of consulting you about my plan for prosecuting the study, or, if you please, the improvement of agriculture. Your recommendation of this subject has very much strengthened my own inclinations this way, and this would have appeared sooner, if my practice and the teaching a course of chemistry had not entirely occupied me during the winter; but now the last is over, I resolve, during the summer, to apply to some experiments that relate to agriculture; but lest I lose my labour in random experiments, I wish to have your advice, and to know from you what experiments are likely to prove decisive and fittest to ascertain the principles of agriculture.[36]

It is from this period that Cullen brought together his experiments and thoughts in his 'Reflexions on the Principles of Agriculture'. And to judge from a lengthy book outline entitled simply 'Agriculture', Cullen clearly had it in his mind to produce a text drawing on his work.

Most of his practical research was carried out either on his own farm, or from 1752 on his brother's farm at Parkhead near Glasgow. From 1756, Cullen farmed an estate at Ormiston, near Kirknewton in West Lothian. To Andrew Wight, whose review of the state of Scottish agriculture was published in 1778, Cullen's farm was among the best in the area.

> I have reason to know that he is thoroughly acquainted with every branch of agriculture, both in theory and practice. Already, during his short possession, his turnip and wheat make a figure. He will prove a blessing to the neighbourhood, both by example and precept.[37]

Cullen's relationship with Kames was both scientific and social. Their correspondence includes letters on the chemical bases to manures (a subject on which Cullen was, by 1750, corresponding with Du Hamel); the best means of planting cabbages; and on questions of plant physiology.[38] Kames proposed Cullen as a member of the Philosophical Society in a letter of 17 November 1749.

> I live in the faith [wrote Kames] that you are going on briskly with your experiments, and that no concerns of interest make an avocation. I propose you as a member in our Philosophical Society, and indeed we greatly want members of activity and genius . . . In short, my sedate purpose is, that your

[33] Royal College of Physicians, Edinburgh, MS M5.40.
[34] Campbell in Campbell and Skinner *op cit*, p 10; Thomson *op cit*, I, pp 62–63.
[35] GUL MS Box 7.3.5; Thomson, *op cit*, I, pp 596–597.
[36] *Ibid*: Thomson *ibid*, I, p 596.
[37] A Wight, *Present State of Husbandry in Scotland*, Edinburgh, 1778, 4 vols, III, p 469.
[38] Thomson, *op cit*, I, pp 62–69, 591–602.

name shall be carried down to posterity by a treatise on agriculture, better than the world ever yet saw.[39]

By 1753 Kames was still exhorting Cullen to draw together his experimental notes and manuscripts and write a book on agriculture.

I no sooner get a moments leisure than I think of my old project for you about agriculture – I would not be surprised if you were offer'd 200£ for the Copy. I have many notes and useful Remarks gather'd in the course of several Years which might find a place. Were we together three days, you might pick out what would serve your purpose.[40]

Reference to 'the Copy' almost certainly means Cullen's 'Reflexions' and his other manuscripts, including his book synopsis. Despite this offer and an earlier prompt by Kames to Cullen to 'Remember also to contribute to the Philosophical Society about which I am turned extremely keen now that I have got in a good measure of the management of it',[41] Cullen failed to collect and publish his papers. Those two papers Cullen did deliver to the Society – 'Reflections on the study of Chemistry' and 'An Essay towards ascertaining the Different Species of Salts' – were not directly concerned with agricultural topics,[42] although the possibility remains of Cullen having spoken to that body on such matters (see below). There is no evidence to point to Cullen having delivered papers either on agricultural improvement or on chemistry as an agriculturally useful science to the Select Society following his admission in June 1757.[43] It is possible, however, that his 'Essay on the Plow' was read before some public society, most probably the Philosophical Society of the University of Glasgow.[44]

Cullen's 'Lectures on the Chemical History of Vegetables' (and the accompanying 'The Chemical History of Animals') may be dated to 1755 or possibly 1756, and were given as part of his lectures as professor of chemistry at Edinburgh. His privately-delivered lectures on agriculture were delivered in 1768, possibly under the continued promptings of Kames though there is no direct evidence for this.[45] But whilst we have an indication of their content, much of it drawing upon his earlier work, it is not known to whom these were given, or if they were presented as part of the formal business of a given society or institution, and it is impossible now to know the audience.[46] But the fact that there are surviving abstracts of the lectures in the hand of the Revd Dr John Walker,[47] a close friend of Cullen, Philosophical and Select Society member, and himself later a keen agricultural propagandist through natural history lectures, reasonably suggests that Cullen addressed like-minded members of that wider audience of social and scientific improvers in eighteenth-century Scotland.

II

In addition to the more detailed pieces – 'Reflexions', the work on the plough, his book synopsis, and an 'Abstract of Dr Cullen's Lectures on Agriculture' – Cullen's unpublished agricultural manuscripts include letters to Kames; correspondence from a Robert Berrie and a Mr Tullidelph on agricultural matters; a note on the utility of banking fields to prevent flooding; a detailed paper on manures; a short folio entitled 'Why Grains Thin Sown Ripens Late'; and part of a lecture Cullen at some time presented to the Ratho Club, an agricultural improving body located west of Edinburgh.[48] Notes in parentheses on three

[39] *Ibid*, pp 62–63.
[40] National Library of Scotland, MS 3892.
[41] Thomson, *op cit*, I, p 74.
[42] Emerson, 'The Philosophical Society', *op cit*, pp 159, 162.
[43] Emerson, 'The Select Society', *op cit*, p 327.
[44] Thomson, *op cit*, I, p 65.
[45] Blaxter, *op cit* p 6.
[46] It is likely that Cullen chose to give these lectures in 1768 because that was the first year he started giving his lecture courses on medicine alternately by years with John Gregory, Professor of Practice of Physic at Edinburgh. This 'free time' may explain why he chose to give them then.
[47] Edinburgh University Library, MS Dc.3.70.
[48] GUL, MSBox 7.3.4.

of the manuscripts – his correspondence from Tullidelph (a short piece entitled 'Thoughts on Vegetation and the Effects of Lime', dated 7 January 1760; on Cullen's 'Observations on Natural Manures'; and on his letter on salt from Berrie – suggest that they were each intended 'for the Edin. Soc. or the Phil. Soc. of Edin.'. These marginalia, in a later hand, cannot be dated. Although the possibility exists that Cullen aired his views on agricultural chemistry (and those of others on whose work he had commented) to either the Edinburgh Society or the Philosophical Society, we may never know for sure that he did.

The 'Abstract of Dr Cullen's lectures on Agriculture' is a quarto manuscript of 24 pages giving, in considerable detail, the contents of seven lectures.[49] Some lectures are untitled. From examination of their content, the subjects covered were the bases to plant nourishment from the soil (lecture 1); 'Roots' (lecture 2); on soils and soil fertility (lectures 3–5); 'Effects of Roots' (lecture 6); and 'Improvement of Soils' (lecture 7). The lectures are undated. Almost certainly, however, they are those given to his chemistry students in Glasgow in 1748. The lectures begin with the statement 'All Plants derive their Nourishment wholly or chiefly from the Soil', from which followed, noted Cullen, two further questions; 'What is the nourishment of Plants?', and 'Whether or not all Plants have one common Nourishment' and how such nourishment was applied. We know from his letter of 1749 to Kames that Cullen had by then included agricultural topics in his chemistry lectures (see above), and later in the same letter Cullen notes, 'To begin, then, the whole of the principles of agriculture may be referred to two heads, that is to say, they use either those which relate to the nourishment of plants, or those which relate to the application of that nourishment'.[50] The fact that he was declaring in 1749 an earlier interest – 'It is the substance of a few lectures I *gave* in my course of chemistry'[51] [author's emphasis] – and that his declaration to Kames of their principal intent mirrors that in the 'Abstract' itself almost certainly means that Cullen's lectures detailed in the 'Abstract' date from 1748–49. (It is possible, of course, that the 'Abstract' *manuscript* does not date from then.) The fact that the abstract dating from 1768 in Walker's hand has the same lecture titles may suggest, too, that Cullen's later lectures drew substantially if not entirely from his university chemistry course of twenty years before.

As might be expected, Cullen's lectures focus in particular upon matters of agricultural chemistry; the chemical bases to plant nutrition, the chemical means of improving soil quality, and the question of the 'heat' needed in soils for proper plant growth: 'To procure this middle Temperature in Soils is the chief object of Husbandry'.[52] The lectures on soils considered the ingredients – 'Clay, Sand and Mucilage' – that were 'most proper for Vegetation', the proportions of these ingredients as the cause of soil diversity, and on the ways in which 'a Soil may deviate from Fertility and how recovered'. His attention to the use of dung, 'saline manures', rotation of crops and lime as means of soil improvement drew not only upon the work of those persons mentioned in the lectures – notably Stephen Hales, Jethro Tull and Du Hamel – but also upon his own inductive and empirical methods as an eighteenth-century scientist. 'The Knowledge of Causes [noted Cullen] entirely from Experience shew it only in a Single Instance. A Number Shews it in general. Farther Experiments shew it depending

[49] GUL, MS Box 7.3.2., 7.3.3.

[50] GUL, MS Box 7.3.2.; Thomson, *op cit*, I, pp 596–7.
[51] GUL, MS Box 7.3.5.; Thomson, *op cit*, I, p 596.
[52] GUL, MS Box 7.3.2, Lecture 2, f 3.

on particular Circumstances. This gives Axioms, every Intelligent Artificer forms these & is so far a Philosopher'. He continues

> The principal Means & Practices already found out & found by such Inductions as above but the foundations not transmitted or known to our Farmers therefore the Business of the Gent*n* Philos. to explain the foundations and thereby fix ascertain & properly diversify the common Methods the principal point.[53]

This concern with the philosophical means to practical ends marks Cullen as typical of the period. More than that, however, his lectures illuminate the way in which such 'Gentleman Philosophers' clearly saw in themselves the means by which scientific (philosophical) discourse could actually be 'transmitted or known to our Farmers' as a profoundly useful practice. Cullen's scientific interest in calcareous salts, for example, is evident in his later essay on the subject to the Philosophical Society.[54] His intent that such 'philosophical' knowledge be useful to the 'Intelligent Artificer' is the underlying theme of his agricultural writings, particularly his 'Reflexions on the Principles of Agriculture'.

This thirty-three page manuscript contains in an expanded form parts of Cullen's lectures but, in the reflexive tone it adopts to some of the subjects covered there and in the title itself, must be presumed to post-date his lectures. The 'Reflexions' is divided into two 'Sections', the first concerning the nourishment of plants, the second on 'the nature of the Nourishment of Plants and of the means of impregnating Soils therewith'. In the first section, Cullen discusses those questions to which he had drawn Kames' attention in 1749: the likelihood of there being a 'Common Nourishment' differently used by all plants or if the soil contains 'a variety of juices respectively suited to the nourishment of different Plants'. In deciding that 'we need to seek for the nourishment of vegetables no where else than in the destroyed matter of Vegetables themselves', the second section is taken up with the best means 'under which it is to be procured by the Husbandman'.[55] If, in one sense, the two sections of Cullen's 'Reflexions' mirror in their content the contemporary concern with theoretical discourse and practical improvement, we should remember also that, to Cullen (and to others), observations on soil chemistry, marls, manures, and plants for land management were inseparable parts of that broader 'utilitarian impulse' toward individual and national prosperity through improved agriculture. Cullen saw the relationship between farmer and theorist as reciprocal, if not equal. In concluding a discussion of the chemical basis to manures, he notes how 'With respect to the choice of putrid or putrefying matters it concerns the Farmer to enquire'. Farmers could tell from experience the proper practical course (the *amount* of manure to use); it was the business of the chemist and natural historian to enquire into the *causes* of observable differences in manures and soil fertility.

Cullen's 1755 'Lectures on the Chemical History of Vegetables' further reveal his knowledge on the chemical basis to plant growth and the utility of different plants. His discussion of 'the natural history of vegetables' was, in Cullen's words, a 'Pharmaceutical Chymistry',[56] a necessary interest in Materia Medica for any eighteenth-century physician. Whether his students were keen to have agricultural and botanical topics as part of their medical syllabus is hard to know: Cullen clearly thought such a conjunction of subjects necessary. In his lectures on the chemical history of vegetables, Cullen notes 'I must

[53] GUL, MS Box 7.3.2.

[54] A Donovan, *Philosophical Chemistry in the Scottish Enlightenment*, Edinburgh, 1975, pp 67–69, 86–88; *idem*, 'William Cullen and the Research Tradition of Eighteenth-Century Scottish Chemistry' in Campbell and Skinner (eds), *op cit*, pp 98–114.

[55] GUL, MS Box 7.3.3.

[56] RCPE, MS M5 40, Lecture 2 f 21.

tell you Gentlemen, that it is impossible for me to go on with this Subject without introducing a great many Botanical names, and I hope you are all acquainted with these, at least you should be'.[57]

Cullen also turned his mind to the plough, as did others in this period.[58] What little attention has been paid to his work on the plough[59] has failed to note that there are two extant manuscripts, differently titled and with some variation in content. A third manuscript simply lists issues addressed in the longer pieces. Of the two longer manuscripts, the first and presumably earlier piece (both are undated but may be presumed synchronous with his 1748 lectures[60]) is entitled 'An Essay on the construction & operation of the Plow'. It is an unfinished 12vo manuscript of thirty pages in Cullen's hand with numerous corrections and marginal notations. His object is to explain 'the mechanical principles on which ploughs have been constructed, to find out what is the importance and effect of each part, and to examine what variation each or all of them require, according to the difference of soil in which they are employed'.[61]

The second shorter 12vo manuscript (17 pages) is entitled 'An Essay on The Construction of the Plow'. There are no illustrative figures and the lack of corrections suggests it is a later version. Cullen is concerned in his essay 'to apply Scientific principles' to something which, in his view, had 'been improved so far as to answer the purposes of Art tolerably well but they have Seldom been carried in that way to their utmost perfections'.[62] It is unlikely that Cullen included his work on the plough in his lectures. It was, he wrote, 'of a nature not much akin to my ordinary Studies'. But he clearly intended it to be useful, if more to husbandmen than philosophers.

> The persons to whom this is addressed are Suposed to be acquainted with the Structure of an ordinary plow & with the Names applied to The Several parts of it a description therefore of a plow is here omitted tho it might be necessary to Some who may look into this Esay but to Such every plowman can Supply the defect.[63]

It is clear also that Cullen at some time intended (and failed) to gather his lectures and writings together in book form. Amongst his surviving manuscripts is an undated nine page 12vo manuscript in his own hand entitled simply 'Agriculture'. There is no reference to this work in his other writings and if this is 'the Copy' to which Kames refers in a letter of 1753 (see above), it is not discussed again. Part I reveals Cullen's concern with the chemical basis to plant nourishment. The intended extensive discussion of the degeneracy and improvement of soils and on manures that follows in Part II Book II draws upon work in his lectures and in his piece on manures. The later sections of Book II, from Chapter III 'Of Sowing' onwards, are departures from his other work. Although the attention intended to be directed to discussion of management practices suited to given soils and particular products may well have drawn from his lectures and his earlier 'Reflexions', they also represent a considerable broadening in scope and intent. The inclusion of issues relating to Scottish agriculture in general reinforces the claim that Cullen, like many others in eighteenth-century Scotland, saw his individual and institutional interest in

[57] *Ibid*, Lecture 1 f 5. It is quite likely that medical students were familiar with or, at least, knew of agricultural texts in this period and earlier. *The Physiological Library begun by Mr Stewart and some of the Students of Natural Philosophy of Edinburgh*, printed in 1725 has several agricultural works, including Evelyn's translation of Quintinye's *Compleat Gardner*, Lord Belhaven's *The Countryman's Rudiments*, Edinburgh, 1707, and John Ward's *Compleat System of Husbandry and Gardening*, 1716.

[58] G E Fussell, 'Ploughs and Ploughing before 1800', *Agric Hist*, XL, 1966, pp 177–186.

[59] Donovan, *Philosophical Chemistry*, *op cit*, p 69; Thomson, *op cit*, I, p 65.

[60] Thomson, *op cit*, I, p 65.

[61] GUL, MS Box 7.3.1. Both versions of the manuscript on the plough are catalogued under this number.

[62] GUL, MS Box 7.3.1. ('Essay on the Construction of the Plow'), ff 1–2.

[63] *Ibid*, f 17.

agricultural chemistry as an important means to national prosperity.

III

Assessment of Cullen's place in the development of agricultural science in eighteenth-century Scotland rests not only upon comparison of his work with those others who wrote about agricultural chemistry but also upon what this work and his social and scientific relations with individuals and institutions reveals as to the context in which such useful science was being practised.

It is possible that Cullen knew, as he lectured his chemistry students in Glasgow from 1748, of those earlier lectures on agriculture given by Robert Maxwell, secretary to the Society of Improvers,[64] and likely, too, that he supported Maxwell's plea for a more formal educational concern: 'Altho' there is not, or perhaps never may be in our Time, a College of Husbandry established by Authority; yet surely, every probable Opportunity of improving in the Knowledge of it should be embraced'.[65] Cullen's inclusion of agricultural topics in university courses of chemistry lectures, his 'Reflexions', and even his 1768 lectures should, however, not be seen as a direct response to Maxwell's claim, the promptings of Kames or of any particular stimulus. His agricultural work was a reflection of that much wider and deeper concern with ways of making science useful, of uniting through science the practical but essentially individual experience of Scottish farmers with those rational and theoretical principles thought to underlie all husbandry.

In the simplest sense, Cullen's lectures have an historiographical significance. His evident concern to educate, if only partly, an audience of 'gentlemen' in matters of rural economy follows that of Maxwell. He pre-dates Walker's lectures on natural history and agriculture and the founding, in the year of Cullen's death, of the Chair of Agriculture at Edinburgh University and the beginnings of formal if unsustained agricultural interest at Aberdeen. But Cullen's lectures and writings have more than a simple historical importance. In his attention to agricultural issues in chemical, medical, and botanical lectures, Cullen was varying the practical *means* to a widely-shared philosophical *end*.

Home's *The Principles of Agriculture and Vegetation*, for example, stressed through experiments the links between plant physiology and soil chemistry. Although this work has been both praised by one writer as 'of first rate importance in the history of Scottish agriculture'[66] and seen by another as 'more indicative of a disappearing epoch than the forecast of a new era of agricultural science',[67] it may also be seen as a profoundly *practically-based* enquiry in a way Cullen's work was not. Home's work was not a practical guide, however: 'I don't intend in the following remarks to settle facts, or teach the practical part of farming. That I leave to farmers'. Whilst his concern, like Cullen's, was with the scientific (chemical) principles to agriculture, Home's faith in the utilitarian aspects of the science was less strong than Cullen: 'As this science [chemistry] is but of late invention, and has not yet been cultivated with that regard to utility, and the improvement of trade and manufactures, as it ought and might, agriculture is hardly sensible of its dependence upon it'.[68]

Increasingly during the eighteenth century, others were aware of the links between the two and of the relations between science and practice in general. Works that might be mentioned in this

[64] This point is made also by Donovan, *Philosophical Chemistry*, *op cit*, p 287 n68.
[65] Maxwell, *op cit*, p 381 and see also pp 379–380 for notes by Maxwell on his lectures.
[66] Handley, 1953, *op cit*, p 129.
[67] Blaxter, *op cit*, p 6.
[68] Home, *op cit*, p 5.

context are John Randall's *The Semi-Virgillian Husbandry* (1764), George Fordyce's *Elements of Agriculture and Vegetation* (Edinburgh, 1765), John Mills' *The Natural and Chemical Elements of Agriculture* (1774) – itself a translation of Adolf Gyllenborgii's *Agriculturae Fundamenta Chemica* (Uppsala, 1761) – James Anderson's *Essays Relating to Agriculture and Rural Affairs* (1775), and, later in the century, Cochrane's (Lord Dundonald) *Treatise on the Connection of Agriculture with Chemistry* (1795). That these and other works on agricultural chemistry appeared when they did may be considered the result of several factors in combination: the continuation and expansion of that earlier interest in scientific agriculture evident elsewhere in Great Britain and in Scotland from the later 1600s;[69] the contemporary expansion of knowledge in chemistry during the eighteenth century and a parallel expansion in commitment to its utility as applied science; and in those particular forces – intellectual, institutional, social – making for change in eighteenth-century Scotland and earlier. What distinguishes Cullen within the development of agricultural science in eighteenth-century Scotland is that, in his lectures and writings, we can more clearly see the means by which that expressed commitment to a given philosophy was made real.

Other contemporaries placed much less emphasis on the scientific basis to agricultural improvement. Dickson's *A Treatise of Agriculture* (1762) was much more concerned with the best means of managing plants and with the implements of tillage than with the chemical basis to agriculture, although Book III of his work does discuss manures and their operation. Wight's 1778 work is in another tradition still: that of a national survey of practice. Kames' *The Gentleman Farmer* is principally concerned with the practice of agriculture. Part I of his book is so entitled and has 14 chapters in distinction to Part II which has only 3 chapters on the 'Theory of Agriculture' including one on the 'Food of Plants, and Fertility of Soil'. The distinction between these expressed means of improvement – the observational and empirical tradition of Dickson and Kames and the philosophical reasoning toward rational principles evident in Home, Fordyce, and Cullen – was noted by Kames himself: 'To be an expert farmer, it is not necessary that a gentleman be a profound chymist. There are however certain chymical principles relative to agriculture, that no farmer of education ought to be ignorant of'.[70]

Cullen's own ability as a 'profound chymist' and his increasing involvement with chemistry and medicine may be advanced as the principal reasons why he neither published his agricultural writings nor wrote the book that his 'Agriculture' manuscript suggests was in his mind. His agricultural interests were not forgotten as his career developed but his university role simply became more pressing.[71] It had probably become so as early as 1752 and 1753. He had by then not even communicated the results of his chemical experiments begun in 1748 and 1749 to his mentor Kames who, in July 1752, was moved to write to Cullen 'If I do not get this summer some of your experiments about husbandry, I will abandon you altogether as an utter bankrupt'.[72] Kames was still pressing Cullen on agricultural matters

[69] Russell, *op cit*; Fussell, 'Science and Practice', *op cit*, A and N L Clow, *The Chemical Revolution: A Contribution to Social Technology*, 1952 esp pp 456–514; Campbell in Campbell and Skinner, *op cit*; It may also be that the adoption of Newtonian method in science in Scottish universities in the seventeenth century allowed for the more rapid expansion of inductive empiricism during the eighteenth century. On this point, see Christine M Newton, 'Newtonianism in Scottish Universities in the Seventeenth Century', in Campbell and Skinner, *op cit*, pp 65–85 and esp p 83.

[70] Home [Lord Kames], *op cit*, p 292.

[71] Donovan, *Philosophical Chemistry*, *op cit*, p 69; N Campbell and R Martin S Smellie, *The Royal Society of Edinburgh (1783–1983)*, Edinburgh, 1983, pp 4, 10.

[72] Thomson, *op cit*, I, p 598.

as late as 1775 but by then Cullen's professional obligations and medical researches were filling his time, Kames was drafting his own work and at the same time turning to another Edinburgh chemist, Joseph Black, to fulfil a role he had twenty-five years before envisaged for Cullen. In July 1775 Kames wrote to Black noting '. . . for if I mistake not greatly, the principles of agriculture will in your hands make one of the most interesting articles of a course of chymistry . . . after preparing yourself by a course of proper experiments, lectures upon agriculture would turn out much to the public benefit and no less to your own reputation'.[73]

IV

This paper set out to illuminate the relationships between agricultural improvement, scientific practice, and public benefit in eighteenth-century Scotland through examination of the work of one individual. Several observations may be made in conclusion. Cullen's agricultural work was part of a broader enterprise in which, by the second half of the eighteenth century especially, the links between practical agriculture and philosophical science, particularly chemistry, were widely recognised and a major thrust in the wider move to improvement. His lectures demonstrate one means by which these relationships were discussed by and disseminated to that wider audience of gentlemen who, in university classes, membership of institutions, and on their own estates, sought to bring benefit to themselves and their nation. Cullen's relationship with Kames mirrors that wider network of social connections in which context both chemical science and agricultural improvement were debated. This paper has suggested that Cullen's lectures reinforce the role of formal education as a means of agricultural knowledge in eighteenth-century Scotland. And this may be to suggest, too, that in order to understand better the relationships between agriculture, science, and social improvement in the Scotland of that period, we may have to proceed in ways taken by those very persons we now seek to study: by examination of the individual in order to proceed to more general principles.

[73] EUL, MS Gen. 873/1/83–84; see also EUL, MS Gen. 873/1/85 [Kames to Black, 5 Sept 1775] in which Kames writes 'I have been amusing myself with dipping into the theory of agriculture; and at every turn I find more philosophy in it than I am master of.

Harvest Fluctuations in Pre-Famine Ireland: Evidence from Belfast and Waterford Newspapers*

By PETER M SOLAR

Abstract
The monthly agricultural reports published in the *Waterford Mirror* (1819–42) and Belfast's *Northern Whig* (1824-42) are described, then used to derive qualitative indicators of harvest outcomes in pre-famine Ireland. Contemporary descriptions of the wheat, oats, barley, potatoes, flax, and hay harvests were scaled in order to analyze their covariations. The wheat, potato and hay crops tended to show similar fluctuations in the two regions; outcomes of the barley and oats harvests were not systematically related. Among crops within the same region covariation was much less pronounced than across regions, except for the inverse relationship between the wheat and hay crops in the south-east and for a tendency for the oats and potato crops to move together in the north-east and inversely in the south-east. The results suggest that mixed farming should have helped to stabilize farm incomes; that the potato may have been better suited to the south-east than the north-east; and that it may have been less unreliable than has often been argued.

IRISH provincial newspapers are a valuable source of information about the pre-famine rural economy. Though most of their columns were filled with articles reprinted from London and Dublin papers, local affairs came to occupy more space in the 1820s and 1830s. Accounts of Irish markets and fairs became more numerous and more detailed, as did reports on weather and harvest conditions in Ireland and England. There were more articles on agricultural technique, some of them locally written, and on the activities of local agricultural societies. Nonetheless, *systematic* reporting of local agricultural affairs was rare. Two notable exceptions were the series of monthly agricultural reports written for the *Waterford Mirror* and for Belfast's *Northern Whig*.[1] These sources deserve wider use by Irish agricultural historians. This article provides a general introduction to them, though the principal concern will be to see what they can say about harvest fluctuations before the famine of the late 1840s. Qualitative indicators of harvest outcomes in the north-east and south-east of Ireland will be developed and the variations across regions and across crops analyzed.

Our knowledge of harvest fluctuations before the famine is at best sketchy and indirect. The Irish agricultural statistics begin only in 1847 and thus refer to an agriculture much transformed by the potato blight and its economic and social effects. For want of direct quantitative evidence on yields, agricultural fluctuations in pre-famine Ireland have generally been inferred from movements in prices or exports.[2] Prices are likely to be a particularly unreliable indicator of harvest conditions in early nineteenth-century Ireland. Free trade between Britain and Ireland

* I would very much like to thank Miss P Fanning and the staff of the Waterford Public Library and the staff of the Linenhall Library for their kind help, Mr J McHugh for sharing with me his notes on harvests during the 1820s, and Dr C Ó Gráda for his useful comments on a draft of this paper.

[1] There were other local agricultural reports published at one time or another in the early nineteenth century, but few were sustained as long as these two. One worth mentioning is that for County Dublin published by the *Dublin Morning Post* in the 1820s.

[2] R D Crotty, *Irish Agricultural Production*, Cork, 1966, ch 2; L M Cullen, *An Economic History of Ireland since 1660*, 1972, chs 3,5.

meant that prices were essentially determined in the larger British economy, that is, by British consumption and production, as well as British commercial policy. Irish exports of agricultural products are, perhaps, the more promising indicator, though they reflect changes not only in yields, but in the sown acreage and in Irish consumption. Serial evidence on any of these elements is virtually nonexistent. Qualitative indicators of crop yields, such as those developed here, might thus contribute to a better appreciation of the fluctuations in trade, as well as being of interest in their own right.

The yield of the potato crop was of central importance to Irish farmers and labourers and its variability has figured prominently in historians' judgements on the pre-famine economy. It has been widely suggested that the potato was becoming an increasingly unreliable crop and that it was, in any case, more subject to failure than were cereals.[3] There is little *Irish* evidence for the latter proposition; Mokyr has used French yield statistics to suggest its plausibility.[4] The former contention, that the potato was becoming more subject to failure after 1815, thus bringing an end to a long 'gap in famines', draws heavily on a compilation of information on previous harvests made for the 1851 Census by Sir William Wilde.[5] But, as Connell observed: 'the usefulness of Wilde's work is diminished both by his reticence on the sources from which he derived his information and by his omission, in many cases, of any indication of the location of a particular failure'.[6] Wilde made extensive use of harvest reports similar to those published in the *Waterford Mirror* and the *Northern Whig*. A more systematic analysis of the information in these sources may overcome some of the deficiencies in Wilde's work.

I

The *Waterford Mirror* first printed a 'Monthly Agricultural Report for the Counties of Waterford, Kilkenny, Tipperary and Wexford' for September 1819.[7] These reports continued to appear each month, with few lapses, until the *Mirror* folded in September 1843. They varied in length, but generally occupied 5–10 column-inches. They were unsigned and few clues exist concerning the identity of their author (or authors). Whoever wrote them was clearly familiar with local farming practices and with the literature of agricultural improvement, as the reports indicated, explicitly or by implication, what farmers had done during the previous month and often prescribed what they ought to be doing next.

Much the same may be said of the 'Agricultural Reports' that appeared in the *Northern Whig* from May 1827 until September 1842.[8] Somewhat longer and more descriptive than those in the *Mirror*, these articles were datelined Belfast and probably referred to the town's immediate agricultural hinterland in counties Antrim, Armagh and Down. Agricultural markets and prices received relatively more space and farming techniques less than in the Waterford reports. The author, who

[3] R N Salaman, *The History and Social Influence of the Potato*, Cambridge, 1949, pp 603–8; R D Crotty, *op cit*, p 39; K H Connell, *The Population of Ireland*, Oxford, 1950, pp 144–6; J Mokyr, Uncertainty and Prefamine Irish Agriculture, in T M Devine and D Dickson (eds), *Ireland and Scotland 1600–1850*, Edinburgh, 1983, pp 92–4.

[4] J Mokyr, *ibid.*

[5] BPP 1856, XXIX, pp 423–99, 623–8, *Census of Ireland for the Year 1851*, Report on the Tables of Deaths.

[6] K H Connell, *op cit*, p 146.

[7] *Waterford Mirror*, 2 October 1819. The agricultural reports generally appear in the last week of the month to which they refer or in the first week of the following month. In the remainder of this article footnote references will be made only in cases where the relevant report is not clear from the context. The Waterford Public Library has a set of the *Mirror* (hereafter *WM*) which is complete except for a few gaps, most of which may be filled by reference to the British Library's holdings.

[8] The Linenhall Library in Belfast holds a complete set of the *Northern Whig* (hereafter *NW*) for this period. The *NW* published scattered reports of harvests in the north-east from its founding in late 1823. Evidence from these has also been used in this paper.

signed himself 'R', often displayed sympathies for farmers and manufacturers, as against landed proprietors, a stance consistent with that of the *Northern Whig*.

Both series of reports provide a detailed picture of the agricultural year in pre-famine Ireland. The sowing and harvesting of the various crops were duly noted, as were a variety of other agricultural and non-agricultural activities: paring and burning pastures; preparing lime for application to the land; and cutting and stacking peat. The timing and success of these farm operations depended on the weather, so most reports began with a summary of the past month's weather. These impressionistic comments would be of relatively little interest to the scientific historian of climate, but they occasionally reveal features of Irish agricultural practice. Wet weather at the beginning of June 1823 retarded the burning of ground that had already been hoed in preparation for potato planting. The cool summer of 1823 was said, in February 1824, to have led to a large proportion of 'strippers', that is, cows which had not conceived.

Other aspects of the Irish rural economy were revealed incidentally in the monthly reports. The state of the linen trade may be followed in discussions of the flax crop. The period from 1828 to 1831 seems to have been particularly dismal. In July 1829 it was noted that 'the depreciation of the article [flax], however, occasioned by the low state of the linen trade, renders this at best but a doubtful crop . . .' Reduced sowing of flax was reported in 1830 and 1831. By 1834 and 1835, however, cultivation of this crop was increasing, only to fall off again in 1837 and 1838.[9]

While there is much of value in the monthly agricultural reports, it must be admitted that they are often repetitive or tedious. It may be suggested, however, that their greatest value lies precisely in the continuity and the very routineness of the reporting. They show how the Irish rural economy operated year in, year out. It is this feature that makes possible a sustained analysis of harvest fluctuations.

II

The results of the year's harvest were generally summarized in the report for September. This was, of course, premature for the potato crop, concerning which a final assessment was sometimes not made until January. Sometimes, too, the reports for October or November revised earlier assessments of the cereal crops as more grain came onto the market. In 1835, for example, the *Northern Whig* reported in September that the produce of wheat was 'tolerably good', but in November noted that the grain crops had yielded less than previously thought. The harvest summaries occasionally overlooked the hay and flax crops, which were harvested earlier than the cereals and had been dealt with in the June or July report.

The harvest evaluations took into account not only yield, but often the acreage sown and the likely demand for the crop. From 1834 to 1837, for example, the reports for both the south-east and north-east of Ireland indicate a major shift from wheat to oats and barley.[10] In general, it is fairly easy to distinguish comments referring to the yield from those concerning other factors. It is more difficult to deal with comments which involve both the quantity and the quality of the crop. In 1827 the wheat crop in the south-east was described as of 'tolerable plenty', but as inferior in quality. Was this, on balance, an average or a deficient crop? In the analysis which follows the emphasis has been placed on the quantity dimension because comments on quality were less frequent

[9] *NW*, 1 May 1830, 2 June 1831, 30 June 1834, 2 April 1835, 1 August 1837, 1 July 1838.

[10] *NW*, 2 July 1835, 1 September 1836; *WM*, 29 September 1834, 1 October 1836, 28 September 1837.

and are more difficult to summarize, but the latter have been used to modify the quantitative assessment. The 1827 wheat crop was thus classified as below average, but not deficient.

The reports put a number on the crop yield or on its deviation from an average result in only a handful of cases. The authors seem to have had an idea of the normal yield and often described results with reference to it – 'a good average crop', 'at best an average crop', 'short of the usual quantity'. In other cases the comparisons were implicit: particularly good crops were abundant, heavy, plentiful in produce, very good or excellent. Bad ones were very light, very defective or deficient. Occasionally the current harvest was explicitly compared to previous ones.

The consistency of the language used to describe harvests has led us to allocate them to five categories: very poor, poor, average, good, very good. Very good and very poor harvests were usually quite easy to classify, since they attracted more, or more vivid, comment. Other harvests have been classified as good (those described in the reports as good, tolerably abundant, good average), average (tolerably good, pretty fair, fair) and poor (middling, light, below average). The boundaries between these intermediate categories are somewhat arbitrary and ought not to be over-emphasized. As an alternative, these three categories might be collapsed into one to produce a three-way classification of harvest outcomes.

The results of applying this five-way classification to the harvest descriptions in the *Waterford Mirror* and the *Northern Whig* are shown in Tables 1 and 2. Each crop has been rated from 1 (very poor) to 5 (very good). For the south-east the series for wheat, oats, barley, potatoes and hay are complete from 1819 to 1842. For the north-east there are some gaps in the series, notably for potatoes and flax in the mid-1820s. Cases in which classification was particularly difficult, because information was sparse or ambiguous, have been indicated by an asterisk.

TABLE 1
Harvest results in south-eastern Ireland, 1819–42

	Wheat	*Oats*	*Barley*	*Potatoes*	*Hay*
1819	1	1	3	5	4
1820	5	3	5	5	2
	4	4	2*	1	2
	4	2	1	5	4
	2*	5	3	2*	4
	5	5	5	3	4
1825	5	2	3	3	2
	3	1	1	3	1
	2*	5	4	5	5
	1	1	3	5	5
	2	3	4	3*	2
1830	2	5	4	5	4
	5	2	4	5	3
	5	1	5	5	3
	4	4	4	1	5
	2*	1	4	5	5
1835	2*	5	5	5	5
	3	4	4	3	2
	2	5	3	5	4
	1	5	5	3	3
	1	1	3	5	3
1840	4	5	4	5	1
	2	3*	3	1	3
	5	4	4	5	2
Average	3.0	3.2	3.6	3.9	3.2

Key: (1) very poor, (2) poor, (3) average, (4) good, (5) very good, (*) difficult to classify

Source: Waterford Mirror

At the foot of each column can be found the average score for the crop over the period. This is less an indicator of the general level of yields than of the reporter's optimism or pessimism about particular crops. The *Waterford Mirror*'s reporter seems to have been neither too sanguine nor too cheerless, except in the case of potatoes and, perhaps, barley. The high average for barley, which was not usually discussed in much detail, was due to the description of many crops simply as 'good', taken here to mean above average,

TABLE 2
Harvest results in north-eastern Ireland, 1824–42

	Wheat	*Oats*	*Barley*	*Potatoes*	*Hay*	*Flax*
1824	4	4	4	5	1	
1825	5	4	4		2	
	3	3			1	
	5	5	5	5	5	1
	3	1	3	5	4	5
	2	3	4	1	1	5
1830	3*	2	3	1	3	4
	4	4	3	5	1	4
	3	5	4*	4	4	4
	2	3	4	1	4	4
	3	4	4	4	3	4
1835	3	2	3	2	4	5
	3	2	2	1	1	3
	3*	5	5	1	5	2
	1	4	3	3	2	2
	1	5	4		3	2
1840	5	5	5	3*	1	3*
	2*	2		1	1	3
	4	1	5	3	1	5
Average	3.1	3.4	3.8	2.8	2.5	3.5

Key: (1) very poor, (2) poor, (3) average, (4) good, (5) very good, (*) difficult to classify.

Source: Northern Whig

though it may have meant only average. The very high average for potatoes arose because many crops were described as 'abundant' or 'excellent'. Fully fifteen of the twenty-four years were rated as very good and only three as very poor. It is possible that potatoes may have thrived in the south-east, but it seems more likely that concern for the subsistence of the poor may have led the *Mirror*'s reporter to view some average crops in a particularly favourable light.

The results for the *Northern Whig* also show averages near three, except for barley, flax and hay. As was the case in the south-east, the barley crop was often described only as 'good', thus producing a high average. Flax harvests received much greater attention, so the somewhat high average may not be a statistical artifact, but a reflection of either the observer's optimism or of particularly good harvests. The low average for hay seems to correspond to chronic difficulties with the crop, as the large number of very poor harvests indicates.

III

Affixing numbers to the various descriptions of harvest outcomes does not bring any additional credibility or precision to this source. It is just a convenient way of summarizing the information so that the covariation across crops and across regions may be investigated more systematically. The harvest reports do *not* permit us to compare the variability of one crop with that of another. That is, we cannot say that the potato crop was more likely than the wheat crop to fall short of its average yield by 10 per cent or 30 per cent or 50 per cent. But the harvest reports do permit us to inquire whether the wheat and potato crops were likely to fail or to prosper in the same year. Representing them as scores from 1 to 5 makes this easier than a long and tedious recitation of cases.

We shall compare only two series of harvest scores at a time: either the same crop in two regions or two different crops in the same region. The way in which we shall summarize their tendency to vary together is as follows: for each year we subtract the harvest score of one crop from that of the other, then square this difference. We then add up these squared differences for all the years, divide by the number of years, and take the square root of the result. This measure is analogous to the calculation of a covariance.

The most important feature of this summary statistic is that we have squared the difference in harvest scores (an alternative would have been to work with the absolute value of the difference). This means that

the more obvious divergences in harvest outcomes are given greater weight. For example, a case in which the potato crop was abundant in one region and a failure in the other is given much more weight than one in which one crop was average and the other only somewhat above or below average. The sources are likely to be less ambiguous about the former case than about the latter, so that the use of this summary statistic to detect differences in harvest fluctuations should not lead to conclusions which rely too heavily on the accuracy with which harvest descriptions have been scored.

The summary statistic must lie somewhere in the range from zero to four. If the outcomes for the two crops were in each year identical, then it would be zero. If in each year an abundant harvest for one crop was always matched by the failure of the other, then it would be four. These cases are obvious and extreme. In general, the summary statistic depends not only on whether there is a systematic relationship between the results for the two crops but also on the degree to which the outcomes for each of the crops vary from year to year. Thus it is necessary to arrive at a standard against which to judge the covariation in each case.

The standard to be used here is the value of the summary statistic that would be expected if there existed no systematic relationship between the harvest outcomes of the two crops. This value can be calculated analytically for each comparison and is the 'expected' covariation shown in Table 3. If the observed covariation is less than the expected, then the harvest outcomes of the two crops tend to be similar. If the observed covariation is greater than the expected, then good harvests of one crop tend to be matched by poor ones of the other.

These expected values are not sufficient to interpret the results in a sensible way. Even if there were, in fact, no systematic

TABLE 3
'Covariation' of Harvest Results

	Number of Cases	*Summary Statistics for Covariation*				
		Observed	*Expected*	*Bootstrap Distribution*		
				Mean	*Standard Deviation*	*90% Interval*
Across Regions						
Wheat	19	1.23	1.88	1.80	0.21	1.43–2.14
Oats	19	2.15	2.13	2.15	0.23	1.75–2.53
Barley	17	1.21	1.11	1.10	0.13	0.87–1.31
Potatoes	16	1.98	2.46	2.45	0.24	2.05–2.86
Hay	19	1.27	2.13	2.08	0.23	1.67–2.44
Across Crops						
South-east:						
Oats/ Wheat	24	2.17	2.19	2.16	0.22	1.79–2.51
Oats/ Potatoes	24	2.48	2.27	2.23	0.21	1.87–2.57
Oats/ Hay	24	1.97	2.05	2.04	0.22	1.70–2.39
Wheat/ Hay	24	2.31	1.96	1.98	0.17	1.68–2.27
North-east:						
Oats/ Wheat	19	1.67	1.80	1.85	0.18	1.54–2.11
Oats/ Potatoes	16	1.85	2.19	2.20	0.23	1.82–2.56
Oats/ Hay	19	1.96	2.18	2.08	0.20	1.76–2.37
Wheat/ Hay	19	2.03	1.97	1.99	0.20	1.65–2.29

Notes:

$$\text{Observed} = \sqrt{\frac{\sum_{t=1}^{n} (S_{1t} - S_{2t})^2}{n}}$$

where S_{1t} and S_{2t} are the harvest scores of crops 1 and 2 for year t from Tables 1 and 2 and n is the number of years shown in column (1) above.

$$\text{Expected} = \sqrt{\frac{\sum_{j=1}^{n} \sum_{i=1}^{n} (S_{1i} - S_{2j})^2}{n^2}}$$

where S_{1i} and S_{2j} are the harvest scores for crop 1 in year i and crop 2 in year j from Tables 1 and 2.

Bootstrap Distribution: one set of harvest scores was randomly reordered then the formula for the actual 'covariation' was applied. This was repeated 500 times for each relationship. The mean, standard deviation, and 90 per cent confidence interval for the resulting distribution are shown.

relationship between the results of two crops, it is still possible, though perhaps unlikely, that the results for any particular set of years would give that impression. What we need is some notion of how unlikely such a result might be. Or, to put it another way, how much credence ought we to give an observed covariation that deviates from its expected value by, say, 20 per cent?

One way to tackle this problem is by use of what statisticians call a 'bootstrap resampling procedure'.[11] All the information that we have about the variability of harvest outcomes for these crops is contained in our two sets of observations. We can investigate the possible variations in our summary statistic by holding the set of observations for one crop fixed and calculating the covariation for repeated, random reorderings of the second set. The resulting bootstrap distribution generally gives a reasonable idea of the variability of the summary statistic on the supposition that there is no systematic relation between the series.

Statistics for bootstrap distributions based in each case on 500 iterations are given in Table 3. It is reassuring that the means of the bootstrap distributions are almost always very close to the expected values. The '90 per cent intervals' show the range that contains 90 per cent of the simulated values: five per cent lie outside at each end of the distribution. We shall take this range as our criterion for belief that two series are systematically related. If the observed covariation lies outside this range, then we shall conclude that it is unlikely that we have been misled by a particular set of observations into thinking that a systematic relationship exists where in fact it does not.

What the results in Table 3 show is, first, that across regions harvest results tend to be similar. For wheat, hay and potatoes the actual values of the summary statistics are well below their respective expected values, far enough so for the hypothesis that regional yields were unrelated to be rejected easily. For oats, however, it appears that harvests in the north and the south were not systematically related.[12] The oats crop may have been less vulnerable than the wheat crop to major variations in weather that affected both regions.[13] Moreover, oats cultivation played rather different roles in the agricultural systems of the two regions. In the north-east it was the principal cereal crop. In the south-east, by contrast, higher-value wheat and barley were relatively more important. The oats crop was likely to appear later in the rotation, hence farther from the application of manure, and to receive less attention from the farmer than it did than in the north-east. These regional differences in agricultural structure may have been sufficient to counterbalance the forces which produced similar harvest results across regions for other crops.

Within each region the covariation among crops tended to be much less pronounced than the covariation across regions. Indeed, in most cases it must be concluded that harvest results for different crops were not systematically related. The major exception concerns the wheat and hay crops in the south-east, which appear to have varied inversely.[14] This would suggest that the combination of cereal cultivation with dairying or grazing, which was prevalent in the south-east before the

[11] P Diaconis and B Efron, 'Computer-Intensive Methods in Statistics', *Scientific American*, 248, 1983, 116–30.

[12] Analysis of average yields in the north-east (Counties Antrim, Armagh and Down) and in the south-east (Counties Kilkenny, Tipperary, Waterford and Wexford) after the famine gives similar results. The simple correlations across regions for the years 1856–73 were: wheat, 0.78; oats, 0.21; barley, 0.39; potatoes, 0.80; hay, 0.50.

[13] W G R Paterson (ed), *Farm Crops*, I, 1925, pp 156–7.

[14] Again the post-famine yield statistics are broadly consistent with these conclusions. The simple correlations for 1856–73 (see note 12 above) were:

	South-east	*North-east*
Oats–wheat	0.48	0.50
Oats–potatoes	0.27	0.32
Oats–hay	0.48	0.28
Wheat–hay	−0.18	0.16

famine, had the effect of reducing the variations in farmers' incomes arising from yield fluctuations.

The results for the covariation between oats and potato harvests are weaker, but quite interesting.[15] It appears that oats and potato yields moved together in the north-east, but inversely in the south-east. This suggests that by adding the potato to his crop portfolio the farmer in the south-east may have secured a large reduction in the variation of his income. His counterpart in east Ulster may have also gained from this diversification, but apparently not to the same extent. This may be another factor which might help to account for the more rapid and widespread diffusion of potato cultivation in the south of Ireland.

More broadly, the general absence of significant covariation in harvest results across crops suggests that mixed farming in pre-famine Ireland helped to stabilize farm incomes. (The inverse relationship between the wheat and hay harvests in the south-east only strengthens this conclusion.) The move toward more specialized farming after the famine may thus have led to a greater variability in incomes.[16]

IV

The harvest evaluations may also be used to pick out the particularly difficult years faced by the two regions. These may then be compared with Wilde's compilation. This is easiest to do for the potato crop, to which Wilde was particularly attentive. Only three distinct failures (1821, 1833 and 1841) and one poor crop (1823) were recorded in the south-east. This may be contrasted with the four failures (1821, 1829, 1830 and 1839) and six partial failures (1825, 1826, 1833, 1834, 1836 and 1841) reported by Wilde for the same period. Three of the failures and four of the partial failures, by which Wilde often meant regional failures, were not apparent in the south-east. The potato crop was perhaps not nearly so unreliable as it has been suggested, though it must be remembered that the evaluations of potato harvests in the *Waterford Mirror* were perhaps overly optimistic.

Results for potato harvests in the north-east are available for fewer years, but do tend to conform better to Wilde's list. Failures were reported in six years (1829, 1830, 1833, 1836, 1837 and 1841), all of which, except 1837, figure among Wilde's failures or partial failures. Only the partial failure of 1834 does not seem to have touched the north-east. On the other hand, the poor potato crop which occurred there in 1835 was not listed by Wilde. It is tempting to see the relatively high number of potato crop failures in the north-east as yet another reason for lesser reliance on the crop there.

The monthly agricultural reports do not really permit the comparison of failures across different crops. The harvest assessments were subjective, so that the variation in yield which corresponded to a poor harvest for one crop may have been significantly less than that for another crop. It is nonetheless important to note that crops other than potatoes failed frequently in pre-famine Ireland. In the south-east the wheat crop was reported as deficient four times in the space of twenty-four years, the oats crop six times, and the barley and hay crops twice each. Three reported failures of the potato crop do not seem so extraordinary in this context. In the north-east the wheat and oats crops were each said to have been deficient twice in nineteen years, and the hay crop no less than eight times in the same period. Potatoes

[15] The actual values for the covariation of the oats and potato crops do not fall in the five per cent tails of their respective simulated distributions, but they do lie in the ten per cent tails (greater than 2.48 for the south-east and less than 1.89 for the north-east).

[16] L Kennedy, 'Regional Specialization, Railway Development, and Irish Agriculture in the Nineteenth Century', in L A Clarkson and J M Goldstrom (eds), *Irish Population, Economy, and Society*, Oxford, 1981, pp 173–93.

were reported to have been deficient six times in sixteen years.

A look across the crop results shows that each region underwent several very difficult years, though rarely the same ones. In the south-east 1826 and 1841 stand out as years of generally poor harvests, with 1821, 1829 and 1839 as other candidates. In the north-east 1829, 1830, 1836, 1841 and 1842 appear to have been particularly difficult years. Both the oats and potato crops were reported as poor or deficient in 1830, 1836 and 1841, and in 1836 conditions near Belfast were made all the worse by a hay harvest said to have been 'not more than half a crop'.[17] It is thus not surprising that emigration from Ireland peaked sharply in 1837, particularly when the problems in northern agriculture were compounded by an abrupt downturn in the linen industry.

V

This article has used the monthly agricultural reports in two Irish provincial newspapers, a rich, but little-known source, to investigate harvest fluctuations in the quarter-century before the famine. The assessments of harvest outcomes made in these reports have obvious weaknesses, but some tentative conclusions may be drawn from them. First, the variations across region suggest that the discussion of harvest fluctuations at the national level must be conducted with care. Though there was covariation in the results for some crops, generally poor years in one region were not necessarily poor in the other. Second, the apparent independence of harvest results across crops within each region suggests that mixed farming may have stabilized farm incomes and that the diversification of the diet across potatoes and oats, in so far as it was possible, may have reduced the risks of distress arising from harvest failures (particularly in the south-east). Third, the potato may not have been so unreliable a staple in the immediate pre-famine years as some authors have suggested. The potato does not seem to have been noticeably more likely to fail than other crops in the south-east, though it may have been relatively more risky in the north-east.

[17] *NW*, 4 July 1836.

The Political Factor in Agricultural History: Trends in Irish Agriculture, 1922–85

By DESMOND A GILLMOR

Abstract
Agriculture in Ireland has had an unusual sequence of political contexts in the twentieth century in that it was at first under the single government of the United Kingdom, from partition of the island in 1922 it came under two separate sovereign states, and accession of both to the European Community in 1973 brought it again within a common policy framework. The effects of the changing political and economic circumstances together with other influences are investigated in this paper through analyses of the trends in farm enterprises and agricultural production in Northern Ireland and the Republic of Ireland. The farm enterprises studied comprise tillage, cows, beef cattle, sheep, pigs and poultry. Trends in the structure and volume of agricultural production are considered, and more briefly those in inputs and incomes. The trends combined indicate clearly a sequence in which divergence occurred between the agricultures of the two territories, and this was succeeded by tendencies towards convergence.

GOVERNMENTS have been a fundamentally important agency in shaping the agricultural histories of developed economies, with the overall impact of state intervention in agriculture having increased greatly in the twentieth century. The confinement of almost all studies in agricultural history to within the jurisdiction of one national government tends to camouflage the magnitude of this political effect and its variation between countries. Conversely, at a global level it is difficult to make accurate generalizations because of the great diversity which has occurred in the policies and measures of the many governments. Comparative studies between just two countries are more manageable. Even then, however, it is very difficult to assess the extent to which differences in their agricultural evolutions can be attributed to political differences, as compared with variations in other elements of the physical and human environments of farming in the two territories.

Irish agriculture in the twentieth century affords a unique opportunity to study the effect of the political factor in agricultural history. This is because farming on the island of Ireland had been subject to a single government at the beginning of the century, then political partition led to divergent policies between two parts in separate sovereign states, and later accession of both of these to the same multistate economic grouping led to convergence of policies once again. Partition occurred in 1922 with the establishment of the independent Irish Free State, which was called Eire from 1937, and since 1949 has been known generally as the Republic of Ireland. The policy context of Northern Ireland remained essentially that of the United Kingdom, although until 1972 it had a separate parliament which had power to regulate agriculture. Since Ireland and the UK joined the European Community in 1973, farming in both Irish territories has come within the framework of the Common Agricultural Policy but the earlier agricultural history has had persistent effects.[1]

[1] There is no comprehensive agricultural history book on the whole of Ireland. The fullest treatments are J O'Donovan, *The Economic History of Live Stock in Ireland*, Cork, 1940, and R D Crotty, *Irish Agricultural Production: Its Volume and Structure*, Cork, 1966. General works which include some consideration of the evolution of agriculture are J Johnston, *Irish Agriculture in Transition*, Dublin, 1951, and I F Baillie and S J Sheehy (eds), *Irish Agriculture in a Changing World*, Edinburgh, 1971. There is some treatment of agriculture in J Meenan, *The Irish Economy since 1922*, Liverpool, 1970, L M Cullen, *An Economic History of Ireland since 1660*, 1972, and M E Daly, *Social and Economic History of Ireland since 1800*, Dublin, 1981.

In this comparative study of agricultural history in Northern Ireland and the Irish Republic, the influence of government could be isolated more readily from other factors than in a normal international comparison, because of the fact that it was the same lands and peoples which were subjected to changing political environments. Furthermore there were fundamental contrasts in the values of the two governments because of the differing roles of agriculture in their economies. The more rural Republic of Ireland was heavily dependent on farming and on farm exports, whereas agriculture was a minor part of the UK urban-industrialized economy which was a major importer of food. Thus the British government could more readily support its agricultural sector, and it was more concerned about the interests of consumers. Within Northern Ireland itself, farming was much more important than in the UK in general, accounting for 26 per cent of employment in 1926, a proportion which in turn was only half that of the Irish Free State.

The differing economic contexts of the UK and the Republic of Ireland were reflected in marked contrasts in the government support available to farmers in the two parts of Ireland prior to accession to the EC, despite a tendency for differentials to narrow. In Northern Ireland there was a much greater volume of price support, and also a wider range of measures and higher level of assistance to promote production and development. Government expenditure as a percentage of the value added in agriculture for 1965–66 was sixty-three in Northern Ireland and sixteen in the Irish Republic, the values in 1970–71 being sixty-eight and twenty-eight respectively.[2] The level of expenditure per person engaged in farming in the Republic was less than one-fifth that in Northern Ireland in the mid 1960s, rising to one-third in the early 1970s. Differences between the two areas in the prices received by farmers were lessening also, those in Northern Ireland having been 19 per cent higher in the 1940s and 7 per cent in the 1960s.[3] Furthermore there was a greater degree of assurance of prices in Northern Ireland because of UK guarantee arrangements. The 1947 Agriculture Act in the UK and subsequent annual price reviews with deficiency payments to farmers had been of particular significance in accounting for the differences in state support between the two territories.

Divergence of political interests was greatest in the 1930s. This occurred after the coming to power of the Fianna Fail party with ardently nationalistic values and policies in the Irish Free State in 1932. In contrast to its predecessor, it favoured self-sufficiency in food production to as great an extent as possible, with stringent control of the home market, which became one of the most protected in the world. Exports were accorded a diminished role, and less economic dependence on Britan was sought, but with limited effect. The tendency towards trade isolationism was reinforced by an economic dispute with Britain which was precipitated by the Irish government's discontinuance of payment of land annuities arising from the programme of tenant purchase prior to independence. Retaliatory special duties and quotas were imposed by the UK on imports from the Irish Free State, with the levies on certain cattle being as high as 88 per cent. Agricultural exports from the Irish Free State to Britain halved between 1931 and 1935, while those of Northern Ireland increased by one-fifth.[4] Farmers in Northern Ireland, being within the UK,

[2] M Cuddy and M Doherty, *An Analysis of Agricultural Developments in the North and South of Ireland and of the Effects of Integrated Policy and Planning*, New Ireland Forum Sectoral Studies, Dublin, 1984, pp 15–18.

[3] S J Sheehy, J T O'Brien and S D McClelland, *Agriculture in Northern Ireland and the Republic of Ireland*, Co-operation North Paper 3, Dublin and Belfast, 1981, pp 15–17.

[4] D S Johnson, 'The Northern Ireland Economy, 1914–39', in L Kennedy and P Ollerenshaw (eds), *An Economic History of Ulster, 1820–1940*, Manchester, 1985, p 189.

continued to have free access to the British market.

Despite these contrasts, some difficulties were encountered in assessing the political effect, and some of these would arise in any comparative study. The long history within one political unit, and the propensity for agricultural policy to have continuity through aggregation over time, together lessened the likelihood of policies in the two parts of Ireland diverging on partition. The strategies devised by the Irish Department of Agriculture and Technical Instruction established in 1900 had lasting effects,[5] though this was most influential in the 1920s when its approach was very similar to that applying in Northern Ireland. Deviation in policies between the two territories was also reduced by the extent to which the interrelationships between the economies of Ireland and the UK survived political division, including the high level of Irish dependence upon the British market. Also it was not always easy to determine the extent to which divergent trends could be attributed to government measures because these did not necessarily elicit the anticipated responses from farmers, and they were far from being the only factor shaping agricultural change. Discordance in the nature of the statistics between the two territories and over time also hindered comparisons. Furthermore data relating to production and trade were distorted by the extent of smuggling which the border generated, the amount and direction of this unrecorded movement fluctuating with changes in government measures, prices and exchange rates.[6]

Even within the small area of Ireland, there were differences between the two territories in some of the other variables to which farmers were subject, and in the characteristics of the farmers themselves, together with internal regional variations in agriculture.[7] The nature of the land tenure system is thought to have had particular significance as a retardative influence on Irish agricultural development.[8] Decline over the period 1931–80 in the number of agricultural holdings exceeding 5 acres was twice as great in Northern Ireland (−42 per cent) as in the Republic of Ireland (−21 per cent). This reduced the differential in the average area of crops and pasture per holding, which by 1980 was 48 acres in the Irish Republic and 42 acres in Northern Ireland. In addition, there is more short-term letting of land on the conacre system in Northern Ireland, 18 per cent as compared with 7 per cent in the Irish Republic, serving to increase the operational size of holdings. A comparison on this basis indicates that the mean total size of holding is 63 acres in Northern Ireland and 56 acres in the Republic of Ireland.[9]

The decline in the agricultural labour force was much greater than that in the numbers of holdings but the differential between the two territories was less, the rates over the period 1926–81 being −80 per cent in Northern Ireland and −71 per cent in the Irish Republic. Different trends over this period in the age structures of the agricultural labour force are indicated by a decrease in the percentage aged over 60 years from 22 to 16 in Northern Ireland but an increase from 21 to 26 in the Republic of Ireland. The proportions of farmers and farm managers aged over 60 in 1981 were 19 per cent in Northern Ireland and

[5] D Hoctor, *The Department's Story: a History of the Department of Agriculture*, Dublin, 1971.

[6] One sector of smuggling was examined in D S Johnson, 'Cattle Smuggling on the Irish Border 1932–38', *Irish Economic and Social History*, VI, 1979, pp 41–63.

[7] Regional patterns of farming and aspects of their evolution are discussed in L Symons (ed), *Land Use in Northern Ireland*, 1963, and D A Gillmor, *Agriculture in the Republic of Ireland*, Budapest, 1977. Irish agricultural distributions are shown in L D Stamp, *An Agricultural Atlas of Ireland*, 1931, and A A Horner, J A Walsh and J A Williams, *Agriculture in Ireland: a Census Atlas*, Dublin, 1984.

[8] Crotty, *op cit.*

[9] Statistical Office of the European Communities, *Community Survey of the Structure of Agricultural Holdings 1979/1980*, Luxembourg, 1985.

31 per cent in the Republic. These data suggest greater mobility of land ownership in Northern Ireland and, related in part to this, more favourable trends in demographic structure. These differentials seem likely to have had some influence on the relative performances of the two territories in agricultural development. However, the available data do not permit fully comprehensive comparisons of their trends in farm ownership and demographic characteristics, and it would not be possible to measure the effects of the differences between the two on agricultural production.

Agricultural development in the two territories is compared in this paper by analysing trends in crop areas and livestock numbers, and in agricultural production.[10] The base year against which change is measured is taken as 1926. This is because of the reliability of the data for the first complete agricultural census for the whole of Ireland after partition, and because there had been violence and unsettled economic conditions in the early 1920s. In the later parts of the paper, comparisons are made between the periods before and after 1960. This year corresponds approximately with what is recognized as the watershed in the modern agricultural and economic development of the Irish Republic, when major transformation began.[11]

I

The most important trend in Irish agricultural land use has been the tendency under normal circumstances for the area of arable

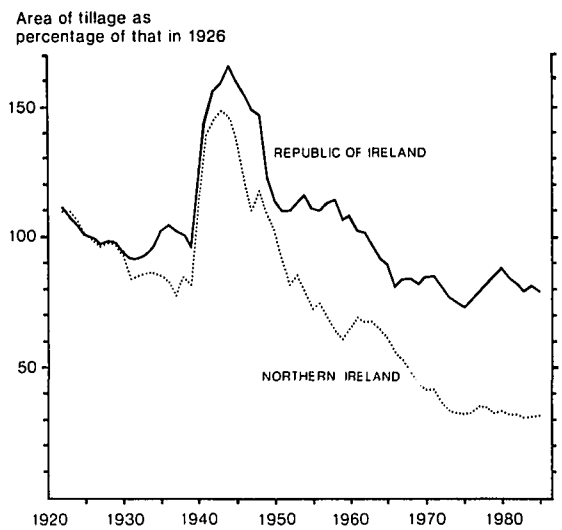


FIGURE 1
Trends in the areas of tillage, 1922–85

crops or tillage to decline. The mild and moist climate and the nature of the soils, combined with the influence of traditional practices, market outlets and price trends, have been much more favourable towards pastoral farming. With grain available from places where its comparative advantage was greater, Irish farmers tended to revert more to livestock production. Tillage occupied only 13 per cent of the agricultural land in the Irish Free State in 1926 and 23 per cent in Northern Ireland.

The similar downward trends in tillage in both territories under the free trade conditions of the 1920s were a postwar reversion to earlier tendencies (Fig 1). The marked divergence which occurred in the 1930s resulted from encouragement given to tillage by the government of the Irish Free State as part of its self-sufficiency strategy, and its effort to maximize rural employment.[12] The onset of the Second World War and associated compulsory tillage orders brought dramatic increases in

[10] The data used throughout this paper, including the compilation of the graphs and tables, were based on the official annual agricultural statistics issued by the Central Statistics Office, Dublin and the Department of Agriculture, Belfast. The statistics did not distinguish precisely between dairy and beef cattle, so that the number of milk cows was taken to represent the dairy enterprise and the number of other cattle depicted beef production.

[11] Meenan, *op cit*; D A Gillmor, *Economic Activities in the Republic of Ireland: a Geographical Perspective*, Dublin, 1985; J W O'Hagan (ed), *The Economy of Ireland: Policy and Performance*, Dublin, 1987.

[12] L O'Nuallain, 'A Comparison of the Economic Position and Trend in Eire and Northern Ireland', *Journal of the Statistical and Social Inquiry Society of Ireland*, (hereafter JSSISI) XVII, 1945–46, pp 513–14.

both areas. These had a continuing influence as a time-lag effect on the downward trends which were re-established with the return to peacetime conditions. The Republic of Ireland retained the differential over Northern Ireland initiated in the 1930s, even though its agriculture had not been reoriented to the extent that the government had intended. The acreages of arable crops later stabilized in both territories under the protected market and price regime of the EC.

The main differences between the two parts of Ireland in individual crop trends date from the 1930s but the effects were persistent. The introduction of protection and subsidy for wheat production in the Irish Free State led to its price being double the world level by 1936. The area increased from 20,800 acres in 1931 to 255,300 acres by 1939, and a wartime peak of 662,500 acres in 1945, which was the largest area of wheat since agricultural statistics began in the 1840s.[13] Although decline to one-seventh of this acreage occurred by 1985, wheat remained much more important than in Northern Ireland. Legislation provided for the use of domestic grain in the manufacture of flour and animal feedstuffs. The wartime tillage effort was directed proportionately more towards providing food for direct human consumption than for feeding livestock as compared with Northern Ireland.[14] A sugar manufacturing industry was inaugurated by the Irish Free State in the 1920s, and greatly expanded by a semistate company under protection in the 1930s. Thus the area of sugar beet grew from nothing to over 80,000 acres, whereas none was grown in Northern Ireland. There was also protection for growers of fruit and vegetables but the advent of free trade conditions within the EC resulted in major decline in the area of horticulture.

[13] F S Lyons, *Ireland since the Famine*, 1973, p 623.
[14] L P F Smith, 'Recent Developments in Northern Irish Agriculture', *JSSISI*, XVIII, 1948–49, p 149.

II

Trends in the important livestock enterprises have differed from those in arable cropping in that the performance of Northern Ireland has been relatively higher than that of the Republic. Yet there was closer correspondence between the two territories in the trends in milk cows than in tillage. The only significant differences in cows were expansion in Northern Ireland in the 1940s and a somewhat earlier and greater growth there in the 1960s. Numbers increased by over one-quarter as a result of the priority and financial incentives given to milk production in the UK during the Second World War but the gain was lost rapidly in the early 1950s. At the end of the decade the cow herds in both parts of Ireland were only the same as at the time of partition but rapid expansion began then. This was aided by huge financial support of the dairy industry by both governments. A large part of state expenditure on agriculture in the Irish Republic went to milk production, which was actively promoted by the farm advisory service. Record numbers of cows were reached in both areas in 1974, from which decline occurred because of a crisis in the cattle trade then, followed by agricultural recession in the late 1970s and early 1980s. The number of cows in 1985 was 108 per cent above that of 1926 in Northern Ireland and 76 per cent in the Republic of Ireland.

The beef cattle industry is the leading branch of Irish farming, so that its trends are of major significance to the country's agricultural history. There have been generally rising numbers of cattle over the period under consideration, except towards its beginning and end, but with divergence between the two territories which was initiated in the 1930s (Fig 2). The higher rate of growth in Northern Ireland in the 1940s was made possible by the wartime expansion of the breeding herd there. Examples of features felt in both areas and reflected in the graphs

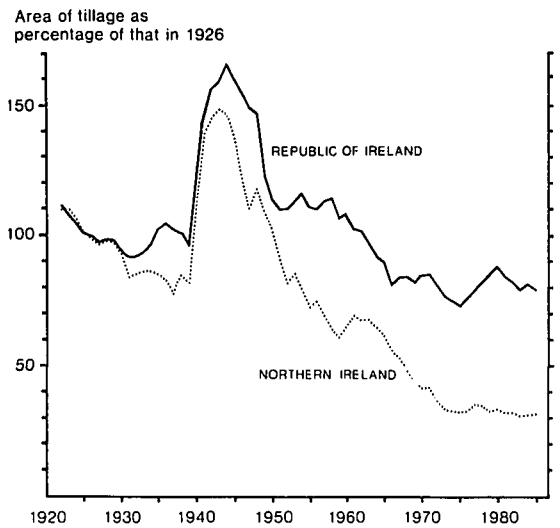


FIGURE 2
Trends in the numbers of beef cattle, 1922–85

included the difficult market conditions of the 1920s, high mortality because of very wet weather in 1924,[15] the effects of the crisis in the cattle trade in 1974–75, and the later agricultural recession. The growth in the number of cattle prior to 1960, while the breeding herd was generally static, was made possible by reduction in the mortality of calves.

The economic war and discouragement of the export-oriented cattle industry in order to promote agricultural self-sufficiency had severe repercussions in the Irish Free State, a short-lived bounty on calf skins even being used to curtail numbers. Between 1931 and 1936 the number of cattle declined by 5 per cent, while it increased by 17 per cent in Northern Ireland. Growth there reflected the imposition of restrictions on beef imports to the UK in 1932, cross-border smuggling from the Irish Free State, and the introduction in 1934 of a direct subsidy on fat cattle. This scheme and its later extension not only encouraged the expansion of cattle numbers in Northern Ireland but also promoted a shift towards finishing cattle in the area rather than shipping store cattle to Britain. Some of the benefit from the UK fatstock guarantee payments accrued to farmers in the Irish Republic, as the subsidies applied to cattle from there after a minimum period spent on farms in Northern Ireland or Britain. Nearly half of the beef finished in Northern Ireland was at times derived from store cattle imported from the Republic.[16] This contributed to the number of cattle recorded in Northern Ireland, and it indicated a degree of complementarity between farms in the two territories. Indirectly it retarded the development of the meat processing industry in the Irish Republic, where the trend towards finishing of stock was delayed as a result of it. There were other aids to cattle production in Northern Ireland, such as calf and hill cattle subsidies, and the beef industry was emphasized by the state more strongly relative to dairying than in the Irish Republic. Schemes were introduced in the Republic from the 1960s but at a lower level of support.

The farm enterprise on which the political differences between the two parts of Ireland showed least effect was sheep production. Numbers declined in the Irish Free State during the difficulties of the livestock sector in the 1930s, while they increased substantially in Northern Ireland, but thereafter the fluctuations in the two areas matched each other almost precisely. These reflected changing market conditions, and also the competition with other enterprises which resulted from the fact that on lowland farms sheep were a subsidiary activity. Thus numbers diminished during the wartime conditions, when sheep gave way to tillage. Decline was greater in Northern Ireland where there was additional competition for land from

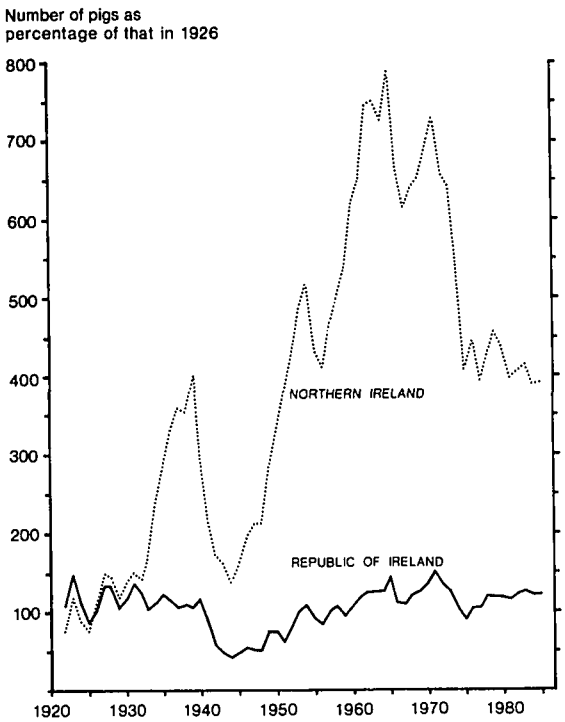
[15] R O'Connor and C Guiomard, 'Agricultural Output in the Irish Free State Area Before and After Independence', *Ir Ec Soc His*, XII, 1985, p 97.

[16] Symons, *op cit*, p 50.

the expanded cow herd. The mountain flocks in both territories suffered under exceptionally severe weather conditions in the winter of 1946–47. Sheep numbers then rose steeply to peaks in the early 1960s under favourable trading circumstances and government grants to production in upland areas, first in Northern Ireland, and later in the Republic. The decline which followed was mainly on the lowlands, where sheep gave way to the expanding dairy and beef herds. The industry suffered from comparative lack of state support and technical advance relative to other farm enterprises. The political context changed within the EC when Irish lambs were given preferential access to the French market in 1977, a common sheep policy was adopted in 1980, and milk production was curtailed. Sheep numbers rose steeply from the late 1970s, with the response to the new situation being earlier and much greater amongst Northern Ireland farmers. The number there in 1985 was 200 per cent above that in 1926, compared with 33 per cent in the Irish Republic.

The enterprise in which trends in the two parts of Ireland differed most strikingly was pig production (Fig 3). After similar fluctuations in the 1920s, rapid divergence began in the 1930s. By 1939 the number of pigs in the Irish Free State was little above that of 1926, while that in Northern Ireland was three times greater. In the peak year of 1965 the pig population of Northern Ireland had increased by 688 per cent on the 1926 level but that of the Republic of Ireland by only 43 per cent. Despite subsequent major decline in Northern Ireland, and the large expansion which had occurred in the Republic over the period 1944–71, the industry remained at a much higher level in Northern Ireland by the 1980s.

One major reason for the contrasting fortunes of pig production in the two territories was differential access to feedstuffs. The protection of domestic grain growing in the Irish Free State which began in the



Trends in the numbers of pigs, 1922–85

1930s resulted in high feed costs for pig producers, and also in the early decades there was much use of food grown on the same farms. Pig producers in Northern Ireland relied predominantly on imported feedstuffs which were available at low world prices. The disruption of these supplies during the Second World War caused abrupt but temporary decline in the industry, and it also had some influence on the fall in numbers in the Irish Free State. Subsequently the advantage of Northern Ireland's access to comparatively cheap feed was exploited even more fully. The decline of the industry there can be attributed mainly to deterioration in the input situation as the costs of feedstuffs rose. This occurred initially through the establishment of a floor price for grain within the UK in the 1960s but much more so after accession to the EC with its protected cereal markets. Within the UK there was a shift of competitive advantage to British producers because of their lower feed costs, being closer to sources. Pig producers in

the Republic of Ireland were also affected by the price-cost squeeze of the early 1970s but they had less to lose in comparison with their northern counterparts.

Other factors contributed to the relative success of pig production in Northern Ireland. Its status within the UK was a major advantage, affording free access to the British market and the assurance of guaranteed prices. The establishment of a marketing board and scheme for pigs in 1933 under the Northern Ireland Agricultural Marketing Act resulted in organization and stabilization of the market. This contributed considerably to the initial expansion of the industry in the 1930s, and it gave Northern Ireland producers an advantage even over those in Britain. The small size of farm holdings was an incentive to adopt intensive enterprises such as pig production. The characteristics of hard work and enterprise which farmers in Northern Ireland exhibit were an important asset. The capital investment, trade linkages, momentum, and skills which had been established enabled the industry to continue at a higher level than that in the Irish Republic, even after some of its other comparative advantages had ceased in the 1970s.

The development of the poultry industry in Northern Ireland was favoured over that in the Republic of Ireland by relative advantages similar to those which affected pigs, comprising principally price support, cheap feedstuffs, and organized marketing. Poultry numbers had increased there in the 1920s and 1930s but the major expansion was a doubling during the 1940s. This was in response to the favourable UK market situation during and immediately after the Second World War. Growth was made possible through use of fodder grown on the farms as part of the expanded tillage programme. Numbers fell subsequently as domestic production in Britain expanded. Increases occurred again in the 1960s because of the development of a major broiler industry based on the use of imported feedstuffs. The increased costs of these initiated decline from the early 1970s.

The trend in poultry numbers in the Irish Free State diverged from that of Northern Ireland in the early 1930s, and there was gradual decline over the following half century. The exception was growth in the late 1940s in response to British demand and government promotion, and then rapid decline in the early 1950s as this market diminished and prices fell. The subsequent decrease in numbers resulted mainly from the efficiency of modern intensive management systems as compared with the preceding farmyard flocks, so that increasing production to supply the expanding home market was achieved from a diminishing national flock. By 1985 the number of poultry in the Republic of Ireland was only 42 per cent of that in 1926, as compared with 127 per cent in Northern Ireland.

III

The diversity amongst the individual farm enterprises in their historical trends, and between the two parts of Ireland led to differential changes in the structure of agricultural production, as measured by the contributions to the value of gross output (Table 1).[17] Yet the overall orientation of farming in both areas retained a basic similarity in that it was predominantly livestock production on a commercial basis. The resemblance was to be expected given their shared island location, largely common historical evolution prior to partition, and similar physical environment, though with regional variation. This inherent similarity facilitates recognition of the differential impacts of the two political contexts.

[17] Gross agricultural output is that part of production which is sold off farms or consumed by farm households. Estimates of output in the mid 1920s were made in Northern Ireland for 1925 and in the Irish Free State for crops in 1926 and livestock in 1926–27, so that for convenience all are referred to here as being for 1926.

TABLE 1
Percentage Structure of the Value of Gross Agricultural Output

Farm enterprise	*Northern Ireland*			*Republic of Ireland*		
	1926	*1960*	*1985*	*1926*	*1960*	*1985*
Tillage	21.6	9.1	6.6	14.6	20.4	11.3
Milk	19.4	17.0	27.8	24.1	23.1	36.5
Cattle	23.2	21.1	40.8	24.3	30.3	38.8
Sheep	4.3	5.8	4.1	5.0	7.0	4.0
Pigs	9.3	28.3	10.5	16.0	11.4	5.7
Poultry	22.3	18.7	10.2	15.9	7.7	3.7
Index of specialization	0.20	0.20	0.27	0.19	0.21	0.30

Over the period 1926–60, the consequences of division into separate states, and the resultant differential advantages conferred on individual enterprises, were most evident with respect to the divergent trends in tillage, and in pig and poultry production (Table 1). The role of crop production diminished by more than one-half in Northern Ireland, while expanding substantially in the Republic of Ireland. Conversely, that of pigs trebled in Northern Ireland but declined in the Republic. Although the relative contribution of poultry lessened in both areas, the decline by half was much greater in the Irish Republic. The farmyard enterprises of pig and poultry production together had accounted for more than one-half of the value of Northern Ireland agricultural output in 1950 and, although the role of poultry then lessened, their combined 47 per cent of output in 1960 contrasted with the decline to 19 per cent in the Republic of Ireland. The leading role of cattle production was further strengthened in the Republic. The overall consequence of change during the period 1926–60 was for the agricultural structures of the two parts of Ireland to become substantially less similar. This was measured by the index of dissimilarity, which more than doubled by increasing from 13.3 in 1926 to 27.9 in 1960.[18] With respect to every enterprise, the difference in percentage shares between the two territories increased between 1926 and 1960.

In contrast, the striking feature of enterprise change over the period 1960–85 was the distinct trend towards convergence in the output structures of the two territories (Table 1). A complete reversal occurred in the index of dissimilarity, which diminished from 27.9 in 1960 to 13.4 in 1985. Convergence resulted from the pronounced tendency towards specialization in cattle and milk production, and decline in the other enterprises. The direction of shift in all sectors was the same in both areas, and the difference in percentage share between the two territories lessened in all except milk production. The dairy and beef industries were favoured by high levels of government support, expanded market opportunities and favourable price trends, especially within the context of the EC. Although relative growth was greater in Northern Ireland, particularly in cattle production, the combined level of dominance by the beef and dairy enterprises in 1985 was higher in the Irish Republic. Their 75 per cent of the total value of farm output there represented the attainment of a high degree of product specialization. The difficulties in the pig and poultry industries had led to a decline in their combined contribution to Northern Ireland output to 21 per cent, though this was still more than twice the level in the Irish Republic, reflecting historical influences. The greater concentration of farm enterprises was measured by the index of specialization, which had remained almost constant over

[18] The index of dissimilarity for the two areas in any year is the percentage of output which would have to be reapportioned amongst the individual enterprises to enable precise correspondence between the output structures of the two territories. It was found by adding the differences between the two areas in the percentage shares of output contributed by each enterprise and dividing the sum by two. Thus the index of dissimilarity measures the extent to which the two areas differ in their output structures; an index of 0 would indicate complete correspondence and a value of 100 would show total divergence.

the previous period but increased substantially in both areas between 1960 and 1985.[19]

IV

Change occurred not only in the structure of agricultural output but also in the total volume of production, as was suggested by the trends in the individual enterprises. Because of the extent to which livestock dominated Irish farming, the trend in their aggregate numbers was used as a consistent indicator of the changing intensity of agriculture (Fig 4). The different categories of livestock were equated in terms of livestock unit equivalents.[20]

The numbers of livestock units in the two parts of Ireland followed similar trends under the generally common circumstances of the 1920s but there was marked divergence subsequently. This aggregate production tendency accords with the findings reported earlier in respect of many of the individual enterprises, in that differences in agricultural trends between the two territories did not begin with the political partition of the country, but from the early 1930s with the contrasts in policies between the two governments and the economic war. Some differences were accentuated during the Second World War. Livestock production in Northern Ireland

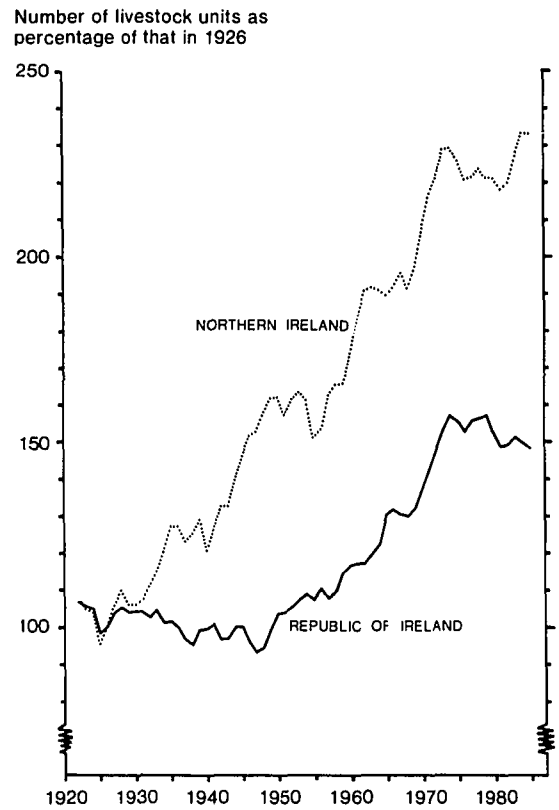


FIGURE 4
Trends in the total numbers of livestock units, 1922–85

expanded in the 1930s and 1940s as part of UK agriculture, favoured by market growth and protection, and by government support and wartime conditions. The temporary setback in the early 1950s was a result of the postwar decline in the numbers of cows and poultry. Total production in the Irish Free State suffered severely under the policies and economic conflict of the 1930s. This included the effects of the emphasis on tillage which was contrary to comparative advantage. By the late 1940s the number of livestock units was less than in 1926. Growth there in the 1950s was mainly on land released by decline in the number of working horses, so that only in 1960 did the number of all livestock units exceed that at independence. This lends support to recognition of 1960 as a date of demarcation. The Republic of Ireland had lost considerable ground, and

[19] The index of specialization for an area in a particular year was calculated by squaring and summing the individual enterprises' shares of total gross output, given unit value. The index would have a maximum value of 1.00 if the entire output were contributed by one enterprise, and, where six enterprises are being considered, the minimum value would be 0.17 if output were equally distributed amongst the six enterprises.

[20] Absolute numbers of animals would be an inadequate basis for comparison of the different categories of livestock, as the various types and ages of animal differ greatly in size and requirements. The most satisfactory method of equating the categories is on the basis of food consumption, in terms of livestock units. The system of livestock unit equivalents used here was that given in D A Gillmor, 'Spatial distributions of livestock in the Republic of Ireland', *Economic Geography*, XLVI, 1970, p 588. Horses were omitted from the computations, as they were from the investigation of individual trends, because their direct contribution to output was small and appropriate data were not available for all years.

the 1930s had a long-lasting effect on its agriculture.

Subsequent trends in livestock units in the two territories were much more comparable but with maintenance of the differential which had arisen (Fig 4). Improved conditions in the economy of the Irish Republic, and increased government support there contributed to agricultural modernization in the 1960s. Greater access to the British market and the prospect of membership of the EC provided stimuli to expansion.[21] Measured against its smaller base, the rate of growth was greater than in Northern Ireland. Adverse economic influences which later affected livestock unit trends in both areas included the cattle market crisis in 1974–75, and cost-price squeeze and recession towards the end of the decade. Recovery occurred only in Northern Ireland.

The growth in livestock units over the period 1926–85 was 131 per cent in Northern Ireland and 48 per cent in the Republic of Ireland. This expansion and the difference in it were only in small part related to decreases in arable cropping; the percentage of the agricultural land under tillage declined from 23 to 9 in Northern Ireland and from 13 to 11 in the Irish Republic. The increased intensity of land use was indicated by the growth in the number of livestock units per acre of crops and pasture from 0.27 to 0.74 in Northern Ireland and from 0.32 to 0.51 in the Republic of Ireland. Even if pigs and poultry were omitted from the calculations, the data would show that much more intensive use of land had developed in Northern Ireland.

The trends in livestock numbers and tillage areas indicated only part of the growth in agricultural production, as they did not show the increased productivity of the animals and crops. This included higher milk, egg, and crop yields, and more rapid turnover of poultry, pigs, cattle and sheep. The changes in the volume of outputs of the principal individual commodities are shown in Table 2, though the data may not have been precise, not all were strictly comparable, and some were distorted by smuggling. The contrasts between the two periods are again evident. In 1926–60, decline occurred in only one commodity in Northern Ireland compared with five in the Irish Republic. The rate of growth was higher in Northern Ireland in all commodities except the arable crops. In 1960–85, decline occurred in four commodities in Northern Ireland, and three in the Republic of Ireland. The rates of change were much more comparable between the two areas than in the earlier period, with the increase being greater or decrease less in six commodities in the Republic, and three in Northern Ireland. The individual commodities differed greatly in their importance to farmers in monetary terms, and this can be allowed for in part by computation of an index of growth.[22] The value of this index for the period 1926–60 was +149 in Northern Ireland, and only +9 in the Irish Republic. In the period 1960–85, it was +30 in Northern Ireland, and +71 in the Republic, reflecting the change in relative agricultural growth in the two parts of Ireland. The relative performance of Northern Ireland in the second period reflected the measurement of growth against its much higher base, together with the decline of its important pig and egg production, which enabled the Irish Republic to make up some of the leeway that had arisen in the earlier period.

[21] Department of Agriculture and Fisheries, *Report of the Committee on the Review of State Expenditure in Relation to Agriculture*, Dublin, 1970; D A Gillmor, 'Aspects of Agricultural Change in the Republic of Ireland during the 1960s', *Ir Geo*, VI, 1972, pp 492–8.

[22] The index of growth is based on enterprises' rates of change in volume of output and their contributions to the total value of gross output. The index for a particular period was calculated by multiplying each commodity's percentage share of output value at the beginning of the period by its percentage change in volume over the period divided by 100, and then summing all the products while taking the positive or negative direction of change into account.

TABLE 2
Percentage Changes in the Volume of Gross Agricultural Output by Commodity

Commodity	*Northern Ireland*		*Republic of Ireland*	
	1926–60	*1960–85*	*1926–60*	*1960–85*
Milk	+55	+122	−4	+116
Cattle	+39	+66	+22	+69
Sheep	+324	−2	+41	+39
Wool	+166	+30	+23	−16
Pigs	+876	−33	−14	+44
Poultry	+126	+493	−39	+312
Eggs	+159	−21	−35	−14
Grain	+161	+10	+201	+106
Potatoes	−27	−21	−24	−21
Sugar Beet			+987	+38

In order to assess the relationships and growth in farm production as a whole in another way, aggregate gross agricultural output values were compared, though these data were limited. The official statistics indicate that gross output per acre of crops and pasture in the Irish Republic expressed as a percentage of that in Northern Ireland was 75 in 1926, 32 in 1960 and 55 in 1985. Relationships in output per person employed in agriculture were similar. Estimates suggested that the volume of output had more than doubled over the first forty years in Northern Ireland but that in the Irish Free State by 1951 it had increased by only 5 per cent on the 1926 level.[23] Gross output in real terms then doubled in the Irish Republic between the years 1960 and 1985. Differences in data hinder comparisons with Northern Ireland but the recent rate of growth in output was only about half that of the Republic. These comparisons indicate that the growth in production began earlier in Northern Ireland, and that after 1960 the differential in levels of output narrowed.

[23] H J Schemilt, 'Adjustments in Family Farming in the Northern Ireland Economy', *J Agric Econ*, XVI, 1964, pp 57–8; E A Attwood, 'Agricultural Developments in Ireland, North and South', *JSSISI, XXI*, 1966–67, p 12. Estimates for the Irish Free State in earlier decades, in O'Connor and Guiomard, *op cit*, p 95, showed that the volume of gross output in 1938/39 was 6 per cent less than in 1912/13 but a comparable series is not available for Northern Ireland.

The expansion in agricultural production was obtained from an almost constant land base by a much reduced labour force using greatly increased capital inputs. The dearth of data on capital inputs hinders comparisons over time. Extensive farm mechanization was the most obvious feature of the substitution of capital for labour and horses. The number of tractors per 1000 acres in 1960 was 14.7 in Northern Ireland and only 3.9 in the Republic of Ireland; by 1980 the numbers were 23.4 and 12.5 respectively. A higher rate of recent growth in the Republic also characterized fertilizer use but yet by 1985 the level of application was still one-half greater in Northern Ireland. Similar trends and differences applied to the use of purchased feedstuffs for livestock, and to the construction and modernization of farm buildings. The earlier capital intensification and technological change in Northern Ireland agriculture were facilitated by its more stable market context, and by greater state support, both boosting the confidence of farmers. Government policy and measures there gave more active encouragement to investment of capital, and to increasing productivity than in the Irish Republic. With the improvement in the environment for farming in the Republic from 1960, and its more commercial orientation, the rate of growth in input use was greater there. Yet capitalization remained higher in Northern Ireland, partly because of the significance of pig and poultry production. Input costs amounted to 64 per cent of gross output value in 1985 there and to 47 per cent in the Republic of Ireland. In addition to being more capitalized, farms in Northern Ireland had reached higher levels of specialization and concentration of enterprises.

The trends in agricultural incomes in the two territories varied with the prices of outputs and inputs, and with the levels of government support. The comparisons which researchers have made were hin-

dered by data variations, and they differed by the time period, and the interpretations of the individual authors.[24] The conclusion must be, however, that the comparative advantages of farming in the two areas altered with the internal and external relationships of the changing political and economic framework. From the 1930s to the 1960s, agricultural development and incomes were appreciably higher in Northern Ireland, being favoured by membership of the UK. Farming in the Irish Republic had been almost static in many respects until the 1960s but then the expansion of other sectors of the economy, the anticipation and realization of EC membership, and the substantial real increases in agricultural prices which occurred in the 1970s brought rates of growth exceeding those in Northern Ireland. The ratio of income to output was higher in the Republic of Ireland because of its lower level of capital inputs. Both parts of Ireland suffered in the agricultural recession from 1979, with farmers' incomes falling in real terms to less than those on accession to the EC and far below the level in other economic sectors.

V

The changing political and related economic circumstances in the two parts of Ireland since 1922 resulted in differential trends in individual farm enterprises, and consequently in the structure and amount of agricultural output between the two territories. The nature and extent of the differences varied by enterprise, and over time, but it has been demonstrated that the overall tendencies were towards divergence at first, and then towards convergence. There was a high degree of agreement between the various trends in indicating this sequence. Yet the initiation of these tendencies did not correspond precisely with the political events of partition in 1922 and accession to the EC in 1973.

The close correspondence between trends in the Irish Free State and Northern Ireland in the 1920s reflected the fact that there had been no abrupt change in the market environment or agricultural policy, as both governments continued to follow essentially *laissez-faire* approaches, and those measures which they applied were similar. Divergence came instead in the 1930s with political change and autarky in the Irish Free State, and with import market controls and subsidization of farming in the UK. These led to a major gap in productivity and had persistent impacts on the differentials in Irish agriculture.

The movement towards convergence predated but was accelerated by accession to the EC, and it can be traced to about 1960. The farm sector in the Republic of Ireland began to benefit from the major growth and transformation in the economy, and from the associated greatly increased exchequer support of agriculture. Then the prospect and realization of EC membership afforded important stimuli, as agriculture in the Irish Republic had much more to gain than in Northern Ireland because of its previous relative disadvantage in market access and prices, and in financial support. Its more rapid development led to a narrowing of the differences between the two territories, though disparities have not been eliminated.

Limits to agricultural expansion in both parts of Ireland are now being imposed within the EC in order to curtail its surplus production and cost of support. This was

[24] Smith, *op cit*, pp 143–60; Attwood, *op cit*, pp 9–34; L Symons, 'Rural Land Utilisation in Ireland', in N Stephens and R E Glasscock (eds), *Irish Geographical Studies in Honour of E. Estyn Evans*, Belfast, 1970, pp 259–73; Sheehy, O'Brien and McClelland, *op cit*; G W Furness and T F Stainer, 'Economic Performance in Agriculture in Northern Ireland and the Irish Republic', in Department of Agriculture, *Annual Report on Research and Technical Work*, Belfast, 1981, pp 57–9; E A Attwood and M O'Sullivan, 'Some Aspects of Agricultural Development in Ireland North and South since Accession to the EEC', *Agric Econ Soc Ir Proc 1983–84*, pp 137–72; Cuddy and Doherty, *op cit*; J M Whittaker and J E Spencer, *The Northern Ireland Agricultural Industry: Its Past Development and Medium Term Prospects*, Belfast, 1986.

done first and most significantly for Ireland through the quotas specified under a milk super-levy introduced in 1984, with heavy penalization should output exceed ceiling levels. Such quotas circumscribe production regardless of physical capacity or historical differentials. Despite the intensification of Irish agriculture which has occurred, there is still considerable inherent potential for more productive use of the land, especially in the Republic of Ireland.[25] Because of the major retardation in its growth historically, the Republic is being curtailed at an earlier stage in its farm development than is Northern Ireland. Within the UK, Northern Ireland is disadvantaged in relation to more advanced regions. The differential implications of EC curtailment are even more evident when Irish farming is compared with the highly developed and intensive agriculture of countries such as the Netherlands. There is no general consideration given to past trends or allowance for differential stages of development in the setting of production ceilings. This is an example of where agricultural history can have lasting effects, and should be relevant to the formulation of modern agricultural policy.

[25] J Lee and S Diamond, *The Potential of Irish Land for Livestock Production*, Dublin, 1972.

The Agrarian History of Spain, 1800–1960*

By JOSEPH HARRISON

UNTIL the 1960s more Spaniards worked on the land than in either industry or the service sector. Yet for a variety of reasons, not least a dearth of reliable statistical sources, fewer historical studies appeared on agriculture than other sectors of the economy. At a conference held at the *Fundación Juan March* in Madrid in 1977 a start was made to rectify this glaring anomaly. Among other matters, the participants, who included many young researchers, set out an agenda for future investigations. At the top of their list were property rights, the means of production, techniques used along with the quantitative results of exploitation and the commercialization of production.[1] Over the following decade, the findings of these and other scholars saw light in a number of articles and books. For agricultural historians interested in Spain, the journals *Agricultura y Sociedad, Estudis d'Història Agraria, Recerques, Moneda y Crédito* and the *Revista de Historia Económica* have become required reading, while the Bank of Spain, the Ministry of Agriculture and the *Instituto de Estudios Fiscales* have published important monographs and collections of articles.[2] Not surprisingly at a time of political devolution, a rekindling of interest in regional topics has led to many important local studies.[3] However, without doubt, the greatest contribution to Spanish agricultural history in the modern period is the three volume work *Historia agraria de la España contemporánea* which came out in 1985 and 1986. It would be impossible to produce a survey article on recent writings in Spanish agricultural history without frequent references to this invaluable collection of articles.[4]

Stagnation or Growth?

There is widespread agreement that throughout the nineteenth century and beyond the Spanish economy grew less rapidly than those economies to the north of the Pyrénées. According to the estimates of Gabriel Tortella, income per capita in nineteenth-century Spain rose by as little as 0.5 per cent per annum, between a quarter and a half of the average for the more advanced European economies.[5] Further evidence of Spanish economic backwardness at this time is provided by the country's low level of urbanization. In 1900, for example, only nine per cent of the population lived in towns with more than 100,000 inhabitants. The corresponding figure for 1930 was 15 per cent. Vicente Pérez Moreda's studies of the Spanish population between 1797 and 1930 reinforce the view of the immobilism of the Spanish economy before 1910. In quantitative terms, agriculture accounted for more than half of the

* The author wishes to thank the British Academy and the Leverhulme Foundation for research grants to work on the economic history of modern Spain.

[1] Gonzalo Anes, *et al*, *La economía agraria en la historia de España: propiedad, explotación, comercialización, rentas*, Madrid, 1979.

[2] See below.

[3] See for example Rafael Aracil, Teresa Carnero, Marius Garcia Bonafe and Jordi Palafox, 'Els estudis d'història agraria al Pais Valencià', in Institució Alfons el Magnànim, *I. Col. loqui d'Història Agraria*, Valencia, 1983, pp 79–117; Antonio M. Bernal, 'Economia agraria en la Andalucia contemporánea', *Papeles de Economía Española*, 20, 1984, pp 281–97; Fausto Dopico, 'Fuerza de trabajo, rendimiento y producción agraria en Galicia a finales del siglo xix', *Revista de Historia Económica*, 1 (ii), 1983, pp 147–64; Ramon Garrabou, *Un fals dilema: modernitat o endarreriment de l'agricultura valenciana, 1850–1900*, Valencia, 1985; Ramon Garrabou and Josep Pujol, 'El canvi agrari a la Catalunya del segle xix', *Recerques*, 19, 1987, pp 35–83; Ramon Garrabou and Eva Serra, 'Els estudis d'història agraria a Catalunya', in Institució Alfons el Magnànim, *op cit*, pp 41–78; Isabel Moll, 'La història agraria de Mallorca: segles xvi al xx', Institució Alfons el Magnànim, *op cit*, pp 133–53; Jordi Palafox, 'Agricultura d'especulació i crisi económica: el Pais Valencià durant els anys trenta, 1900–36', *Estudis d'Història Agraria*, 3, 1979, pp 139–62; Jordi Palafox and Teresa Carnero, 'La economía del País Valenciano, 1750–1936: crecimiento sin industrialización', *Información Comercial Española*, 586, 1982, pp 21–31; Carmelo Pellejero Martínez, 'La crisis agraria de finales del siglo xix en Málaga', *Revista de Historia Económica*, 4, 1986, pp 549–85; Maria Teresa Pérez Picazo and Guy Lemeunier, 'Els estudis d'història agraria a la regió murciana: l'estat de la questió', *Estudis d'Història Agraria*, 4, 1983, pp 63–84; Ricardo Robledo, *La renta de la tierra en Castilla la Vieja y León, 1836–1913*, Madrid, 1984; M. Xosé Rodríguez Galdo and Fausto Dopico, *Crisis agrarias y crecimiento económico en Galicia en el siglo xix*, Corunna, 1981; Nicolás Sánchez Albornoz, 'Castilla en el siglo xix: una involución económica' *Revista de Occidente*, 17, 1982, pp 35–49; and Ramón Villares, *La propiedad de la tierra en Galicia*, Madrid, 1982.

[4] The three volumes of *Historia agraria de la España contemporanea* are Angel García Sanz and Ramon Garrabou (eds), *Cambio social y nuevas formas de propiedad, 1850–1900*, Barcelona, 1985, Ramon Garrabou and Jesús Sanz (eds), *Expansión y crisis, 1850–1900*, Barcelona, 1985 and Ramon Garrabou, Carlos Barciela and José Ignacio Jiménez Blanco (eds), *El final de la agricultura tradicional, 1900–60*, Barcelona, 1986.

[5] Gabriel Tortella, 'Producción y productividad agraria, 1830–1930', in Nicolás Sánchez Albornoz (ed), *La modernización económica de España, 1830–1930*, Madrid, 1985, pp 63–88 and by the same author 'La agricultura en la economia de la España contemporánea, 1830–1930', *Papeles de Economía Española*, 20, 1984, pp 62–75.

country's Gross Domestic Product at the beginning of the nineteenth century and gave employment to two-thirds of the active labour force. Over the course of the century this situation hardly varied.[6] On the eve of the Spanish Civil War, 45 per cent of Spaniards worked on the land, accounting for approximately 35 per cent of GDP.[7]

Tortella's appraisal of the performance of Spain's agricultural sector in the nineteenth century is far from optimistic. Basing his judgement on a loose Bairoch-Kuznets model, Tortella contends that Spanish agriculture failed in its modernizing role in a number of vital respects.

1 The production of foodstuffs and in particular wheat, Spain's principal agricultural product, did little more than keep pace with demographic growth. Although widespread famine, characteristic of the final years of the *ancien régime*, tended to disappear, subsistence crises and high levels of mortality persisted until at least 1868.

2 Exports of wheat, often cited as proof of agricultural expansion during the first half of the nineteenth century, were tiny by comparison with total output. Leandro Prados' calculations on the export of wheat and flour over the period 1826–49 show that they represented no more than one per cent of the total harvest. During the third quarter of the century exports of wheat and flour were even less significant. After 1875 they went into deficit.[8]

3 Where agriculture failed most disastrously was as a demander of industrial products. With regard to consumer goods, low aggregate demand from the overwhelmingly rural population for Catalan textiles is frequently mentioned as a prime cause for overproduction during the second half of the nineteenth century.[9] As a market for capital goods, the Spanish countryside proved even more disappointing. Technological stagnation was ubiquitous. Without the stimulus of new orders for tools, machinery, artificial fertilizers, etc, Spain's iron and steel, engineering and chemical industries languished.

4 Nor did Spain's farmers supply much capital, willingly or otherwise, to other sectors of the economy. While there is evidence that agriculture bore a disproportionate burden of taxation, little of the revenue collected by the Exchequer was invested productively. As to private investment, Spanish farmers distrusted the banks and preferred to hoard precious metals.

5 Encouragingly, after the 1870s agriculture began to display timid signs of export potential. Progress came not from wheat, now under threat from cheap imports, but those crops in which Spain had an absolute or comparative advantage. These were the products of Mediterranean agriculture; horticulture, the vine, citrus fruit, olive oil, dried fruit and cork. By the turn of the century such items were responsible for around 35 per cent of total Spanish exports by value. Even so, they accounted for no more than 15 per cent of the cultivated land surface (excluding livestock and forestry).[10]

If Tortella's approach seems gloomy, in a challenging new interpretation of modern Spanish economic history Leandro Prados offers some more optimistic conclusions about the performance of Spanish agriculture before 1900.[11] Never a scholar to eschew controversy, Prados reduced some agricultural historians to near apoplexy by his re-elaboration of source material.

The material in question is the well-known *Censo de Frutos y Manufacturas* of 1799 and the estimates of the *Junta General de Estadística* made in 1857 on yields of cereals, legumes, the olive and the vine. In the case of the former, over two decades ago Josep Fontana, after a detailed analysis, warned historians against using the document. As for the 1857 study, Tortella reminds us that the *Junta* placed so little reliance in its own findings that it refused to publish its figures.[12] However, Prados forthrightly claims that his calculations demonstrate that, far from simply keeping pace with population growth, agricultural production outstripped the latter. Moreover, despite the fact that two-thirds of the active labour force were tied to the land as late as 1910, that figure hides a variety of crucial developments. Above all, a more intensive use of both land and labour took place. Farmers began to switch from subsistence farming to production for the market. Notwithstanding the absence of technological change, Prados stresses the fact that export orders fostered important improvements in the organization of production. Following Arthur Lewis, Prados maintains that the

[6] Vicente Pérez Moreda, 'En defensa del censo de Godoy: Observaciones previas al estudio de la población activa española a finales de siglo xviii', in Gonzalo Anes, Luis Angel Rojo and Pedro Tedde (eds), *Historia económica y pensiamento social: estudios en homenaje a Diego Mateo del Peral*, Madrid, 1983, pp 283–99; 'La modernización demográfica, 1800–1930: sus limitaciones y cronología', in Sánchez Albornoz, *op cit*, pp 25–66; and 'Evolución de la población española desde finales del Antiguo Régimen', *Papeles de Economía Española*, 20, 1984, pp 20–38.

[7] Julio Alcaide, 'Una revisión urgente de la Renta Nacional española en el siglo xx', in Instituto de Estudios Fiscales, *Datos básicos para la historia financiera de España, 1850–1975*, 2 vols, Madrid, 1976, 1, p 1136.

[8] Leandro Prados, *Comercio exterior y crecimiento económico en España, 1826–1913: tendencias a largo plazo*, Madrid, 1982, Appendix B.

[9] Jordi Nadal, *El fracaso de la Revolución industrial en España, 1814–1913*, Barcelona, 1975, pp 212–16.

[10] Tortella, *Producción y productividad*, pp 67–73.

[11] Leandro Prados, *De imperio a nación: Crecimiento y atraso económico en España, 1780–1930*, Madrid, 1988.

[12] Josep Fontana, 'El Censo de Frutos y Manufacturas de 1799: un analisis crítico', *Moneda y Crédito*, 101, 1967, pp 54–89, Tortella, *Producción y productividad*, pp 74–5.

emigration of substantial numbers of the rural population to Latin America, in the face of foreign competition, brought not insignificant increases in productivity since those who left often had a productivity level close to zero. Throwing down the gauntlet at most economic historians, Prados goes even further. The failure of Spain to overcome its economic backwardness, he contends, lies not with agriculture, but with the mediocre performance of manufacturing industry. While farmers were increasingly capable of responding to external stimuli, industry remained highly uncompetitive. Thus, urban Spain failed to soak up any excess labour in the countryside which in turn would have triggered off a substitution of capital for labour on the farm.[13]

Among Prados' keenest critics are an indefatigable group of young agricultural historians, the *Grupo de Estudios de Historia Rural* (GEHR), who set great store on the collection and analysis of raw data. The GEHR base their own findings on the availability after 1890 – and not before – of a number of series on production, surface area and yields of the leading agricultural products, together with additional information on secondary crops, forestry and livestock. After more than a decade of their publications, conference reports, etc, it is now difficult to sustain the previously held position of agrarian immobilism and economic stagnation during the first three decades of the present century. Among their conclusions is that between 1900 and 1931 agricultural production rose by 55 per cent, an annual rate of 1.4 per cent, more than twice that of neighbouring France. From 1910 to 1922 it is said to have grown by 2.13 per cent. Since population increased by only 0.8 per cent over the three decades, agricultural income per capita must have expanded by an annual rate of 0.6 per cent. Within the agricultural sector, livestock grew by 123 per cent, a sign of improving living standards. Citrus fruit also prospered in response to export demand.[14]

It has to be stated that the publications of the GEHR have been much commented upon. Critics concede that their investigations are conducted in a careful and exhaustive manner. Praise also has been heaped on their sophisticated statistical apparatus and deeply-held convictions. Yet doubts and reservations linger among economic historians. Can the figures on livestock be true, or was such a spectacular increase due to better data gathering?[15] For his part, Gabriel Tortella reproduces the GEHR's findings verbatim while pointing out that as late as 1931 cereals and legumes, with their lower increases in productivity, still accounted for 75 per cent of the cultivated surface, generating 45 per cent of agricultural income.[16]

Whatever level of growth was achieved in the Spanish countryside during the first third of the present century was violently interrupted by the outbreak of civil war in 1936. In the aftermath of the conflict the victorious Nationalists, four-fifths of whose army was composed of peasants, set itself a variety of unrealizable targets on the land. Carlos Barciela demonstrates that historians should be extremely wary when using official statistics produced during the early years of the Franco regime. Extravagant claims to have resettled 577,000 hectares of land between 1940 and 1951, for example, are shown by Barciela to be completely fictitious. Instead, over the same period 9886 hectares were transformed by the National Colonization Institute, affecting the lives of a mere 1759 peasant families.[17] Intervention by the authorities to stimulate the production of wheat and olive oil served to create a black market which, in the case of wheat, became larger than the official market.[18]

Social Change and New Forms of Property, 1800–50

Accounts of rural life in Spain during the final years of the *ancien régime* stress the persistence of routine, rudimentary farming techniques and mass illiteracy among the peasantry.[19] Although the late eighteenth century witnessed the publication of a plethora of tracts on agriculture, including translations of French and English works on agronomy and physiocracy,

[13] Prados, *De imperio a nación, passim.*

[14] Grupo de Estudios de Historia Rural (GEHR), 'Notas sobre la producción agraria española, 1891–1931', *Revista de Historia Económica*, 1 (ii), 1983, pp 185–252, José Ignacio Jiménez Blanco, introduction to *Historia agraria*, 3, pp 9–141. On statistical sources for this period see Jesús Sanz, 'Notas introductorias al libro de Eduardo de la Sotilla: Producción y riqueza agrícola de España en el último decenio del siglo xix y primero del xx', *Agricultura y Sociedad*, 18, 1981, pp 303–30.

[15] Jordi Maluquer, 'De la crisis colonial a la guerra europea: veinte años de economía española', in Jordi Nadal, Albert Carreras and Carles Sudrià (eds), *La economía española en el siglo xx: una perspectiva histórica*, Barcelona, 1987, pp 62–104.

[16] Tortella, *Producción y productividad*, pp 84–5. For a different treatment see Antonio M. Bernal, 'La llamada crisis finisecular, 1872–1919', in José Luis García Delgado (ed), *La España de la Restauración: política, economía, legislación y cultura: I Coloquio de Segovia sobre historia contemporánea de España*, Madrid, 1985, pp 215–63.

[17] Carlos Barciela, introduction to the second part of *Historia agraria*, 3, pp 383–454.

[18] Carlos Barciela, 'El estraperlo de trigo en la postguerra', *Moneda y Crédito*, 159, 1981, pp 17–37, José Manuel Naredo, 'La incidencia del estraperlo en la economía de las grandes fincas del sur', *Agricultura y Sociedad*, 19, 1981, pp 81–115. For intervention in wheat production see Carlos Barciela, *La financiación del Servicio Nacional del Trigo, 1937–71*, Madrid, 1981, and for olive oil Carmen Gutiérrez, 'Una estimación del mercado negro de aceite de oliva en la posguerra española', *Agricultura y Sociedad*, 29, 1983.

[19] Pedro Ruiz Torres, 'Crisis señorial y transformación agraria en la España de principios del siglo xix', *Hispania*, 153, 1983, pp 89–128, Gonzalo Anes, 'El sector agrario en la España moderna', *Papeles de Economía Española*, 20, 1984, pp 2–19.

their authors were, as Lluís Argemí informs us, voices crying in the wilderness.[20] Unable to stay abreast with population expansion, traditional agriculture was plunged into crisis after about 1760. Josep Fontana reckons that income from the tithe and other feudal dues reached a peak towards 1780. The grave famine which affiliated Castile in 1804 bore witness to the exhaustion of feudal relations.[21]

While we do not know with any certainty the area under cultivation in eighteenth-century Spain, nor the evolution of livestock, apart from the fortunes of a few transhumant flocks, we are aware that after 1730 the price of wheat began to increase more quickly than the price of wool.[22] In the final quarter of the century violent fluctuations occurred in wheat prices, especially pronounced in the interior, due to harvest failures and difficulties in transporting imported grain. Farmers responded by ploughing up additional land, often as a result of deforestation. Hence diminishing marginal returns set in, bringing with them further subsistence crises. Contemporary reformers, such as Jovellanos, saw the persistence of feudal property rights as the main obstacle to progress in agriculture. Emiliano Fernández de Pinedo calculates that during the final years of the *ancien régime* at least half of the total land surface of Spain was immobilized by amortisation.[23] Moreover, notwithstanding the collapse of wool prices in the second half of the eighteenth century, the ancient rights of the sheep grazers of the Mesta guild, strengthened by subsequent legislation, prevented the sowing of wheat on lands over which transhumant flocks were permitted to pasture.[24] pasture.[24]

In his introduction to volume one of the *Agrarian History of Contemporary Spain*, Angel García Sanz contends that the first half of the nineteenth century saw nothing less than a thoroughgoing liberal bourgeois revolution south of the Pyrénées. Its goal was the imposition of a new model of society and the removal of legal obstacles to capitalist development. In the countryside, a set of measures, initiated in 1811, set out to abolish the seigneurial regime thereby debilitating the economic base of the nobility which was founded on privilege. The abolition of feudalism did not in itself imply a change in land ownership. This followed primarily from another series of measures carried out from 1798 onwards aimed at the transfer of property held in mortmain to new hands and with it the freedom of utilization.[25]

Unable to carry through their revolution in isolation, the bourgeoisie were forced to collaborate with the nobility whose own economies were experiencing severe liquidity problems owing to peasant resistance over the payment of feudal dues. The victims of what García Sanz terms this unwritten agreement were the peasantry stripped of the institutions and customary practices which offered security against the inexorable laws of the market.[26]

The disamortization of lands which were previously owned by the Church and of communal property is the subject of a vast literature. A useful short account of the land sales which took place while the legislative process was in full force is that of Francisco Simón Segura. Segura sets out the leading characteristics of the four main phases of disamortization:

1 1798–1808; the first of the great sales of ecclesiastical property often associated with the name of Godoy;

2 The measures associated with the short-lived Liberal triennium of 1820–23;

3 Mendizábal's attempt to sell off the lands of the secular and regular clergy, 1836–44;

4 Madoz's General Disentailing Act, in operation from 1856 to 1868.[27]

While lack of space prevents a detailed treatment of the process of land sales and its consequences for agriculture, readers are referred to the bibliographical and historical studies of Germán Rueda, Josep Fontana's treatment of the Mendizábal reforms and their antecedents and the two volume blockbuster of the proceedings of a conference held in 1982 on disamortization and the public exchequer.[28] Francisco Tomás y Valiente in his summing up at the above gathering praised the high quality, theoretical

[20] Lluís Argemí, 'Agronomia y revolución agraria en España, 1750–1820', chapter one of Ernest Lluch and Lluis Argemí, *Agronomía y fisiocracia en España, 1750–1820*, Valencia, 1985.

[21] Josep Fontana, 'La crisis agraria de comienzos del siglo xix: sus repercusiones en España', *Hacienda Pública Española*, 55, 1978, pp 177–90, reprinted in *Historia agraria*, 1, pp 103–28.

[22] Enrique Llopis Agelán, 'Las explotaciones transhumantes en el siglo xviii y el primer tercio del xix: la cabaña del Monasterio de Guadalupe, 1709–1835', in Gonzalo Anes, Pedro Tedde, Josep Fontana and Miguel Artola (eds), *La economía española al final del Antiguo Régimen*, 1, *Agricultura*, Madrid, 1982, pp 1–101.

[23] Emiliano Fernández de Pinedo, *Centralismo, ilustración y agonía del Antiguo Régimen, 1715–1833*, vol 7 of the Labor *Historia de España*, Madrid, 1980, p 55.

[24] Angel García Sanz, 'La agonía de la Mesta y el hundimiento de las exportaciones laneras: un capitulo de la crisis del Antiguo Régimen en España', *Agricultura y Sociedad*, 6, 1978, pp 283–316, reprinted in *Historia agraria*, pp 174–216.

[25] Angel García Sanz, 'Crisis de la agricultura tradicional y revolución liberal, 1800–50', in *Historia agraria*, 1, pp 7–99.

[26] *Ibid*, pp 13–15.

[27] Francisco Simón Segura, 'La desamortización española del siglo xix', *Papeles de Economía Española*, 20, 1984, pp 74–107.

[28] Germán Rueda, 'Bibliografía sobre el proceso desamortizador en España', *Agricultura y Sociedad*, 19, 1981, pp 215–47 and by the same author *La desamortización de Mendizábal y Espartero en España*, Madrid, 1986. There is an article with the same title in *Información Comercial Española*, 623, 1983, pp 53–66. See also Josep Fontana, 'La desamortización de Mendizábal y sus antecedentes', in *Historia agraria*, 1, pp 219–44 and Ministerio de Agricultura/Instituto de Estudios Fiscales, *Desamortización y Hacienda Pública*, 2 vols, Madrid, 1986.

and methodological rigour of Spanish historiography on disamortization and called for an agenda for future research. Among other matters, he advocated that future research concentrate on uncharted provinces and greater emphasis on the Madoz period.[29]

The virtual absence of statistical detail, caused by troubles in collecting the tithe and the latter's abandonment after 1837, make the middle decades of the nineteenth century the least known in the agricultural history of contemporary Spain.[30] However, there is general agreement that the disentailing process led to a sharp increase in the cultivated surface, while pasture and woodland declined. The result was an expansion in the area under the so-called Mediterranean trilogy of wheat, the vine and the olive at the expense of livestock. Meanwhile, the lack of technological improvements, plus a fall in the amount of animal manure, resulted in falling yields, especially on recently ploughed up marginal lands.[31]

In contrast to what was previously held, there is now ample evidence to convince us that the expansion of agricultural production preceded the Mendizábal reforms. Among factors cited to support this view are:

1 An increase in population after 1821 which led to an expanding demand for foodstuffs and later gave rise to additional employment on the land.
2 An act of 1820 banning imports of grain.
3 The spread of the potato.
4 Exports of wheat and flour after 1827.
5 Complaints about the ploughing up of lands normally grazed by Mesta flocks.

Josep Fontana, writing on the agricultural depression which followed the Napoleonic Wars, moreover, argues that a sharp fall in prices after 1817, not accompanied to a commensurate drop in taxes, forced peasants to produce increasing quantities of foodstuffs for the market.[32]

[29] Francisco Tomás y Valiente, 'Desamortización y Hacienda Pública: reflexiones: entre la crítica y las sugierencias', *Hacienda Pública Española*, 77, 1982, pp 15–31.

[30] On the tithe see Esteban Canales, 'Los diezmos en la etapa final', in Anes, Tedde, Fontana and Artola, *op cit*, pp 105–87 and by the same author 'Diezmos y revolución burguesa' in *Historia agraria*, 1, pp 245–74.

[31] On livestock farming see GEHR, 'Contribución al análisis histórico de la ganadería española, 1865–1929', *Agricultura y Sociedad*, 8, 1978, pp 129–73 and 10, 1979, pp 105–69. For a pioneering study on overall developments see Gonzalo Anes, 'La agricultura española desde comienzos del siglo xix hasta 1868: algunos problemas', in Servicio de Estudios del Banco de España, *Ensayos sobre la economía española a mediados del siglo xix*, Madrid, 1970, pp 235–63.

[32] Fontana, *La crisis agraria, passim*, Enrique Llopis Agelán, Algunas consideraciones acerca la producción agraria castellana en los últimos veintecinco años del Antiguo Régimen', *Investigaciones Económicas*, 21, 1983, pp 135–51, reprinted in *Historia agraria*, 1, pp 129–50. On the potato see M. Xosé Rodríguez Galdo and Fausto Dopico, 'Novos cultivos e agricultura tradicional: a pataca a Galicia nos séculos xviii a xix', *Revista Galega de Estudios Agrarios*, 3, 1980, pp 11–36.

Expansion and Crisis, 1850–1900

Ramon Garrabou and Jesús Sanz in their introduction to the second volume of the *Agrarian History of Contemporary Spain* contend that the basic condition for the expansion of Spanish agriculture, which persisted until the 1870s, was an Act of 1820 prohibiting cereal imports. This ban, in existence until 1869, was enacted at a time of severe financial difficulties after the loss of the greater part of Spain's empire in the New World. Among the aims of the legislators were the reduction of imports, the stimulation of domestic production and the encouragement of exports. Indeed the 1820 Act, which was renewed in 1834, presaged a strong increase in inter-regional trade. Before long, wheat cultivated in the provinces of the interior went on sale on the periphery. As a direct consequence, coastal regions, no longer compelled to be self-sufficient in basic foodstuffs, began to scale down cereal cultivation in favour of more profitable crops such as fruit and horticultural products. The process was facilitated by falling grain prices in the 1820s allowing for the absorption of transport and other costs which more than doubled prices prevailing in the places of origin.[33]

The hub of the wheat trade for nearly half a century was the northern part of Santander which contained a number of flour mills much of whose production was exported to the remaining Spanish colony of Cuba. Wheat from Old Castile was carried along part or whole of the 138 kilometre stretch of the Canal de Castilla from Valladolid to Alar del Rey. From there it was transported by mule a further 130 kilometres to Santander. According to Tomás Martinez Vara, the coastal trade in wheat between Santander and the Mediterranean ports, which took off in the 1820s, began to expand rapidly after 1846 and reached a maximum in the period 1859–63. In 1863, however, the opening of a railway link between Barcelona and Valladolid posed an insurmountable threat to the coastal route. Next year coastal shipping fell by a half, not least because the railways offered an immediate twenty-five per cent cut in freight rates.[34]

In the interpretation of Garrabou and Sanz, the progressive integration of the Spanish market for foodstuffs, together with a growing regional specialization, was accompanied by a rise in agricultural exports to northern Europe. This was true not only of Mediterranean crops such as wine and olive oil

[33] Ramon Garrabou and Jesús Sanz, 'La agricultura española durante el siglo xix: inmovilismo o cambio?', in *Historia agraria*, 2, pp 7–191.

[34] Tomás Martinez Vara, *Santander de villa a cuidad: un siglo de esplendor y crisis*, Santander, 1983, pp 215–65, Antonio Gómez Mendoza, *Ferrocarriles y cambio económico en España, 1855–1913*, Madrid, 1982, pp 63–120.

but also of the rearing of beef cattle in the north western region of Galicia. Wine production which, apart from sherry, expanded to meet domestic demand, found an important market in France after 1870 when the outbreak of phylloxera ravaged vineyards north of the Pyrenees. Teresa Carnero calculates that consequent upon a Franco-Spanish commercial agreement of 1882 exports of Spanish wine to France quadrupled over the next decade. Ninety per cent of sales consisted of *vin ordinaire* used to fortify the French product.[35] As Juan Francisco Zambrana shows, there were two main zones of olive oil production in Spain; Andalusia in the south and Catalonia-Aragon in the north east of the peninsula. While the latter area specialized in high quality production for culinary purposes, the former region sacrificed quality for quantity. External demand was principally for industrial uses such as heating, lighting, lubricants and soap manufacture.[36] Elsewhere, Xan Carmona estimates that exports of beef from Galicia to Great Britain rose more than tenfold between the periods 1850–60 and 1880–84.[37]

Thanks to a fair degree of tariff protection in Spain, even during the country's so-called era of free trade (1869–91), the agricultural depression which afflicted Western Europe from the 1870s onwards made a belated appearance south of the Pyrénées. Its impact has been charted by Ramon Garrabou who demonstrates that the first significant signs were felt in the wheat sector where imports went up after 1882. Most of the grain originated, not from America, but from Russia and Turkey, which were geographically closer to the main importing regions of the Mediterranean. By 1885–9 foreign wheat was cheaper to purchase on the periphery than Castilian grain. A spectacular rise in imports took place in 1893–4, despite the imposition of higher duties. In a year of poor harvests at home, Garrabou calculates, imported wheat accounted for about 15 per cent of consumption, compared with as little as five per cent following a bumper crop.[38] For a brief spell, viticulture escaped the crisis. However, declining prices after 1887 owing to overproduction, competition from Algeria in the French market, France's cancellation of the 1882 treaty in 1891, and the encroachment of phylloxera into the peninsula all combined with devastating effects. Replanting the ruined Spanish vineyards with the more resistant American stock proved a costly business. In Catalonia, for example, large areas of the provinces of Lerida and Gerona abandoned viticulture altogether.[39] Olive oil encountered severe difficulties due to foreign competition from other oils. Andalusia, with its low grade products, was worst hit. New plantings and improvements in methods of refining the oil were eventually to bring about recovery. Yet prices remained depressed until 1907.[40] To complete the depressing picture, competition from Argentina and New Zealand put an end to the near monopoly which Galician livestock exports had enjoyed in the British market.[41]

Amidst mounting tension in the rural community, in 1887–8 the Sagasta Liberal government proposed a variety of measures which José María Serrano characterizes as an attempt at agricultural renewal. Correctly diagnosing the crisis as mainly due to foreign competition, the Liberals attempted to remedy the situation by such means as the greater utilization of agricultural machinery, the widespread application of artificial fertilizers, the fight against disease and irrigation techniques.[42] In 1887 Sagasta established a commission of inquiry which took three years to report and thereafter gathered dust on the shelves. Garrabou sees this body as lacking in a clear diagnosis of the depression hence blaming such factors as excessive taxation, escalating wage costs, lack of capital and high cost of transport.[43] As the situation deteriorated, the option of renewal appeared to politicians and farmers alike to lack the necessary urgency. Prompted by the newly-formed and vociferous *Liga Agraria*, the Conservative leader Cánovas advocated a hefty dose of tariff protection in order to safeguard the livelihoods of farmers in the two Castiles, Aragon and Extremadura. Carnero among others, however, views the 1891 tariff introduced by the Conservatives as a response to a newly emergent agrarian–industrial bloc whose demands included the reservation of the domestic market for Spanish producers.[44]

The subsequent strengthening of protectionist legislation in 1906 and 1922 was to serve as an excuse for the virtual absence of a coherent agricultural policy. While large landowners were able to

[35] Teresa Carnero, *Expansión vinícola y atraso agrario, 1870–1900*, Madrid, 1980. See also her article of the same title in *Historia agraria*, 2, pp 279–300.

[36] Juan Francisco Zambrana, 'El olivar español, 1870–1930', in *Historia agraria*, 2, pp 301–20.

[37] Xan Carmona, 'Sobre as orixes da orientación exportadora na producción bovina galega: as exportaciones a Inglaterra na segunda metade do século xix', *Grial*, anexo 1, 1982, pp 169–206.

[38] Ramon Garrabou, 'La crisis agraria española de finales del siglo xix: una etapa del desarrollo del capitalismo', in *Historia agraria*, 2, pp 477–542.

[39] Juan M. Guisado, 'Crisis agraria y invasión filoxérica en la España del siglo xix', *Revista de Historia Económica*, 1 (ii), 1983, pp 165–84.

[40] Zambrana, *art cit*, pp 309–10.

[41] Manuel Jaime Barreiro Gil, 'La generalización de la producción de mercanías y la modernización productiva de la agricultura de Galicia, 1876–1976', *Revista de Historia Económica*, 2, 1983, pp 133–46.

[42] José María Serrano Sanz, *El viraje proteccionista de la Restauración: la política comercial española, 1875–95*, Madrid, 1987, pp 105–14.

[43] Garrabou, *La crisis agraria*, p 318.

[44] Carnero, 'Expansión agrícola y atraso agrario, 1870–1900', in *Historia agraria*, 2, pp 288–90, Cf Serrano Sanz, *op cit*, pp 123–63.

safeguard their interests behind the shelter of the tariff, peasant farmers, lacking sufficient capital, were driven to usury and emigration. Surveying the alternatives open to Spain's leaders in the 1890s, Gabriel Tortella is critical of their refusal to countenance a fuller transfer of resources from unproductive cereal farming to more lucrative Mediterranean crops. To date, he maintains, historians of this period have tended to speak in terms of free trade versus protectionism. Yet this dichotomy is misleading. In the case of Spain, the political leaders settled for extreme protectionism as an answer to the threat to rural income. With careful management, the tariff might have been used to help regulate the rural exodus. Instead, it became a barrier to the process of change.[45]

The End of Traditional Agriculture, 1900–60

It is the revisionist argument of the GEHR, reiterated in volume three of the *Agrarian History of Contemporary Spain*, that despite the absence of a fully-fledged policy for Spanish agriculture, the first third of the present century witnessed a hitherto unacknowledged expansion in the Spanish countryside. Not least, the period was marked by the spread of a number of new crops, including oranges, almonds, root crops, tubers, potatoes, sugar beet and horticultural products.[46] Many of these crops, like citrus fruit, responded to increases in foreign demand. At the forefront of this development was the Levante which started to export oranges during the second half of the nineteenth century. By the first third of the twentieth century the latter were one of the principal sources of income for the national economy.[47] In contrast, the spread of sugar beet, centred on Aragon and Andalusia, owed everything to burgeoning domestic demand following the loss of Cuba – with its huge sugar cane interests – in 1898.[48] Along with olive growing, which developed into one of the most dynamic sectors of the Spanish economy before the civil war, the expansion of oranges and sugar beet required enormous injections of capital to maintain levels of productivity. Domingo Gallego analyses the rising demands of Mediterranean agriculture over the period 1900–30 for such items as new seeds, deep ploughs, irrigation, mineral fertilizers, pesticides, presses, etc.[49]

One particular difficulty faced by agricultural historians is that of squaring up the spectacular progress described by the GEHR with the perennial complaints of contemporaries of an agricultural crisis which endured from the early 1870s down to the rural unrest – the so-called Bolshevik triennium – of 1918–20. After the eruption of anarchist disturbances in the south in 1902–5, the 'agrarian question' was rechristened the 'social question', especially by foreign writers. Particular attention was paid to the centre of the troubles, the *latifundio* belt of Andalusia, with its huge unproductive estates, absentee landlords and half-starved agricultural labourers. Pierre Ponsot lists 89 major titles dealing with the problems of Andalusia during the period 1880–1919.[50] Elsewhere, Antonio Miguel Bernal in a masterly study of the so-called agricultural crisis, 1872–1919, lays emphasis on Spain's highly unequal property structure. At the opposite end of the scale to the *latifundios*, the north and north-west of the peninsula were littered with millions of tiny parcels of land, known as *minifundios*, capable of little more than subsistence farming. Both systems, Bernal informs us, were archaic. Yet neither was entirely stagnant and both were profitable. In what the author admits to be a simplified and imperfect model, extrapolating other forms of land holding, it is contended that both systems made a rational use of available factors of production. The *minifundio* lacked capital and technology but benefited from surplus labour in the shape of the extended family. In the absence of industrial development close to hand, considerable numbers of peasants emigrated to Latin America. Emigrant remittances, meanwhile, allowed for the redemption of leases (*foros*), a *cause célèbre* of the second half of the nineteenth century, and permitted some modernization of farms and equipment. Even so, there was little modification of the system before 1936. For their part, the large estates of the south offered exploiters the availability of cheap labour and a repressive rural police force (the *guardia civil*). The use of machinery remained largely a threat to dissuade labourers from making wage claims. Prices were kept high by tariff protection and a depreciating peseta (after 1892) which kept out imports. Both systems regulated the supply of labour, which was always in excess of demand. Hence profit levels were maintained. Yet the weakness of the modernization

[45] Gabriel Tortella, 'La economía española a finales del siglo y principios del siglo xx', in García Delgado, *op cit*, pp 133–51.

[46] Jiménez Blanco, introduction to *Historia agraria*, 3, pp 50–69.

[47] Jordi Palafox, 'Estructura de la exportación y distribución de beneficios: la naranja en el País Valenciano, 1920–30', *Revista de Historia Económica*, 1(ii), 1983, pp 339–51.

[48] Manuel Martín Rodríguez, *Azúcar y descolonización: origen y desenlace de una crisis agraria en la vega de Granada: El Ingenio de San Juan, 1882–1904*, Granada, 1982, José Ignacio Jiménez Blanco, 'La remolacha y los problemas de la industria azucarera en España, 1880–1914', in *Historia agraria*, 3, pp 280–316.

[49] Domingo Gallego, 'Transformaciones técnicas de la agricultura española en el primer tercio del siglo xx', in *Historia agraria*, 3, pp 171–229. See also Juan Francisco Zambrana, 'La fabricación de aceite de oliva en España, 1870–1930', *Agricultura y Sociedad*, 19, 1981, pp 267–90.

[50] Pierre Ponsot, *Etudes sur le dix-neuvieme siècle espagnol*, Cordoba, 1981.

process and the under-performance of agriculture, with its intermittent crises, convinced many of the overwhelming need for agrarian reform. The social costs of *latifundismo* and *minifundismo*, were peasant agitation, violence and repression which reached a climax in the bloody conflict of 1936–9.[51]

The modernization of Spanish agriculture, after two decades of mistaken interventionist policies by the Franco regime, was both belated and rapid. It is unfair, as Carlos Barciela shows, to damn every aspect of Francoist agricultural policy, especially after Rafael Cavestany took over the Ministry of Agriculture in 1951. However from the late 1950s Spanish farmers were forced to respond to a series of external factors entirely beyond their control. Between 1960 and 1970, in response to higher incomes abroad and the spread of industrialization and the service sector at home, two million Spaniards quit the land. In the period 1957–67 farm wages escalated by 269 per cent. Wherever economies of scale were practicable, farmers attempted to offset increased wage costs by substituting capital for labour. Over the sixties, Barciela recounts, the index of the use of machinery and fertilizers doubled, symbolic of the demise of traditional agriculture south of the Pyrénées.[52]

[51] Bernal, *op cit*, pp 257–63.

[52] Barciela, introduction to the second part of *Historia agraria*, 3, pp 439–41, José Manuel Naredo, *Evolución de la agricultura en España*, second ed, Barcelona, p 70.

Laying Foundations: The Agrarian History of England and Wales 1042–1350*

By BRUCE M S CAMPBELL

THE ambitious project to publish a scholarly and authoritative *Agrarian History of England and Wales* from earliest times to the eve of the Second World War launched over thirty years ago comes significantly closer to completion with the publication in close succession of Volumes II and VI, dealing respectively with the periods 1042–1350 and 1750–1850.[1] This leaves only Volumes III (1350–1500) and VII (1850–1914) outstanding, both of which are now in an advanced stage of preparation. That this great endeavour has come so far owes much to the vision of the late Professor H P R Finberg who first conceived it, together with Dr Joan Thirsk, his successor as General Editor, who has been responsible for seeing Volumes Ii, II, Vi and Vii, VI, and VIII through the press.[2] As Professor Hallam, editor of Volume II, acknowledges, Dr Thirsk's 'patient persistence and tact, coupled with distinguished scholarship' (p xxviii) have been major assets in seeing this complex collaborative exercise through the problems which have inevitably beset it and of which, to date, Volume II is the most conspicuous victim.

This volume more than any other has suffered from delays, from the withdrawal of contributors, and from an inability to realize chapters on key topics such as landlordship, marketing and commonfields (the counterpart of enclosure) which occupy a prominent position in subsequent volumes of the series. It also labours under the deficiency of idiosyncratic and self-indulgent editorship, which makes it intractable and inconsistent and causes it to fall short of the high standard set by others in the same series. Part of the problem derives from the sheer passage of time. First planned in the late 1960s, the volume is methodologically and historiographically rooted in the early 1970s. A substantial proportion had been written by 1974, and although all contributors were subsequently given the opportunity to make final revisions in 1983, the thoroughness with which this was undertaken plainly varied, and in the case of Hallam's chapter on population movements merely resulted in the curious appendage of a 'Postscript' dated 1983. Since then it has taken no less than five years to see the manuscript through the press. The result is a book which in theme and approach is decidedly old-fashioned as well as bibliographically dated with, in one instance, a monograph published in 1966 referred to as a 'recent book' (p 621). In several places, including the editor's preface, more recent work is cited of which the authors have been unable to take cognizance but, tantalizingly, such works fail to appear in the consolidated bibliography, which contains few works published since 1980.[3] Yet, in the interim since the volume's effective completion, important new work has been published by J L Langdon on horses; J Holt on mills; R H Britnell on markets; M Mate and this reviewer on productivity and technology; H S A Fox, D McCloskey, and S Fenoaltea on field systems; R M Smith, B Hanawalt, J Bennett and others on demography and rural social structure; R R Davies on Wales; D Keene on the size and importance of London; and, most recently of all, C Dyer on living standards; whilst major works have just appeared from M Bailey on marginal regions and K Biddick on livestock husbandry and production for consumption versus exchange.[4] Many traditional

* A review article of H E Hallam, ed, *The Agrarian History of England and Wales, Volume II, 1042–1350*, CUP, 1988. xxxix + 1086, £90.

[1] H P R Finberg, 'An Agrarian History of England', *Ag Hist Rev*, IV, 1956, pp 2–3; G Mingay (ed), *The Agrarian History of England and Wales, VI, 1750–1850*, Cambridge, 1989.

[2] The publication dates of the completed volumes are as follows: Ii, 1981; Iii, 1972; II, 1988; IV, 1967; Vi, 1984; Vii, 1985; VI, 1989; and VIII, 1978.

[3] As on pp xxvii and 260.

[4] J L Langdon, *Horses, Oxen and Technological Innovation: The Use of Draught Animals in English Farming from 1066–1500*, Cambridge, 1986; R Holt, *The Mills of Medieval England*, Oxford, 1988; R H Britnell, 'The Proliferation of Markets in England, 1200–1349', *Econ Hist Rev*, 2nd ser, XXXIV, 1981, pp 209–221; M Mate, 'Medieval Agrarian Practices: The Determining Factors', Ag Hist Rev, XXXIII, 1985, pp 22–31; B M S Campbell, 'Agricultural Progress in Medieval England: Some Evidence from Eastern Norfolk', *Econ Hist Rev*, 2nd ser, XXXVI, 1983, pp 26–46; H S A Fox, 'The Alleged Transformation from Two-field to Three-field systems in Medieval England', *Econ Hist Rev*, 2nd ser, XXXIX, 1986, pp 526–48; D N McCloskey, 'English Open Fields as Behavior Toward Risk', pp 124–71 in P Uselding (ed), *Research in Economic History, I*, Greenwich, Conn., 1976; S Fenoaltea, 'Transaction Costs, Whig History, and the Common Fields', *Pol & Soc*, 16, 1988, pp 171–240; R M Smith (ed), *Land, Kinship and Life-cycle*, Cambridge, 1984; B A Hanawalt, *The Ties that Bound: Peasant Families in Medieval England*, Oxford, 1986; J M Bennett,

assumptions have thereby been challenged and new approaches have been adopted to traditional sources which are transforming the way in which historians view this long and formative period.

Nevertheless, if Volume II ultimately fails to do justice to the complexity and importance of the period 1042–1350, it is not for want of a distinguished band of contributors. The eleven authors represented – H E Hallam (who besides editing the volume is responsible for roughly 40 per cent of the text), Sally Harvey, Peter Brandon, J A Raftis, Christopher Dyer, John Hatcher, Edward Miller, Ian Jack, David Farmer, J G Hurst, and L A S Butler – are all recognized authorities in their respective fields and many have done a splendid job with the remit which they were given and the resources at their disposal. But the period, it must be admitted, is a difficult one, chronologically, geographically, and institutionally uneven in its extant archival resources. For the late eleventh century, there is Domesday Book, one of the greatest and most systematic compendia of agrarian information ever compiled. The twelfth century, by contrast, represents something of a documentary void, with a substantial body of charter material and a series of manorial extents of the estates of major religious houses its most important sources. Then, in the thirteenth century, the range, quantity, and quality of available documentation increases enormously, constituting a body of archival material whose potential has yet to be fully realized. All the contributors to this volume have consequently done much fresh burrowing in the archives and have done so largely without the benefit of the kind of research assistance which was put to such good effect by the contributors to Volume V. For Hallam and Jack in Australia, and Raftis and Farmer in Canada this was no mean feat, given their physical remoteness from the sources; and for their contributions we are indebted to generous grant aid from the Australian Research Grants Committee and Canada Council. Under these circumstances it is to everyone's credit that so much original material has been included in the volume and if for no other reason this will ensure that it becomes an essential work of reference for future generations of historians.

Extraordinarily for a multi-authored work of this scale, there is no introductory chapter to set the scene and prepare the way for the ensuing 1000 pages of often densely written and highly detailed text. Instead, the unsuspecting reader is plunged headlong into what is probably the most intractable chapter in the whole book, Hallam's idiosyncratic essay on England on the eve of the Norman Conquest. Here Hallam indulges his taste for esoteric detail and grand conjecture to the utmost, relishing the frequently fine distinctions between the various classes of free and unfree Anglo-Saxon tenant whilst at the same time proposing a connection between the regional social structures of fourth- and eleventh-century Britain. Thus, 'whereas seigneurial England was the land of villa owners' (p 14) the regions which in 1066 and 1086 had the greatest abundance of free tenants were those which in Romano-British times had been largely given over to peasant agriculture. Later in the same chapter place name elements are used to infer the geography of crop and livestock husbandry in Anglo-Saxon England. This is an imaginative but historically dubious exercise since it is by no means clear whether a name such as Wheatacre indicates that wheat cultivation was typical or atypical of the locality concerned. Hallam, however, is in no doubt as to which inference to draw and thus introduces the first of many inconsistencies within this volume:

> The author of Chapter 2 in this volume favours the view that such elements in place-names denote the rarity of the item so named in that particular landscape. I hold to the view that they signify their common occurrence, and in the following pages I analyse the place-name evidence on that assumption (p 23).

And this view is clung to even though it leads to the improbable conclusion that 'barley, with thirty-eight pre-Conquest place-names, was almost twice as important as wheat' whereas 'oats was little known and used before the Norman Conquest' (p 34–7): a situation which, if true, implies a radical change in cropping practices during the interval between the eleventh and thirteenth centuries, by which time demesne accounts reveal almost exactly the opposite state of affairs.[5]

Such an inauspicious start is redeemed in Chapter Two by Sally Harvey's fine essay on Domesday England. With its emphasis upon those who held and worked the land and its insights into just how reliable and comprehensive Domesday is as a source, it is a welcome addition to the growing body of literature on England's most famous public record. The author makes a convincing case for a significant degree of under-enumeration of particular social groups and thus argues for an estimate of Domesday

Women in the Medieval English Countryside: Gender and Household in Brigstock before the Plague, Oxford, 1987; R R Davies, *Conquest, Coexistence, and Change: Wales 1063–1415*, Oxford, 1987; D Keene, *Cheapside before the Great Fire*, 1985; C Dyer, *Standards of Living in the Later Middle Ages: Social Change in England c1200–1520*, Cambridge, 1989; M M Bailey, *A Marginal Economy? East Anglian Breckland in the Later Middle Ages*, Cambridge, 1989; K Biddick, *The Other Economy: Pastoral Husbandry on a Medieval Estate*, Los Angeles, 1989.

[5] On the evidence of a national sample of demesne accounts drawn from the period 1250–1299 cereal crops were sown in the following per acreage proportions: wheat 34.29%, rye 5.85%, maslin 0.99%, barley 15.00%, oats 40.66%, dredge 2.58%.

population which 'would approach two million, and should not exclude a somewhat higher figure' (p 49), thus favouring those who would place medieval population estimates higher rather than lower. In the space of a single chapter she is obviously unable to do justice to the full range of agrarian information provided by Domesday and, given the regional emphasis adopted elsewhere in the volume, it is disappointing that she does not avail herself more of the opportunity to investigate regional variations in agrarian conditions; for these the interested reader would do well to refer to H C Darby's seven-volume series of Domesday geographies which, by some extraordinary oversight, fail to appear in the bibliography.[6] Harvey demonstrates how Domesday may be utilized to study the varying relations between man and lord along with the geography of individual estates but it would have been interesting and useful if she had taken her analysis a stage further and examined just how the myriad of estates enumerated by Domesday intermeshed to produce an overall geography of manorialism. In a feudalized society, as E A Kosminsky long ago demonstrated using the fragmentary returns of the 1279 Hundred Rolls, the extent to which manors varied in size and number from place to place had considerable implications for the conduct of agriculture and the evolution of associated agrarian institutions and was a major source of local and regional variation.[7] As with so much else, Domesday Book affords both the earliest and best opportunity to reconstruct such an institutional geography for the greater part of the country at a single point in time, and although the exercise is far from straightforward it would well repay the effort.

Thereafter the core of the volume comprises four major chapters organized regionally and dealing respectively with 'New Settlement', 'Farming Techniques' (with a sub-section on drainage techniques contributed by Hallam), 'Population Movements in England, 1086–1350', and 'Social Structure'. All but the chapter on population movements, for which Hallam is solely responsible, are collaborative exercises, responsibility for the eight separate sub-regional sections within each being entrusted to historians with, for the most part, an intimate knowledge of the regions concerned and their sources. Thus we have Brandon on south-eastern England (although Hallam contributes the relevant section on social structure), Raftis on the east midlands, Dyer on the west midlands, Hatcher on south-western England, Miller on northern England, Jack on Wales and the Marches, and Hallam on both eastern and southern England, the latter, presumably, in default of the original contributor. These chapters are the closest counterpart to the descriptions of farming regions which are such a celebrated feature of Volumes IV and V and reflect the avowed aim of the series to explore the 'unique character of localities and local communities' (p xxvi), an objective of particular relevance to 'an economy and society split into many and various sub-economies and sub-societies, all very different from one another but closely knit and interdependent' (flyleaf). Unfortunately, this entirely laudable objective is compromised by the methodology employed to realize it.

For a regional analysis to hold valid at national, local and intermediate scales it is essential that it is conducted systematically and according to a consistent set of criteria so that, ideally, local and regional variations emerge from the data rather than from the framework of analysis imposed upon it.[8] This is especially the case when, as here, the aggregate picture has to be pieced together from a number of separate regional studies. Some common guidelines certainly appear to have been given, since field systems, inheritance custom, holding size, fertilizing methods, crops, yields, and so forth, are commented upon by all, but otherwise authors have been left to treat their allotted regions in their own particular way. The result is some exemplary individual essays – Brandon on colonization and settlement in the south-east, Dyer on farming techniques in the west midlands, and Raftis on social structure in the east midlands – but much inconsistency and no very coherent or objective overall picture.[9] This applies especially to the chapter on farming techniques: some authors tabulate certain types of data, others do not; some use percentages when discussing crop combinations, others the absolute acreages; livestock receive inadequate and very unequal attention; and for all the eminently quantifiable information contained in accounts and extents, there is little attempt to measure the similarities or differences between farming systems. Comparison is frustrated at every turn. Nor is there any editorial attempt to draw the separate regional threads together and consider what they all add up to; so that an inevitable impression

[6] H C Darby, *The Domesday Geography of England*, 7 vols, Cambridge, 1952–77.

[7] E A Kosminsky, *Studies in the Agrarian History of England in the Thirteenth Century*, Oxford, 1956; B M S Campbell, 'The Complexity of Manorial Structure in Medieval Norfolk: A Case Study', *Norf Arch*, XXXIX, 1986, pp 225–61; R A Dodgshon, *The European Past: Social Evolution and Spatial Order*, 1987, pp 269–86.

[8] M Overton, *Agricultural Regions in Early Modern England: An Example from East Anglia*, University of Newcastle upon Tyne, Department of Geography Seminar Paper 42, 1985.

[9] In Volume IV of *The Agrarian History* Joan Thirsk constructs a map of 'Farming Regions in England' from the individual regional studies, although the accuracy of this exercise is compromised by the fact that 'authors on either side of a county boundary have not always agreed in their identification of the dominant local farming type' (p xxi).

is conveyed of an agrarian economy fragmented along broad regional lines.[10] This is a pity given the unrivalled richness and intrinsically quantifiable nature of the information contained in manorial accounts which, for the better documented parts of the country, survive in sufficient numbers to be used in much the same way as the probate inventories which are employed to such telling effect in Volumes IV and Vi.[11] There will always be problems coping with the sparsely-documented counties of the north and the south-west – although Miller and Hatcher respectively do a valiant job with the sources at their disposal – but for the more densely populated and economically differentiated counties towards the south and east medievalists can certainly do better and it is likely that future research will do much to refine and qualify the picture presented here.[12]

Reconstructing regional farming systems and their associated agrarian attributes is one thing: interpretating them is another. Environmental, institutional, and economic factors all played a part in determining which crops and livestock were produced in what quantities, but how did they operate and which was most important? It is often assumed that at this early date environmental (climate, terrain, soils etc) and institutional (field systems, manorial structure, etc) factors were paramount but several recent studies have suggested that by the second half of the thirteenth century the market was already exercising a considerable influence upon the type and intensity of production.[13] Yet marketing, its scale, organization, and impact, is the great neglected theme of this volume.[14] Several authors clearly sense its importance. Harvey, for instance, observes that as early as 1086 'some considerable trade in oxen is implicit in the variation from manor to manor and region to region of the relationship between non-ploughing and ploughing animals' (p 123). Farmer, too, in a fine essay on 'Prices and Wages', which is a model of cautious but perceptive scholarship, is impressed at a later date by the scale on which agricultural products were traded: 'one cannot doubt that a well-organized and sophisticated system of grain marketing was operating by the beginning of the thirteenth century' (p 742) and by the close of that century the distances over which goods were transported were considerable 'making into one marketing area all parts of Britain accessible to cheap water transport' (p 743). By the latter date a wide area was supplying London with grain (p 780) and a long-distance cattle trade had probably been established between Wales and the north on one hand and southern and eastern England on the other (p 747).[15] Such developments, coupled with evidence of an acceleration in the circulation of money (p 725), denote significant changes in the structure of the economy and are consonant with a moderate rate of economic growth.[16] How adequate that growth was, given the contemporaneous increase in population, is, however, a moot point and one upon which contributors to this volume are clearly divided.

It was the late Professor Postan's great thesis that by the late thirteenth century the population had basically outgrown the means available for its subsistence; and it is his ghost which haunts this volume and which Hallam for one is at pains to try and exorcize.[17] Towards this end he attempts to reconstruct regional and national trends in population over the period 1086–1350 by comparing tenant numbers as enumerated in Domesday with those subsequently listed in 353 separate manorial extents (the data are summarized in Tables 5, 3–5, 6 occupying pages 537–93). This is a brave exercise but one beset with pitfalls.[18] As Hatcher points out, 'subtenants and landless are usually neglected, some tenants share the same name or possess more than one holding, new settlements tend to escape analysis, and manors were frequently divided or amalgamated

[10] For an alternative analysis of farming types see B M S Campbell and J P Power, 'Mapping the Agricultural geography of Medieval England', *Jnl Hist Geog*, 15, 1989, pp 24–39.

[11] For examples of regional analyses which use probate inventories to measure differences in enterprises between farms see: Overton, *op cit*; P Glennie, 'Continuity and Change in Hertfordshire Agriculture 1550–1700: I – Patterns of Agricultural Production', *Ag Hist Rev*, XXXVI, 1988, pp 55–75.

[12] For Norfolk alone there are at least 125 demesnes with extant pre-1350 grange accounts: B M S Campbell, 'Towards an Agricultural Geography of Medieval England', *Ag Hist Rev*, XXXVI, 1988, pp 87–98.

[13] K Bidick, 'English Medieval Peasants and Market Involvement', *Jnl Econ Hist*, XLV, 1985, pp 823–31; Campbell and Power, *op cit*, pp 37–8.

[14] This is acknowledged by Hallam in his 'Preface', p xxvii. To help remedy this deficiency a chapter by D L Farmer on the marketing of agricultural produce 1200–1500 is promised for Volume III of *The Agrarian History*. See also, D L Farmer, 'Two Wiltshire Manors and their Markets', *Ag Hist Rev*, XXXVII, 1989, pp 1–11.

[15] The food supply of medieval London is currently the subject of a research project funded by the Leverhulme Trust and based at the Centre for Metropolitan History, University of London. Preliminary results for 89 demesnes in the ten immediately adjacent counties indicate that in the decade 1300–09 on average 37.8% of total wheat receipts, 30.0% of rye, 28.8% of barley, 19.0% of oats, and 35.8% of peas were sold.

[16] G Persson and P Skott, *Growth and Stagnation in the European Medieval Economy*, London School of Economics and Political Science, STICERD Economics Discussion Paper, 1987; G Persson, *Pre-industrial Economic Growth: Social Organization and Technological Progress in Europe*, Oxford, 1988.

[17] M M Postan, 'Medieval Agrarian Society in its Prime: England', pp 548–632 in *idem* (ed), *The Cambridge Economic History of Europe, I*, Cambridge, 1966; H E Hallam, 'The Postan Thesis', *Historical Studies*, XV, 1972, pp 203–22.

[18] The method was first expounded in H E Hallam, *Rural England 1066–1348*, London, 1981, and drew almost instant criticism: for example H S A Fox, 'Review of *Rural England*' in *Jnl Hist Geog*, 9, 1983, pp 315–17.

with other manors in the centuries from DB to the Black Death' (p 236). Moreover, it yields results which are demographically implausible. Thus, of eastern and south-eastern England and the east midlands Hallam observes 'down to 1250 the annual rate of increase was 1.8; down to 1300 it was 1.7; and down to 1350 1.1' (p 1004). These are astonishingly high rates by pre-industrial English standards – a rate of 1.8 per cent was not again attained until the early nineteenth century and even then was maintained for no more than a single decade – and to have been sustained over such a remarkable length of time would have required exceptionally high levels of fertility. Yet in so far as any attention is paid to the prevailing demographic regime, it is Hallam's paradoxical claim 'that the peasantry were controlling the size of their families by marrying late' (p 537).[19] Nor is he consistent in his interpretation of his own figures. On page 511 – written, on his own admission, in 1974 – we are told that 'in most parts of England expansion was still the rule right down to 1350' whereas on pages 536–37 of the 1983 'Postscript' he states 'in five out of the eight regions stagnation or decline took place in the half-century before the Black Death, but there are insufficient figures for 1325–50 and for the highland zone to be quite sure of this'. Such caution is uncharacteristic and by page 1005 of the conclusion the original verdict that 'as a whole England was probably still increasing its numbers down to the eve of the Black Death' is reiterated.[20] Moreover, he is more willing to trust his own dubious statistics than the considered verdict of one of his own most able contributors, claiming a significant rise in the population of the west midlands during the generation immediately prior to the Black Death (p 1005) notwithstanding the substantial evidence of settlement retreat and economic recession painstakingly assembled by Dyer for the same period (pp 232–34).

It is only fair to dwell, in conclusion, on two contrasting strongpoints of the book which have not so far been mentioned. The first is Hallam's short but lively chapter on 'The Life of the People', which shows that, given the right subject, his robust style of exposition can be highly effective. For once, author, subject, and approach are in harmony and in his accounts of the, at times, violent opposition of the men of Darnell and Over to the authority of the Abbot of Vale Royal between 1326 and 1340, and the 1327 rising in Bury St Edmunds which culminated in the abduction of the abbot and his removal to Diest in Brabant where he was held hostage 'in mean conditions, without access to books' (p 851), early fourteenth-century England comes briefly and irresistibly to life. These are colourful events and the 1320s were disturbed times: by contrast, it takes much patience to reconstruct the more mundane aspects of early medieval agrarian life. This is especially true, as Hurst and Butler demonstrate in their useful chapter on 'Rural Buildings in England and Wales', of the dwellings and farm buildings in which the majority of the population in this predominantly agrarian society passed their mostly humdrum lives. Indeed, it comes as something of a surprise to discover that there has been little systematic research into this important topic, with the result that 'any national argument about medieval peasant house types is fraught with difficulties, and it is too early to make any wide generalizations' (p 915). Accordingly, this pioneering chapter takes stock of current knowledge and lays the foundations for future research into the subject. It is in this light that *Volume Two* as a whole is best regarded for here, too, the research has barely been initiated, let alone completed, which will allow a reasonably definitive agrarian history to be written of the period 1042–1350. As Joan Thirsk observes at the outset, 'historians' perspectives on the period between 1042 and 1350 have changed as we have watched the course of economic and social development in the last thirty years' (p xxvi). The publication of this volume does not mark the end of the process.

[19] For the most up-to-date and reliable discussion of medieval demographic trends see R M Smith, 'Human Resources', pp 188–212 in G Astill and A Grant (eds), *The Countryside of Medieval England*, Oxford, 1988.

[20] For well-documented evidence of a contrary trend see L R Poos, 'The Rural Population of Essex in the Later Middle Ages', *Econ Hist Rev*, 2nd ser, XXXVIII, 1985, pp 515–30; see also R M Smith 'Demographic Development in Rural England 1300–1348', in B M S Campbell (ed), *Before the Black Death: Studies in the Crisis of the Early Fourteenth Century*, Manchester, forthcoming.

List of Books and Pamphlets on Agrarian History 1988

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Conference Report: Spring Conference 1989

By PETER DEWEY

The conference took place between 3–5 April, at Burwalls Conference Centre, Bristol. This was a splendid nineteenth-century mansion, located beside the Clifton Suspension Bridge. Perhaps unsurprisingly, it turned out to have been at some time in the possession of the Wills family. It is now the conference centre of the University of Bristol (on a self-financing basis, as the official history of Burwalls hastened to assure us, the taxpayers).

After tea and the meeting of the executive committee, the conference began with the annual dinner. This was held in a dining room replete with olde worlde panelling, so with a bit of effort we could imagine ourselves to be Victorian commercial plutocrats. In his after-dinner remarks, Professor Mingay referred to the forthcoming 100th birthday of the doyen of British agricultural historians, George Fussell, and the Society agreed to send him a suitably refreshing present to mark the occasion.

After dinner, we were treated to a talk (plus slides) by Mr Edward Price, who farms Frocester Court Farm, Gloucestershire. This was by way of background to the visit to the farm which we were to make the next afternoon. In a remarkable lecture, Mr Edwards gave a full history of the 260-acre farm, in which he traced human occupation on the site continuously from Neolithic times by way of the Romans and the mediaeval church to the present. The investigations which generated this wealth of connected history had been performed by Mr Edwards or under his supervision, and were a great tribute to his self-taught mastery of a wide range of historical and archaeological techniques; they even included the excavation of (pre-Norman) ridge-and-furrow; a seam of the past so far neglected by the professionals.

On Tuesday morning, snow began to fall. The impression that we were living in a time-locked past increased, and was enhanced by the discovery that Burwalls lay within the boundaries of an Iron Age hill fort. The day began with the AGM of the Society. To the regret of the audience, Gordon Mingay announced that he was stepping down from the Presidency. Michael Thompson was nominated as his successor, and was duly elected. Then followed the first of the day's papers, by Christopher Thornton. This was an examination of trends in mediaeval arable productivity on the Bishop of Winchester's demesne farm of Rimpton (on the Somerset/Dorset border). The main thesis thereby tested was that of Titow, who maintained that grain yields in the later mediaeval period were declining. This view was questioned by Mr Thornton, who showed that statistically the yield figures would not bear this interpretation, either before or after the Black Death. It seems that the more you look at mediaeval land management practices, the more sophisticated they appear.

After coffee, the Society was treated to a long view of agricultural productivity in the European past, by Mark Overton and Bruce Campbell. This did a lot to put the agrarian revolutions of Britain and Europe into an historical perspective, with much emphasis on the contribution of agricultural improvement to general economic growth. It also usefully pointed to the gaps in the historical record; if only the Winchester pipe rolls had persisted into the seventeenth century! To a twentieth-century specialist, they have a romantic ring which is somewhat absent from the annual agricultural statistics collected by MAFF.

In the afternoon, we made the excursion to Frocester Court Farm. The weather turned out to be cold and windy, punctuated by the occasional flurry of snow. En route, Joe Bettey, the conference organizer, kept us interested by describing the countryside flanking the M5, pointing out red deer and monuments, and explaining such arcane oddities as the origin of the name of a motorway service station. At Frocester, Mr Price showed us around his farm, which included a mediaeval barn and a variety of other historically interesting buildings, most of which seemed to have been restored or reroofed by Mr Price in the past two decades. Mr Price lived up to the reputation he had established on Monday evening, and amazed the members of the party with his knowledge of the site. The weather finally drove us into the village pub, where tea had been arranged. For a change, we were back at the conference centre with plenty of time to spare before dinner.

The paper after dinner that evening was by Professor David Smith, of the University of Maine.

Amongst his other distinctions, he is a climatologist, and a leading member of the H G Wells Society, having written an internationally acclaimed biography of Wells. His paper this evening reflected another aspect of his concern with affairs on this side of the Atlantic, for it was about the interest shown in nineteenth-century British farming techniques by contemporaries in the USA. He began by recalling that Sir John Sinclair had sent a copy of his survey of British agriculture to George Washington in 1794, demonstrated that the agricultural journals of New England were positively loaded with material on best-practice British farming, and traced some of the trans-Atlantic movements of agricultural journalists and pedigree livestock, all seemingly designed to bring British agricultural enlightenment to New England. This tale of apparently disinterested progressivism was somewhat undercut by his revelation that the mainspring of the whole endeavour was so to improve the prosperity of New England agriculture that the 'lads would be kept at home', ie encouraged to stay in New England rather than migrate westward. British listeners who had been feeling increasingly smug were jerked out of their complacency by being informed that by the 1880s the New Englanders were looking to Germany rather than Britain for the next lot of best practice to import. Still, it was a good run while it lasted.

On Wednesday morning, Mr Machin, Bristol University's resident tutor in Dorset, gave an illustrated lecture on the use of traditional farmhouses as historical evidence. He compared the building style and history of housing in the three Dorset settlements of Yetminster, Abbotsbury and Portisham. In Yetminster, the status striving of prosperous late-mediaeval and early modern freeholders produced some largish (three-bay), solid houses, some of which incorporated the latest in trendy detail; the round 'bullseye' windows popularized by Wren in his work at Hampton Court were quickly copied at Yetminster. In Abbotsbury, by way of contrast, the houses were small and of poor quality construction; this was explained as a consequence of the agricultural holdings being small and numerous, and of uncertain tenure. In due course, it became an 'open' village of bad housing, in which the (numerous) landlords were unwilling to invest in property renovation. But in Portisham, the existence of very long leases (amounting virtually to freeholds) encouraged occupiers to invest in the improvement of their properties; the result was a standard of housing midway between that of Yetminster and Abbotsbury.

Mr Machin was followed by Celia Miller, of Alan Sutton Publishing, who examined womens' work in nineteenth-century Gloucestershire farming. This was a salutary lesson in what can be gleaned from original sources; whereas the population censuses showed women rapidly declining as farm workers after 1851, examination of farm accounts books showed this to be an over-simplistic picture; some identified women who did not appear in the census were clearly working on farms well into the later part of the century. Dr Miller suggested that farmers may have compensated for the decline in the number of female workers by employing the remaining females for a longer working year. This was a novel and very suggestive line of research, although it was evidently also a very labour-intensive one.

Finally, after coffee, Michael Wintle gave us something completely different, in the form of a paper on nineteenth-century Dutch agriculture. This served to open up the rather Britain-oriented nature of the conference so far. Placing Dutch agricultural development within the wider historical context, he showed how it had adapted to the changing nature of later nineteenth-century markets, within the limitations imposed by geography, drainage and soil endowment. He also made the interesting suggestion that in Holland, unlike in Britain, agriculture was not able to invest in other local enterprises, since its surplus funds were lost in unprofitable speculation in land deals; this reflected the continuing land-hunger in Dutch rural society.

After lunch, the conference dispersed. It was time to go; outside the dining room more snow was falling, and the suspension bridge had almost disappeared from view. Before we ceased to be *soi-disant* Victorian plutocrats and became characters in an Agatha Christie country-house detective story, we left, with many thanks for being organized and looked after so well by Joe Bettey, and the most helpful staff of the Burwalls Conference Centre.

Book Reviews

SUSAN ALLING GREGG, *Foragers and Farmers*. Univ of Chicago P, 1989. xx + 275 pp. £7.95 (pbk); £19.95 (hbk).

Clearly written in an attractive style this book is an important contribution to the fast moving debate that surrounds our concept of the nature of the first farming establishment in temperate Europe. Dr Gregg calls it a 'pot-boiler' in American usage and this must be translated to prevent anyone mistakenly reading these two words in their English sense. It is a deliberately provocative thesis presenting a theoretical and methodological basis from which to gauge the relationships between hunter gatherers (foragers) and farmers at the time of the early development of farming in Europe. Refreshingly (for it is too rare an attribute) the theoretical model is firmly rooted in the archaeology of a specific prehistoric European environment – the Alpine foreland (from the Jura into Upper Austria) during the sixth-fourth millennia BC. Much of the evidence she adduces is from fairly recent fieldwork as yet unpublished.

Dr Gregg commences with a consideration of the social organization critical to a food-producing economy concluding that provision for resource management to allow an appropriate balance between production and consumption is the critical factor, with a range of more or less mobile cultivation patterns emerging with a more or less considerable impact upon local foraging communities. She goes on to suggest that both competitive and complementary relationships can arise between the two communities in these circumstances. These relationships are not simple and can alternate to form complex interactions. There follows detailed consideration of the nature, potential and the stress factors present within early neolithic crop and livestock husbandry. In these chapters resides a mass of interesting statistics illustrating the enormous potential of early neolithic farming economy. This reviewer, who has always found 'minimalist' views of prehistoric husbandry depressing in their ethnocentric patronization, finds these chapters refreshing – he would nevertheless have liked to see them related more explicitly to the archaeological data – something that can now be done. Nevertheless these chapters provide a quarry of material for those concerned with the quantitative interpretation of the archaeological data relating to early farming communities.

Dr Gregg moves thence to the core of her thesis, the formulation and testing of a computer-based simulation exercise aimed at the creation of a 'best fit' picture taking into account the available archaeological data and the input and output requirements of the various components of the agricultural system.

It remains then to set against this model the exploitation of wild resources within the same landscape. The fascinating picture of mutuality developed with farming surpluses coinciding with hunting dearths is of considerable interest. Co-existence of mesolithic populations with neolithic *should* have occurred. Archaeology is still sadly left with the tricky proposition of proving that it did.

This book has made a lot of elbow room for us to consider the problem of mesolithic/neolithic transition in Europe. Every archaeologist interested in this problem (or in similar problems elsewhere) ought to read it.

R J MERCER

DAVID ARNOLD, *Famine: Social Crisis and Historical Change*, Basil Blackwell, Oxford 1988, x + 154 pp. £7.95 (pbk); £25 (hbk).

There is one basic feature of life which is common to classes, races and religions, and in having such universal applicability also wields immense power – and that is food. Famines are about food shortages, but therein lies a far too simplistic definition. What David Arnold does in this very readable book is to measure in physical and social terms the extremes of food shortages across space and through time, in order to come to an understanding of the impact of famines on societies through the ages. Loose language underscores the true magnitude of human crises, but conversely precise definitions elude us. As a compromise I like Arnold's simile, 'If hunger can be likened to disease, famine constitutes its epidemic rather than endemic state'. (p 7) In addition, famines could be both events and structures, that is they could be natural disasters but they could also be part of the structure of society or a stage in the development of society, not simply related to under-development *per se*, but a construct of political, social and economic corruption. To this extent famines might be seen not only as blips on the graph of life but also as integral to the generalized trends of those graphs – less as phenomena or event and more as structure. In addition, as well as being events and parts of structures, famines could also influence structures and cause or contribute to the breakdown of otherwise normal social, economic and political order.

What Arnold's wide-ranging spatial and temporal study does – and it is one of a series of texts designed

to illuminate the past for non-specialists and hopefully non-history social scientists – is make us appreciate the frequency, size, causes of and responses to these events, and the societal structures of which they form a part. The discussion topics range from simple Malthusian causal explanations to more complex ones such as Amartya Sen's provocative causal theory of inequity of distribution overriding mere underproduction. There is an exposition of famine in peasant societies and of the supposed superiority of capitalist transformations breaking the shackles of subsistence. We arrive eventually not so much at a conclusion but rather at a sting in the tail. The effect of European colonialism on, broadly, the resource base of the colonial world we may see as a contributory factor to famines through colonial policies of taxation and general exploitation, with its legacy of an endemic geography of famines. In the decades before 1914 life was seen as a game of survival with Malthusian and Darwinian principles in play of the superior adaptation by Europeans over hunger and want. Famine in a sense became an export commodity establishing the superiority of the white man, and even legitimizing it as a truth. And even the twentieth century 'Relief Agency' reaction to famines, in some minds at least, is another opportunity to indicate the superiority of, broadly speaking, Western democracy. Famine has become a word of everyday life in contemporary society. Sub-Saharan Africa with its Live Aid, Sport Aid, Conscious Aid public spirit of the late 1980s is seen as much as an indictment of modern society – the have/have not world – as the product of natural catastrophe. As historians we tend to take famine too much for granted as just another parameter in explanations of the past, or conversely as the all important parameter in a few well chosen famine biographies. This book should encourage us to think more carefully about what we are saying.

MICHAEL TURNER

PETER GARNSEY, *Famine and Food Supply in the Graeco-Roman World: Responses to Risk and Crisis*, CUP, 1988 xix + 303 pp, 2 maps; 8 tables and 2 figures. £25.00.

In 328–7 BC (as Garnsey argues in this new study) Cyrene in North Africa, according to a famous inscription, sent large quantities of grain to no fewer than forty-one states in Greece and the islands of the Aegean. Of these Athens on its own received enough grain to feed some 30,000 people for one year. Unless the distribution of the recipients merely reflects diplomatic ties with Cyrene, a crop failure seems to have spread in a broad band across Greece from the north-west to the south-east. This may have been an exceptional situation and Cyrene's help was on such an impressive scale that memory of it was still retained there over four hundred years later. However, clear evidence that crop failure or breakdown in regular supply was an ever-present danger comes from the multitude of inscriptions, of all periods and from all over the Greek and Roman world, in which both private individuals and public officials are honoured for actions to relieve food shortages in their own cities. It is extraordinary that this central issue has not received a full discussion before now, particularly if the recent study by Foxhall and Forbes (*Chiron*, 12, 1982, 41ff) is correct to suggest that the ancient evidence points to grain contributing up to seventy-five per cent of the calories in the ancient diet (a figure which is higher than in most Third World countries). There have, of course, been the classic studies of cereals in antiquity by Jardé and Jasny, to which should be added now the pioneering palaeoethnobotanical work of Gordon Hillman and G E M Jones (see most conveniently W Van Zeist and W A Casparie eds. *Plants and Ancient Man, Studies in Palaeoethnobotany*, Rotterdam/Boston, 1984, 1ff. and 43ff.). M S Spurr, *Arable Cultivation in Roman Italy c.200BC–c.AD100*, (1986) has argued plausibly for the continued importance of cereal cultivation in Italy in the late Republic, despite the emphasis on cash crops in our sources, and has pointed to the use of 'inferior' cereals, such as millet, for human consumption. The supply problems of the city of Rome have received detailed analysis by Geoffrey Rickman in his *The Corn Supply of Ancient Rome*, (Oxford, 1980). But Garnsey is the first to draw all these strands together into a systematic model.

The first half of the book is a diagnostic discussion of the incidence and causes of food crises and of the survival strategies which people could adopt. Garnsey starts by making a fundamental distinction between shortage and famine. Modern data from the Mediterranean region suggest a fairly high probability of crop failure in any one year, but a low frequency of successive harvest failures. This phenomenon reflects the high inter-annual variability of the Mediterranean climate. Furthermore, because the considerable regional diversity of the climate evoked a great variety of local economic responses, the chances of a uniform region-wide failure of crops was lessened. Therefore, local food shortages were likely to be a constant problem; but large-scale famines were rare. Garnsey does well to recognize that food crises afflicted rural areas as much as the urban communities. In some ways the population of the countryside was likely to suffer earlier and worse than their fellows in the cities. A characteristic feature of narratives of famines in antiquity was the influx of starving villagers into the cities. The urban

population was closer to those in authority and more able to take concerted action to demand food. As the cities only survived by exploiting the labour and produce of the peasantry, in any crisis the demands from the city were likely to impose hardship on the country-dwellers. One of the best chapters in this book details the strategies which the peasants could adopt in the face of recurring shortages. Garnsey uses the familiar model of the risk-averse peasant, which undoubtedly can be applied very widely to the rural populations of antiquity. But in consequence he may have underestimated the extent to which the existence of markets can modify a peasant's behaviour. Peasants are frequently willing to grow products for the market, even though this makes them less self-sufficient and more vulnerable in times of shortage. Nevertheless, Garnsey's chapter is to be recommended as the best modern introduction to the peasant economy of the classical world.

Large communities, such as Athens and Rome, could not feed their populations from the produce of their hinterland. Yet, although in some cities it was a recognized obligation on the state and on its officials to ensure regular supplies, much still rested on the philanthropic behaviour and patronage of the élite. Not even in Rome, with its unparalleled requirements, was the machinery ever sophisticated. The emperor Claudius, for example, in the face of a crisis, could do little more than to offer incentives to shipowners to persuade them to make their ships available to help the corn-supply. Garnsey has also picked up perceptively a feature which distinguished the aristocracy of Rome from other urban élites. In most cities help with the food-supply in times of crisis was provided primarily by the actions of individual members of the ruling class, who expected recognition for their actions. In Rome, however, the collective ideology of the senatorial class was hostile to acts of large-scale public patronage by individual members, because such actions were seen as attempts to curry popular favour and to build up a pre-eminent personal position in the state.

In the second half of this book Garnsey makes a detailed study of the reaction to food crises in Athens and in Rome, the states for which we have most information. His discussions are full of ideas and at many points have a bearing on the wider history of these two communities. For Attica he suggests a total for the population which is higher than has often been accepted; but at the same time he claims tentatively that the productive capacity of Attica was greater also. In a normal year Athens may never have had to find grain from outside Attica for more than half its resident population. I am less persuaded by Garnsey's idea that food crises were rarer in Athens in the fifth century than in the fourth. It may simply be that the nature of our surviving evidence is better for the fourth century, when the food supply was a favourite topic of the orators.

The chapters on Rome cover more familiar territory and rather too frequently become something of a list. Garnsey is right to play down to an extent the oppressiveness of the burden which the demands for corn for Rome imposed on the provinces of the empire. It is also interesting to note that the city of Rome by no means absorbed every year all the grain destined for it; the Roman state had an important as redistributor of the surplus.

This book confirms Garnsey as one of the best ancient historians at work today. His use of comparative data and his readiness to construct models has not inspired in him, as it has in some, a contempt for the literary and epigraphic evidence. The book not only establishes the framework for all future discussions of this topic, but also is an excellent introduction to the social and economic history of the classical world. Writen with clarity, and with all original sources in translation, it deserves an audience far wider than just ancient historians.

JEREMY PATERSON

ALEXANDER FENTON and JANKEN MYRDAL (eds), *Food and Drink and Travelling Accessories: Essays in Honour of Gösta Berg*, John Donald Publishers Ltd, Edinburgh, 1988, ix + 202 pp. Illus. £12.50.

This volume in honour of the doyen of Swedish ethnologists deals mainly with one of Gösta Berg's many research interests and contains thirteen essays on the material culture and ecology of food in various parts of Europe.

Food vessels are generally used either as storage containers or as cooking utensils, and the examples discussed in this volume belong to the former category. Hugh Cheape studies the milk-carrying craggans of the Hebrides and the ornamental Barvas ware tea-sets produced as souvenirs. Alexander Fenton discusses the use of the terms 'pig' and 'mug' in Scotland and the problems of relating the names to the actual artefacts. Eszter Kisbán's essay describing the way in which bread bowls were used in Hungary for holding the dough before it was placed in the oven admirably illustrates the advantage ethnologists have over archaeologists simply because they are (or were) able to observe how artefacts were actually used. Likewise Fél and Hofer show the value of field interviews in discovering not only how iron pots were used but also how many were needed for different purposes. Another leading Hungarian ethnologist, Iván Balassa, traces the development of Tokay wine production since the sixteenth century.

Dairying may be regarded as a separate category, the churn being virtually an implement to process raw material. Janken Myrdal's essay is a comprehensive study of the plunger churn in Eurasia, and Arnold Niederer discusses the wooden milk vessels of the Swiss Alps. Nils-Arvid Bringeus relates the use of wooden firkins in Sweden for packing butter to the rise of creamery production, and provides a case history of stave manufacture.

The contributions by Holger Rasmussen on egg-collecting and Grith Lerche on woodcock and royal game, in the best tradition of the festschrift, relate directly to contributions made by Berg in this field by supplying evidence from Denmark. This is true also of Nils Storå's study of methods of fish preservation. The last two essays, however, dealing with luxury travel accessories acquired by the National Museums of Scotland, despite their historical importance, relate less closely to the other contributions in this useful congratulatory volume.

TREFOR M OWEN

RICHARD HOLT, *The Mills of Medieval England*, Basil Blackwell, Oxford, 1988. x + 202 pp. £27.50.

Medieval technology is at long last beginning to receive the serious historical attention which it deserves. Now hot on the heels of Dr Langdon's *Horses, Oxen and Technological Innovation* (see this *Review* 36, part I, 1988, pp 87–98), and coming from the same Birmingham stable, is Dr Holt's scholarly and well-written study of medieval mills and milling. Drawing upon an impressive array of primary and secondary sources Dr Holt traces the history of milling from Anglo-Saxon times down to the end of the Middle Ages, dealing along the way with such topics as the origins of the watermill, the invention and diffusion of the windmill, the role of landlords in mill investment, the extent to which milling was a seigneurial monopoly, the profits of milling, the millers (whose treatment will be of special interest to Chaucerian scholars), mill technology, the application of mechanical power to industrial processes (which historians are shown to have exaggerated), and the changing numbers of mills. Along the way Dr Holt debunks some of the more exaggerated claims that have been made for technological advance and lays to rest several long-cherished historical beliefs, such as the notion that the distribution of Domesday water mills reflects an earlier pattern of innovation and diffusion, or the idea that mills were predominantly a means by which lords expropriated surplus production from their tenants to themselves (since this fails to take account of the substantial number of independent peasant mills). Among the more interesting and important conclusions to emerge is the evidence of a doubling of mill numbers during the twelfth and thirteenth centuries along with signs that over the same period the mean capacity of individual mills may have increased. The windmill also emerges as an unequivocally medieval invention, and possibly – if Dr Holt's case is accepted – English to boot, appearing first *circa* 1180 and diffusing rapidly during the first half of the thirteenth century in those parts of the country which were deficient in water power, notably the eastern counties. Since windmills were expensive to construct they were from the outset the product of seigneurial investment, thus demonstrating the readiness of lords to both innovate and invest when there was the lure of substantial profits.

The Mills of Medieval England does not claim to be definitive: firm foundations are laid but there is much that further research can tell us. The thorny question of the contribution of milling to economic growth is raised but not answered, and there is no discussion of the spatial organization of milling. The book gives the impression that most grain was milled and consumed locally, but what of the considerable trade in grain? Presumably such grain was milled at the place of destination rather than of origin, in which case a study of urban milling would clearly repay attention, especially as it would further help to redress the impression of seigneurial domination afforded by the countryside. More also needs to be known about developments during the later Middle Ages, when there was a substantial decline in mill numbers, for it was precisely at this time of labour shortage that such a labour-saving device should have come into its own. Clearly, what was important was not so much the absolute number of mills as their *per capita* provision.

This book is therefore to be welcomed and the ESRC and Leverhulme Trust are to be applauded for funding the research project upon which it is based. It is one of a number of recent works which is helping to build a clearer and more informed understanding of this formative and often misrepresented period.

BRUCE M S CAMPBELL

R H C DAVIS, *The Medieval Warhorse*, Thames and Hudson, 1989. 144 pp, 50 plates. £14.95.

Professor Davis offers a stimulating, if very brief, introduction to a subject which deserves more attention from historians than it has hitherto received. As he so rightly says 'the business of acquiring and producing warhorses was a major industry in the Middle Ages'. A good horse might cost several times the annual income of a knight, stud farms were a major investment, and, by the thirteenth century at least, high-quality horses were a not insignificant commodity in European trade. The

French crown imported perhaps 2500 horses a year from Italy in the mid-1290s at the height of Philip IV's war with England. The strengths of this book are the author's ability to relate horsebreeding to methods of warfare and training, and to equine biology. He provides also a short but illuminating discussion of early veterinary tracts about horses, and a very useful glossary of equine terms found in medieval sources. But as a historical treatment this book is really too brief to be more than an introduction. Even on England, which looms large in the author's study and to which a separate chapter is devoted, the sources are not exploited anywhere near enough. The analysis is thus impressionistic, and anyone looking here for, let us say, estimates of total royal expenditure on horsebreeding at any particular moment will be disappointed. Italy and Spain, the sources of high-quality imported horses for Northern Europe in the later Middle Ages, receive even more cursory treatment. For example, while some attention is devoted to the *equitia* accounts of the English kings, no use had been made of the published reconstructions of the registers of the Angevin kings of Naples, though their dominions included one of the main breeding areas for superior horses. Professor Davis is also surprisingly naïve in his use of visual evidence. This *is* therefore a readable introduction to a neglected subject, but no more than that. One hopes that it may inspire one of its readers to provide the really thorough treatment which that subject deserves.

G A LOUD

IAN ARCHER, CAROLINE BARRON and VANESSA HARDING, *Hugh Alley's Caveat. The Markets of London in 1598*, London Topographical Society, Publication No 137. 1988. viii + 105 pp. Illus. No price stated.

Hugh Alley was a professional informer; thus a member of one of Tudor London's most unpopular social groups. Yet in the absence of effective official law enforcement, men like Alley performed a useful and necessary function, and continued to enjoy the protection and patronage of government despite a constant litany of complaints at their alleged abuses. In 1598, after a decade of pursuing London's powerful brewers, Alley turned his attention to the markets, a byzantine system of regulation showing signs of increasing strain under the pressure of rapid population growth and steady urban encroachment. The market system in operation in the 1590s was essentially that developed during the medieval period, designed to separate different types of traders into different markets and limit trading to certain well-defined areas of the city. The problem was that the essential principle on which the system operated, that the producer should market his own produce without the intervention of middlemen, had become increasingly impracticable as the growth of the city took producers further and further away from the consumer. By the late sixteenth century expanding trading hours and increasingly diverse markets had all but swamped the traditional system of regulation. The document reproduced here, Alley's *Caveat*, was conceived as part of a plan to establish himself as enforcer of the City's market regulations. It contains no specific proposals: the value for historians lies rather in the series of illustrations of London markets and officials with which Alley illuminated his call for reform. But it may be assumed that Alley made other proposals, since in 1599 he received the coveted appointment to oversee the markets, an office he performed until the City abruptly terminated the system of overseers in 1602.

This attractive volume has a double value. Much of it is given over to a photographic reproduction of the original document, a record which although of varying quality as graphic art, does provide a valuable and sometimes unique representation of some of the City's physical features. The illustrations are elucidated in a careful and detailed commentary, which complements and expands upon the general remarks on the London market system in an excellent introduction. Here it is made clear why regulation of the markets was a cause of such concern to the City authorities; and why, despite their best efforts to maintain the traditional practices, street-traders, hucksters and more ambitious middlemen continued to proliferate. Thus in the hands of these three expert editors, Alley's *Caveat* becomes something more than a pleasing curiosity: rather, it takes its place as part of a widespread agitation for reform in the tense and difficult conditions of the last decade of the sixteenth century. Yet in so far as the measures proposed were essentially dedicated to propping up a regulatory system which had become increasingly impractical, schemes such as Alley's, however ingenious, could not in the long run solve the problems of an expanding market. Alley's scheme was destined to go the way of much other free enterprise economic regulation as the age of the projector came to its untidy end.

ANDREW PETTEGREE

MICHAEL ASTON (ed), *Aspects of the Medieval Landscape of Somerset. Contributions to the landscape history of the county*. Somerset County Council, Bridgwater, 1988. 136 pp; 44 illus. and 34 maps. £5.95.

In this attractively produced and beautifully illustrated book Michael Aston has brought together eight authorities (including himself) to produce a most informative and valuable re-interpretation of

recent work on the evolution of the Somerset landscape in the medieval period. The seven chapters in the book had their origin in papers given at a conference held in 1983, and the editor has not attempted to reconcile some of the differences of interpretation which occur because, as he explains in his preface, some of the issues are still controversial, and healthy debate is to be encouraged, particularly about the early medieval landscape. When historians are dependent on incomplete archaeological survivals, a scatter of land charters (some of which may be forgeries), monastic chronicles, and miscellaneous records as well as the surviving topographical features for the Anglo-Saxon landscape, it is hardly surprising that interpretations differ. The real surprise is that so much has been learned and that our understanding of the medieval landscape has been so greatly changed by recent research. In particular the extent of forest clearance prior to the arrival of the Anglo-Saxons seems to have been much greater than was formerly realized, and the extent of open-field systems prior to the twelfth century rather less; though these issues are still debatable.

The book does not attempt to cover all aspects of the medieval landscape but concentrates on woodlands, estates and their boundaries, farming systems, settlement patterns, the church, parks and gardens, and the problems of conserving historic landscapes – a choice of topics mainly fortunate for agricultural historians. These are sub-divided as follows: 'woods, hedges and forests' by Oliver Rackham, 'the late Saxon landscape, the evidence from charters and placenames' by Michael Costen, 'the Church in the landscape, part I, the Anglo-Saxon period' by Michael Costen, and part 2 'from the Norman conquest to the Reformation' by Joseph Bettey, 'settlement patterns and forms' and 'land use and field systems' by Michael Aston, 'parks, gardens and landscaping' by John Harvey and 'conserving the historic landscape' by Kenneth Brown, Robert Croft and Russell Lillford.

Although all the contributions are excellent, Michael Aston's chapter on land use and field systems will probably be the most interesting to agricultural historians, particularly for its perceptive account of how a generally prevailing infield–outfield system was gradually converted into a more diversified rotational common-field system in much of Somerset mainly during the tenth to fourteenth centuries. This clear and sensible treatment resolves many previously confused issues.

The inclusion of a chapter on parks and gardens is to be welcomed, as is the concluding chapter which analyses the manifold problems of conservation in a sympathetic way.

MICHAEL HAVINDEN

R W AMBLER, B and J WATKINSON, *Farmers and Fishermen: the Probate Inventories of the Ancient Parish of Clee, South Humberside 1536–1742*, School of Adult and Continuing Education, University of Hull (Studies in Regional and Local History Number Four), 1987, 203 pp, 1 map, 8 tables. £4.50 (incl. p&p).

Clee lies on the southern shore of the Humber estuary, under present-day Grimsby and Cleethorpes. In this well-presented collection, forty-one pages of introduction precede transcripts of the 211 surviving inventories. A glossary of local terms (including unfamiliar names for furniture or domestic tools) and drawings of the signature marks are useful extras.

The inventories are unevenly distributed over time: ninety are sixteenth-century, and sixty-two more are pre-1640. These cover the majority of substantial farmers. The parish register gives occupations for 126 of 133 adult males buried between 1609 and 1640. Of thirty husbandmen and yeomen (a very hazy distinction in terms of wealth), twenty-five have inventories, compared with only seven of eighty-five labourers.

The main commercial specialities within a mixed agrarian economy (where many men also fished) were apparently cattle and sheep. As early as 1541, William Colbes had 160 sheep, 25 cattle and 11 horses (p 44), but average holdings were considerably smaller. Herds and flocks were increasing in size, but without farms becoming more specialized. Barley cultivation expanded to partially replace other crops, but the scale of this increase is unclear, since much grain is simply called 'corn'. Leys appear in rotations from soon after 1600.

The introduction tabulates average corn and livestock holdings, and – too briefly – notes increases in numbers of rooms, the quantity of domestic furniture and personal possessions. Perhaps they were limited by space, but the authors are too tentative here, merely referring the reader to previous work based on Lincolnshire inventories. This also highlights their reluctance to compare Clee with other areas. This is regrettable since Lincolnshire has been well-served by agricultural and local historians.

Other than a glebe terrier (showing that several open-fields existed in 1601) and some material from Sidney Sussex College (landowners who allowed rent reductions for land eroded by the sea), there is little attempt to link the inventories to other sources. We are told about crops and livestock, but not landownership, or tenure, or the extent of common grazing rights. Were Clee's farmers owner–occupiers or tenants? Did much land come to be owned by men from other parishes, as in other parishes hereabouts? A consideration of factors like landownership, consolidation and enclosure is vital to the broader questions of agricultural change that the

authors touch on. What we get here is only half the story. It is an interesting collection of inventories to have in print, but will be useful to historians as accessible raw material, rather than as a successful local study.

PAUL GLENNIE

J T CLIFFE, *Puritans in Conflict. The Puritan Gentry during and after the Civil Wars*. Routledge, 1988. xi + 255 pp. £30

Cliffe's book does not attempt to revive the long since subsided gentry controversy but provides a sequel to his earlier survey of *The Puritan Gentry* (1984). The starting point in his new book is 1641 and he moves forward, sometimes impressionistically, to the very changed conditions of the 1660s. He continues to focus on the leading Puritan gentry – those worth over £1000 a year – and in particular those who took the Parliamentarian side in the Civil War. We are offered case studies of well-known figures such as Sir Simonds D'Ewes, Sir Robert Harley, Sir Henry Vane, and Bulstrode Whitelocke, and get some sense of the way in which the godly saw the military struggles of the 1640s as a holy war. Puritan neutrals and Puritan Royalists, however, are not overlooked in Cliffe's account.

In no sense a statistical treatment, Cliffe's survey takes up such themes as the relations between Puritan clergy and gentry, the later divisions between Presbyterians and Independents, and tensions between Parliamentarian gentry and the army in the aftermath of the first Civil War. He rounds off the book, in a chapter entitled 'The Twilight of Godliness' with a brief discussion of how and why the Puritan gentry acquiesced in and accommodated themselves to the different circumstances prevailing after the Restoration. He shows how they, like others of the élite, saw the benefits of the stability which accompanied the return of the monarchy and the Anglican Church.

Readers of the *Review* will be particularly interested in Cliffe's treatment of the price paid by the Puritan gentry in the war effort of the 1640s – a price in some cases as high as that experienced by the defeated Royalists. (It is a curious historiographical quirk that historians have tended to overlook Parliamentarian losses.) He underlines the major point that the rent revenues of the Parliamentarian gentry fell substantially in the Civil War period, either through difficulties of collection or through the inability of hard-pressed tenants to pay. High levels of war-time taxation also took their toll. 'No taxes laid by the King of Spain upon any of his dominions', groaned Sir Simonds D'Ewes, 'or by the Great Turk upon the Greeks in Asia ever equalled those which are now laid upon the said Associated Counties (of East Anglia)'. Plundering at the hands of ill-disciplined Royalist troops proved another major hazard. Bulstrode Whitelocke's house in Buckinghamshire was one of the first to be ransacked after civil war had started. His horses were taken and the deer in his park were slaughtered or turned loose. In 1646 Sir Robert Harley – whose indomitable wife had bravely defended his estate at Brampton Bryan, Herefordshire in his absence – reckoned that his material losses in the war amounted to £12,000. Sir Thomas Jervoise in Hampshire estimated that sheep, cattle, corn and household goods to the value of £6000 had been taken from him between 1643 and 1645.

It should be noted that some of those Parliamentarians whose estates suffered war-time damage never received any compensation; Sir Robert Harley, John Hutchinson and John Pyne are examples. Such men, however, were untypical in their misfortune. Others like Sir Gilbert Gerard profited handsomely from the war through the acquisition of confiscated property and through office holding. (In Gerard's case £60,000 in gratuities came his way as treasurer of the army.) In this, as in other respects, Cliffe usefully illustrates the diversity of experience of these Puritan gentry in conflict.

R C RICHARDSON

PAUL BRASSLEY, ANTHONY LAMBERT and PHILIP SAUNDERS (eds), *Accounts of the Reverend John Crakanthorp of Fowlmere 1682–1710*, Cambridgeshire Records Society, volume 8, Cambridge, 1988, 293 pp, 6 figures, 6 tables, £15. (Free to members of the Cambridgeshire Records Society.)

John Crakanthorp was rector of Fowlmere, five miles north of Royston, from 1667 until 1719. For much of this time he kept detailed records of his domestic income and expenditure, and of the harvesting and sale of crops, of which the known survivals are printed here. Neither the harvest accounts nor the household accounts cover the whole period, nor do the periods covered by the two accounts overlap. Far from it, for the harvest accounts cover the years from 1682 to 1692, and the household accounts detail Crakanthorp's income and expenditure much later in his life, from 1705 to 1710. It is clear that he did keep the accounts at other times, and we can but hope that other volumes will eventually surface. Meanwhile, Crakanthorp has been magnificently served by his editors and printers (though gremlins have got at part of table 6, p 32).

The harvest accounts for each year begin with general observations on the harvest and weather, after which they record the quantity of each grain type harvested, and how it was used. Unfortunately,

there is no parallel record of livestock production, so our picture of Crakanthorp's farm income remains incomplete. His main cash crop was barley, most of which was sold to be malted in Royston, the nearest London out-market. Loads were threshed, winnowed and taken for sale weekly or fortnightly through the winter. Alas, since the accounts were for record-keeping purposes rather than for calculating profits, neither profits nor productivity can be calculated from them. Brassley's attempt to estimate crop yields, by dividing the harvest brought in by the acreages sown in the previous year, founders because Crakanthorp does not distinguish the crops grown on his own lands (the glebe and his other land totalling about a hundred acres) from those collected as tithes from other farmers.

But if Crakanthorp was no Loder or Best, he appears to have been meticulous and orderly in record keeping and, so far as may be judged from the accounts themselves, in his farming, housekeeping, and local relationships. His attention to details is especially valuable in the household accounts. These embrace thousands of transactions, most involving very modest sums of money, and give a vivid sense of small-scale local buying and selling, of his charitable donations, and his (limited) expenditure on personal consumption. There is fascination on almost every page and many readers may find it difficult to stop reading once started.

The thirty-three page introduction is a model of its type, anticipating and answering many questions about Crakanthorp's context in Fowlmere, and analysing some aspects of his farming. His income is compared to that of other clerics, and his Puritan leanings explored. His own and other Fowlmere probate inventories are used to discuss agricultural practice and specialization. His successor's lessee's inventory is used to reveal more about the glebe. The pattern of his sales for different grains are compared, and linked to differing market competitiveness for different commodities.

Those wishing to quarry the accounts for material on a single topic (cropping patterns, the timing of sales, equipment for horses, servants' wages, charitable giving, medicines, to name but a few) will be grateful for the excellent index. Brassley's concluding comment that the accounts 'provide an interesting glimpse of the domestic economy of a clergyman's household' is a major understatement, and this volume is a most welcome addition to the literature.

PAUL GLENNIE

R G GILLESPIE, *Settlement and Survival on an Ulster Estate: The Brownlow Leasebook 1667–1711*, PRONI, Belfast, 1988. lxv + 182 pp; 5 appendices; 5 maps; 7 illustrations. £9.50.

A common irritation for scholars working in Irish history is the destruction or loss of illuminating evidence. Historians of late seventeenth-century Ulster landed estates are particularly aware of the paucity of relevant records. However, one valuable archive which has survived is that of the Brownlowsderry estate in the north of County Armagh, and now held in the Public Record Office of Northern Ireland.

Brownlowsderry was a modest property of fourteen square miles, and included the town of Lurgan. In 1661, along with other properties in counties Louth and Monaghan, the estate was inherited by Arthur Brownlow, *alias* Chamberlain, from his grandfather William Brownlow. A condition of his inheritance was that Arthur should change his name from Chamberlain to Brownlow. In 1667 Arthur conducted a survey of his property. This survey formed the basis of his leasebook and served to record the subsequent administration of the estate over the next forty-four years (1667–1711). Dr Gillespie has approached his editorial task by writing a detailed introduction to the text of the leasebook, and has concluded the volume with five appendices elaborating on the Brownlow family and the development of the estate.

The late seventeenth century was an era of dramatic change in Ulster, and Dr Gillespie uses the introduction to set the leasebook in the economic and social context of the period. Thus he discusses population growth, the rise in agricultural exports, the increasing importance of rural domestic industries, the development of markets and fairs, and the expansion of communications and towns. But the most pertinent section is that on landlords and tenants. Dr Gillespie clearly and succinctly explains the relationship between the two, setting out the obligations of one to the other, using the Brownlow leasebook to illustrate leasing strategies general in the province, as well as to point out those peculiar to the Brownlow estate.

Turning to the leasebook itself, the first section contains the survey of existing leases of Brownlowsderry Manor in 1667. The information recorded includes the names of the parcels of land or tenements leased, an abstract of each lease and the rents. Inserted later, and placed after the Brownlowsderry survey, is a section containing abstracts of leases made after 1667. This is followed by the leases of a 500 acre property known as Nizelrath or Nisterach in County Louth also surveyed in 1667. Additional information includes a list of tenants with leases renewable for life, together with renewal fines; the half yearly rental for 1667 of the Brownlowsderry, County Louth and Monaghan lands; and the half yearly rental of Sir William Brownlow's estate for 1635.

The value of this publication is not only the insight it provides into the management of an Ulster landed estate in a period of sparse evidence, but also the light it throws on a wide range of economic and social themes important to the evolution of Ulster society. The text of the leasebook is clearly set out and enhanced by useful footnotes, appendices and index.

E MARGARET CRAWFORD

E A WRIGLEY, *People, Cities and Wealth: The Transformation of Traditional Society*. Basil Blackwell, Oxford, 1987. x + 348 pp. £29.50.

This is a volume of eleven collected essays by Professor Wrigley, grouped around the three broad themes of 'the background to the Industrial Revolution', 'urban growth', and 'population, marriage and reproduction', and prefaced by an introduction, 'What was the Industrial Revolution?' Eight of these eleven essays have already appeared in print, between 1962 and 1985. The book adds up in the main to a retrospective collection of work by one of our most creative and consistently thought-provoking scholars, with three new essays and an introduction.

Many of the pieces reprinted here will therefore be familiar to readers of the *Review*, if nonetheless the more valuable inside a single cover. Thus the section on 'urban growth' reprints the classic study 'A simple model of London's importance in changing English society and economy, 1650–1750' together with the recent comparative 'Urban growth and agricultural change: England and the continent in the early modern period' to focus upon the major issues of urbanization and agricultural growth, which are clearly central to modern analysis of the stimuli for gains in agricultural productivity.

Wrigley's demographic work is reflected by four studies here, the much-cited study of family limitation at Colyton, a revisionist piece on the fall in marital fertility in nineteenth-century France, and the article much employed as a crib to the Wrigley and Schofield *Population History of England*, 'The growth of population in eighteenth-century England: a conundrum resolved', which appeared in *Past and Present* in 1983. The fourth essay is the group, 'Fertility Strategy for the Individual and the Group', may be less familiar, and provides a speculative analysis of 'unconscious rationality' of changes in fertility in pre-modern societies. Agrarian historians considering the tenacity with which peasant farming families stuck to their few acres will find Wrigley's discussions of such matters as heirship strategy and the timing of family formation valuable and often provocative.

Five studies, including the introduction, examine the background to the Industrial Revolution, and consider such issues as the supply of raw materials (1962) and the complex mix of region and nation in the analysis of processes of modernization. A new study demonstrates the perceptions of the period of the Industrial Revolution by the classical economists to reinforce the modern current of thought which emphasizes the continuity of the two centuries or so before 1840. Perhaps most interesting of all the studies included in this section is also new, 'Some Reflections on Corn Yields and Prices in Pre-industrial Economies'. This wide-ranging study interrogates the price and yield data of Gregory King and Charles Davenant, as tested by Jevons, and applies the findings to English and French grain price series to suggest conclusions that demand further, more intensive, research. The essay stresses the long term significance of the difference between gross and net yield in the context of secular gains in the former, the links of these through the price mechanism to the stability or otherwise of standards of living, and raises vital issues relating to the analysis of physical and labour productivity in farming. It demands to be read by all those interested in medieval and early modern agriculture.

In his introduction, Wrigley suggests that such a volume may have 'narcissistic undertones' and that is often true, if the volume has no other source of intellectual coherence than the accident of common authorship. He does not wholly succeed in proving the coherence of this present collection, but the recurrent themes and the quality and clarity of analysis make this a valuable and well-produced book, worth buying for the reprints alone. The importance and originality of the major new study makes this book essential reading for all interested in research in agrarian history.

J A CHARTRES

H B CARTER, *Sir Joseph Banks*, British Museum (Natural History), 1988. xi + 671 pp; 544 illustrations; £45.

This is a massive biography as befits a man of stature who lived (1743–1820) during an eventful period of history and contributed much to it. Best known as a naturalist on Cook's *Endeavour* and as the one who recognized the potential of Australia for European settlement, Banks was later involved with the introduction into NSW of Merino sheep whose wool still dominates the Australian economy. But he had great influence in other parts of the world and in other areas of knowledge – as someone who was elected President of the Royal Society at 35 and

remained so for 42 years until his death, the contribution of Sir Joseph to science has been neglected by historians. One reason for this is that his contribution lay in the encouragement of others rather than through his own few publications.

Those who knew the author, H B Carter, as a wool biologist will remember his meticulous attention to detail which has been fully applied (sometimes overwhelmingly so, it must be said) during the 25 years it took him to produce what is a definitive biography which redresses the balance, and which it is difficult to imagine being surpassed, despite Carter's modest claim that his 'sampling of the documentary mass' is merely an introduction. Far more than commendation is due to Harold Carter as author and the Natural History Museum as publisher. Banks even had a hand in the origin of that museum and its library now holds copies of all the research material used by Carter in the book's preparation.

The book is divided into three parts. The first, 'The Traveller', traces the Banks family back to its Yorkshire origins in the seventeenth century, covers Joseph Banks's education at Harrow, Eton, and Christ Church Oxford and entry into the scientific circles of London from which he was to be elected Fellow of the Society of Antiquaries and of the Royal Society by the age of 23. Income from his Lincolnshire estates allowed Banks to pursue his interest in natural history and in 1766 he went on his first expedition, to Newfoundland, before his best-known travels in the Pacific from 1768 to 1771. Then followed northern voyages before a period in London, with his election as President of the Royal Society in 1778 and his marriage in 1779, when he became established in Soho Square.

Part Two, 'The Savant' (1778–97), covers discussions on the settlement of Australia, and Banks's successful application to become a baronet in 1781. Here we read of his involvement with the *Bounty* voyage which resulted in the introduction of breadfruit into the West Indies, and how Banks went to great and secret lengths to obtain Merino sheep from Spain, four Negretti rams and 34 ewes reaching Windsor via Southampton in 1791. The Royal Flock so established on George III's farm was personally managed by Banks for fifteen years.

In Part Three, 'HM Minister of Philosophic Affairs' (1797–1820), more detail is given of the involvement of Banks in the assessment of the first Merino wool from Australia and the sale of sheep from the Royal Flock to Macarthur for export to NSW. There are 27 appendices, a very detailed index, and a 120-page bibliography, but no references in the text since the sources are to be published in a separate guide.

M L RYDER

T M DEVINE, *The Great Highland Famine*, John Donald Publishers Ltd, Edinburgh, 1988. xvi + 349 pp, 2 maps. £22.00.

It may have been the close proximity of Christmas, not the best time to contemplate destitution diets, but this reviewer approached the task of digesting 349 pages on the Highland famine unenthusiastically. Did less than a decade of Highland history (and not all of the Highlands at that) really merit such prolonged treatment? Did the famine justify the epithet 'great' when not many more than 160,000 souls, the population of the crofting counties in 1841, were at risk and when excess mortality, the indicator favoured by modern students of famine, was slight? Such scepticism was not immediately dispelled by the claim that the term 'Highland Famine' was justified because of the repeated failure of the potato crop between 1846 and 1855, the scale of external assistance, and the demographic consequences. These seemed trite by comparison with the Irish famine. Moreover, the explicit rejection of sophisticated quantitative analysis seemed to herald a descriptive account.

Such misgivings quickly disappeared because the subsistence crisis has been used to re-interpret a much wider range of issues. The starting point is the recognition of two distinct social formations: a farming society in the south and east, and a crofting region in the Western Highlands and Islands. Most of the study concentrates on the latter, more vulnerable region; farming society plays a secondary role as a comparator. The first part of the book traces the origins, nature and demographic effects of the crisis. The second considers the responses of landlords, government, lowland charities and, not least, the people themselves. The third looks at the pattern of emigration and migration. Much new source material has been unearthed, presumably by the indefatigable project assistant, Willie Orr, and used to subject old generalizations to rigorous cross examination or, to use one of the author's favourite phrases, 'systematic analysis' (Glaswegian for teutonic thoroughness).

Older generalizations which are re-assessed include clearances for sheep farming, which Devine sees as a result rather than a cause of economic weakness without any automatic connection to the crisis of the 1840s; emigration as a solution to population pressure; the famine as a turning point in the demographic history of the Highlands; the role of landowners in famine relief; its effect on their finances; and, mass migration from the west to the east.

Agricultural historians will find the chapters on the landed classes and temporary migration particularly useful. Hunter's thesis that landowners did little to support the tenantry is found wanting.

Traditional obligations still counted, though landlords were not slow to coerce their tenants, as local studies of Lewis and Tiree later in the book show. Equally, landowners were subjected to government coercion should they fail to meet their obligations. Their ability to do so reflected an influx of new owners (62 out of 86 estates had acquired new owners since 1800), the buoyancy of sheep and wool prices during the crisis, and the limited importance of rentals as a source of income. Temporary migration to the prosperous agriculture of central and southern Scotland increased markedly and was crucial to survival; it also made nonsense of the notion that this was a parasitic population which did nothing to help itself.

This new study invites comparison with recent research which has interpreted the Irish famine as a case of extreme bad luck, the result of an unprecedented and therefore unpredictable, ecological disaster whose consequences were exacerbated by an inadequate relief effort. Devine, by contrast, stresses the weaknesses of the crofting region throughout the 1820s and 1830s. If crofters had good luck, and it seems an inappropriate term for such a poverty stricken community, then it lay in the later arrival of the blight, the response from charities already primed by the Irish tragedy, and the Victorian belief that Highlanders were 'virtuous' and deserving; the Irish 'unregenerate' and undeserving.

It may seem uncharitable to record two reservations about this splendid contribution to Highland history but not much quantitative sophistication is required to calculate population growth rates correctly rather than as crude percentages, and why try to rehabilitate that atrocious humbug, Sir Charles Trevelyan with his 'final settlement' of the Highland problem?

RON WEIR

MALCOLM CHASE, *The People's Farm: English Radical Agrarianism, 1775–1840*, Clarendon Press, Oxford, 1988. ix + 221 pp. £25.

There has in recent years been growing appreciation of many aspects of early nineteenth-century radical thought, and on the crucial radical agrarian strand of that thought Chase's excellent book is the best study now available. It will prove particularly illuminating, as a fundamental dimension of agricultural history many readers will not have explored or appreciated. For it concentrates on the main themes of radical agrarianism in this crucial period: proposals for land and property reform, the work and influence of Thomas Spence and his circles in London and the provinces, including closely integrated discussion of Maurice Margarot, Richard Carlile, Thomas Evans, Hetherington, Thomas Preston, Davenport, Wedderburn, Thistlewood, Cobbett, O'Connor, and many others. The book contains what must be almost the most exhaustive spadework feasible into the history of the ideas of this group of thinkers, and of their influence subsequently, and its author must be warmly congratulated on the thoroughness and ingenuity and with which he has pieced together the strands of an intractable, neglected and important area in the history of ideas. One is persistently impressed by the archival and other research by which Chase ties together his subject, by the subtlety, sophistication, balance and security of his treatment of it.

The persistence of the themes of access to land, of anti-enclosure sentiment, of communality, of contested notions of private property in land, the heritage of a sense of unjust exclusion from the land, emerge very strongly in this study. The roots of oppression were widely located in a conviction that the soil had been misappropriated. The enormous popularity of the Chartist Land Plan (70,000 weekly subscribers at one point) is convincingly tied together by Chase with the longer lineage of radical agrarianism, mediated via many thinkers but originating to a considerable extent in the work of Thomas Spence. The Chartist Land Plan 'dramatically fathomed the depths of working people's continuing attachment to the land . . . [it] gave shape to deeply rooted popular feeling'. Chase is clearly right to stress 'the vitality at grass-roots level of agrarianism, and the Spencean ideas at its core.'

And his stress that the main challenge was to particular *forms* of property, rather than to production itself, is extremely instructive. The book is indispensable with regard to attitudes to Nature. The labouring poor clearly did not share a pastoral aesthetic which minimized agricultural production; they always insisted upon the huge productive and employment potential of land, and fought against the wastage of land in parks and the like in the hands of those who owned it. Land *and work* were upheld, this was not a form of 'pastoral' radicalism. In this and many other regards, Chase's admirable book will open a whole new dimension to our understanding of popular attitudes to land in this period, will bear importantly on current debate on the function of land and the rights of ownership of it, and above all will assert for Thomas Spence the reputation he rightly deserves in the history of ideas and of the working classes. This is a most important and significant book.

K D M SNELL

S J G HALL and J CLUTTON-BROCK, *Two Hundred Years of British Farm Livestock*, British Museum (Natural History), 1989. 272 pp. Illus. £19.95.

This is a 'coffee-table' book profusely illustrated

with excellent (mostly coloured) reproductions of an amazing collection of old livestock paintings and photographs. The price is cheap and the biologist authors have done extremely well to cover all farm animals including horses and donkeys, but excluding poultry, although there are many places where even a popular text could have been more accurate. I see little biological or historical basis in the arrangement, which starts with cattle instead of goats, the first farm species to be domesticated, and among goats the most-recent exotic introductions are put first instead of last. With sheep, instead of grouping them throughout correctly according to biological type, as with the long-wools, most are grouped according to environment (eg 'upland') which gives no indication of their biological relationships. 'The Merino Experiment' (itself somewhat garbled) is tucked between two chapters on long-woolled sheep. The greatest error occurs in the discussion of the Cotswold long-wool breed where it is implied that better nutrition was the origin of the long-woolled type, whereas this has a genetically distinct type of fleece. The authors missed a marvellous opportunity to draw attention to the mystery of how a primitive long-wool with a fleece like that of a modern Romney breed, mutated (for mutation it must have been) to the very long, curly and lustrous modern long-wool. A similar mutation apparently occurred in Angora goats to produce mohair.

A white belly is a feature of the Castlemilk variety of the Shetland sheep, yet the illustration chosen (possibly not by the authors) shows a self-coloured animal. Text references are given where essential, otherwise there is a very full bibliography to allow the serious student to go into greater detail. There is a tendency, however, to use older (contemporary) sources in place of more critical recent ones, with the inherent trap, into which historians often fall, that the erroneous nineteenth-century explanation is accepted because modern ideas on the subject have not been sought. A good index rounds off a useful introduction to the subject whose unique illustrations themselves provide valuable source material, provided that the reader realizes that the text has its limitations.

M L RYDER

PETER BENES (ed), *The Farm*, Boston University, Boston, 1988. 192 pp; 4 maps; 11 figs; 34 plates. $9.

The Farm is a collection of nine articles selected from the papers given at the 1986 Dublin (New Hampshire) Seminar for New England Folklife. Three of the articles, based on journals kept by farmers in the nineteenth century (from Nova Scotia, Massachusetts and Maine), form the first section of the book, and are preceded by a discussion of cooperation between farmers in Maine, for the purpose of assisting one another in farm operations, road maintenance, building work, and care of the sick and needy. Taken together, the four articles throw much light on the day-to-day working of the farms and its highly seasonal nature. Also revealing are the extent to which goods and services were paid for in kind rather than cash, the use made of borrowing and credit, the families' political and religious views, and their use of leisure.

A second group of three papers deals with farm improvement, beginning with an account of a family of gentleman farmers, whose members included a doctor and a storekeeper and tavern keeper. A further discussion considers the role of the New England agricultural press in fostering technical advances in the first half of the nineteenth century. The journals provided a forum for the exchange of readers' advice and information, and even attempted to promote good taste in the architecture of farm buildings and ornamentation of grounds. The third paper is concerned with the various ways in which Massachusetts farmers adapted to changing market trends in the early nineteenth century, notably in meeting the demand from the expanding non-farm population, in satisfying the rising industrial market for raw materials such as wool, hides, and timber, and in reducing wheat production in response to increased western competition.

The paper which is perhaps of greatest direct interest to British readers, however, concerns the introduction from Europe, especially England, of cattle, sheep, and swine into coastal New England in the first century of settlement beginning in 1620. Devon cattle, for example, were popular among the settlers, while the original sheep brought to eastern Massachusetts were Wiltshire Horns, though there were also Old Leicesters and Romney Marsh sheep, the last especially well suited for survival in harsh New England winters.

Lastly, a commentary on seventeen most interesting contemporary illustrations of farmhouses and farming scenes of the period 1790–1865 provide an attractive conclusion. The volume is rounded off both by an informative editor's introduction, and by valuable bibliographies of primary and printed sources relating to the American north-east.

With its numerous illustrations, which help greatly to bring the text to life, the volume provides the kind of detailed local history which is the essential underpinning of regional studies, and succeeds admirably in putting flesh on the bare bones of textbook generalizations. It should be read by all English scholars who want to gain a deeper understanding of American rural history, and the book

makes a worthy addition to the publications of the Dublin Seminar. And, at nine dollars, it is extraordinarily good value for money.

G E MINGAY

JOHN HEBRON MOORE, *The Emergence of the Cotton Kingdom of the Old South West: Mississippi, 1770–1860*, Louisiana State University Press, Baton Rouge, 1988. xii + 323 pp. £38 (hbk); £17.05 (pbk)

The economic development of the southern states before 1860 and the character of their 'Peculiar Institution' is an American classic. However much of the literature both of traditional historians and revisionist cliometricians concentrates on the period just prior to 1860 when the best manuscript and statistical sources become available. Hence many authors discuss temporal change by charting the westward movement and analysing the trade cycle from 1815–1860 without investigating the detailed development of the plantation system. The merit of this study is that while Mississippi is sufficiently important to suggest findings for the whole southwest, the author has space to consider economic development over the long run and in depth.

Moore's most interesting conclusions are that agriculture and slavery were thriving in Mississippi in 1860 not just because of the rich soils alongside the Mississippi, Pearl and Tombigbee and their tributaries, but also because of an agricultural revolution in the 1840s. Prior to 1840 cotton was usually so profitable that the planters grew little else, and imported most of their food and supplies. However the depression of the early 1840s was so severe they were forced into widespread agricultural improvements such as better seed, more draft animals, simple machinery, and primitive rotations. Costs were also reduced by self-sufficiency and by 1850 nearly everything needed on the plantation was home made. When prices recovered during the 1850s, the plantations entered a golden age and the secession movement in 1860 – led by rich river planters such as Jefferson Davis – was partly due to their self-confidence. By 1860 the state had good river and railroad transportation systems, a thriving livestock and timber industry and even the small towns of Natchez, Vicksburg and Jackson were prospering servicing plantations, and occasionally manufacturing simple machinery. 'Let us live within ourselves and knuckle to no power on earth' commented one small farmer in 1860.

The work suggests fascinating insights into what might have happened if the developments of the 1850s had continued undisturbed. The huge cotton crops of the late 1850s were inevitably leading to overproduction. Urban slavery was breaking down because of the problem of supervision away from the work place. Even rural slavery was changing rapidly as the need for motivation in specialized farming loosened the planters' controls. The local detail is interesting and refreshing. One of the characteristics of much recent southern history has been its methodological novelty and polemical style, but after a time this palls and a well documented and detailed traditional history is a welcome change.

J R KILLICK

KARL KAUTSKY, *The Agrarian Question*, translated by P Burgess, with an introduction by Hamza Alavi and Teodor Shanin, Zwan Publications, 2 vols, 1988. xxxix + 459 pp. £25 each volume.

Kautsky's *Die Agrarfrage* was first published in 1899, in response to debates within the German Social Democratic Party concerning the role of rural labour within the overall electoral strategy of the Party. Although Germany had experienced a rapid process of urbanization in the decades following Unification in 1871, such that by the late 1890s around half of the population was classified as urban, this shift was not accompanied by appropriate alterations in national electoral boundaries. The rural population, despite the inroads made by overseas migration and urbanization, continued therefore to enjoy considerable weight when it came to *Reich* elections. Furthermore, Catholic workers in the new industrial quarters consistently voted for the Catholic Centre Party – and so, if the SPD was to make significant electoral gains beyond those already made in the early 1890s, the winning of the rural vote was vital to its cause.

Unfortunately for the SPD, much of the German countryside was hostile to socialist politics, as was demonstrated to urban agitators in the early years of the 1890s during the period of *Landagitation*. Proposals that a special agrarian section be appended to the 1891 Party Programme were drawn up following the 1894 Congress, only to be soundly rejected in the course of the 1895 meeting. Kautsky's large book, published some four years after the official rejection of 'peasantist concessions', presented a detailed review of the prospects for peasant agriculture and, implicitly, the likely political consequences that would follow.

Although the last hundred pages or so of the book are devoted to the stance that Social Democracy should adopt with respect to the peasantry, *The Agrarian Question* is primarily a book which focuses on the nature of the tendencies within contemporary rural economic organization. Such empirical evidence as there is comes from the German context, but this does not form the object of analysis; likewise there is very little discussion of trends in French, British or American agriculture. Kautsky is seeking

the trends in capitalist agricultural development related to the impact of technological change, more general changes in farming patterns, the advantages enjoyed by large enterprises in a rural setting, and the consequent effects of these factors on the social relations of agricultural production. This analysis turns on a political question: in becoming proletarianized will the peasantry line up with the urban industrial working class; or will they in fact enter a phase of terminal numerical decline in the face of technical progress in farming and food processing?

One weakness of the book, arising from the level at which it places its analysis, is the absence of any detailed discussion of the real variations in the German rural economy with respect to products, markets, property forms, geography and settlement. This might not seem so striking today, but read in the context of contemporary German discussions its abstract tone robs it of the incisiveness apparent in the very different work by Lenin, published in the same year – *The Development of Capitalism in Russia*. It could be argued in Kautsky's defence that the abstract level of the argument was dictated by the need to transcend the terms in which the mid-90s debate was conducted, in which simple applications of Marxist principles were advanced, or the imminent disappearance of the peasantry as a political and economic force predicted. In any case, the book remains a lasting monument in refutation of the contention that Marxism in its classical form ignored the peasant question.

I cannot resist in closing drawing attention to a rather odd feature of what is, it must be said, a rather idiosyncratic introduction by Hamza Alavi and Teodor Shanin. My co-author Athar Hussain contributed an entire chapter on Kautsky's book to the first half of *Marxism and the Agrarian Question* (1981, 1983[2]), the remaining one hundred-odd pages detailing the kind of issues raised above. Furthermore, in 1984 we published a collection of writings from German Social Democracy under the title *Paths of Development in Capitalist Agriculture*, the one non-Social Democratic contribution being an extract from a review of *The Agrarian Question* by Germany's then leading agronomist, Max Sering. Neither of these relevant works is cited, instead a dismissive reference is made to an English summary of *The Agrarian Question* published in 1976. Alavi and Shanin choose to devote most of their space to a brief outline of Kautsky's political life (here Dick Geary's useful brief biography is also inexplicably ignored) and a very general outline of SPD politics in the period up to the First World War. The publishers would in the circumstances have done much better to retain the informative introduction by Ernst Schraepler which appears as a preface to the 1966 German reprint.

KEITH TRIBE

ROYAL COMMISSION ON ANCIENT AND HISTORICAL MONUMENTS IN WALES, *An Inventory of the Ancient Monuments in Glamorgan*, IV, *Domestic Architecture from the Reformation to the Industrial Revolution*, Part II, *Farmhouses and Cottages*, HMSO, 1988. xvii + 661 pp. 100 plates; 100 maps. £47.

The stereotyped picture of Glamorgan is often an amalgam of coal mines, waste tips, pithead gear and mile upon mile of terraced houses. Add to these iron works, blast furnaces, dockyards, foundries and a generous sprinkling of copper smelters and tin works, and what remains can hardly be pictured as rural. The reality as revealed in this book comes as something of a surprise; true, Glamorgan is the most heavily industrialized and densely populated county in Wales, but beneath the industrial veneer of the past 200 or so years there survives a landscape that is essentially rural and agrarian.

It is the housing of pre-industrial Glamorgan which forms the subject matter of volume four of the Royal Commission on Ancient and Historical Monuments in Wales' Inventory of that county. Part I was published in 1981 and took as its subject the greater houses of the gentry. This latest publication (Part II) deals with the dwellings of the farmers and cottagers who largely built in the common or 'vernacular' tradition.

Houses of the Welsh Countryside published by the RCAHM in 1975 placed the study of vernacular houses well and truly within the category of academic respectability. The publication of *Farmhouses and Cottages of Glamorgan* effectively means that virtually the whole spectrum of non-industrial housing has been covered in that county. This is a remarkable achievement; indeed the book itself is a remarkable piece of work. The statistics alone are impressive: 661 pages of text and illustrations based on a survey of no less than 1,135 houses; 100 maps; 100 photographic plates, both black-and-white and colour, and literally hundreds of plans, elevations, architectural details and cutaway perspective drawings. The text is clear, readable and well researched, the architectural evidence being complemented by references to inventories, hearth tax returns, glebe terries and contemporary accounts and descriptions.

The history of vernacular architecture in Glamorgan is placed within the context of its agrarian and social history. Upswings in agricultural fortunes were often reflected in a spate of house building or re-building. The house can be seen as the farmer's 'bank account' – if he had money to invest, he tended to invest it in his house. Of course, a county as complex as Glamorgan cannot have a single identity, the very nature of its topography means that the economy of the thin-soiled uplands (Blaenau) will be different to that of the fertile limestone tracts of the southern vale (Bro), or of the more

maritime Gower peninsula to the west, or the intermediate Border Vale which occupies the foothills between the Bro and Blaenau. This is often reflected in the types of houses that were favoured in particular districts: the bed-outshut houses for instances are nearly all found in the Gower peninsula, whereas the hearth-entry longhouse is virtually absent from the low-lying Vale. The Vale is characterized by the large number of nucleated villages whereas the Blaenau, by contrast, presents scattered settlements characteristic of most other parts of Wales, having isolated farmhouses and tiny hamlets.

The first two chapters of the book examine the historical and architectural backgrounds to the buildings in question. These are followed by a series of sixty-six maps illustrating the distribution of various building features, together with a list of the properties where such features are found. Somewhat confusing at first is the inclusion in these lists of larger gentry houses (discussed in volume 4, part 1 of the Inventory) where similar features are found: thus Map 41 (timber panelling) notes 23 sites of which just 7 are actually farmhouses or cottages, and Map 56 (decorative plastered ceilings) records 66 sites of which less than half (29) are to be found in dwellings covered by the book.

Next comes an illustrated inventory based on plan types. This follows the pattern established in *Houses of the Welsh Countryside*, with variations in room layout, fireplace or entry positions being examined in turn. These are copiously illustrated by means of plans, sections, maps, photographs and sketch reconstructions, the latter showing how interiors or exteriors might have appeared before later alterations or modernization took place. But the tour-de-force of this section, and in many ways the book itself, must be the superb cut-away perspective drawings which enable the reader to gain an almost x-ray view of a building.

Following the inventory is a short section devoted to an in-depth study of two towns in the Vale, namely Llantwit Major and Cowbridge, both of which boast a remarkable collection of dwellings dating from the seventeenth century or earlier.

The final section is devoted to a brief study of the farm buildings of the county. Bearing in mind the title of the book and the obvious and oft-emphasized link between agriculture and housing, it is perhaps surprising that so little space is actually devoted to farm buildings, just 36 pages out of 661. True, cowsheds are discussed in the section dealing with longhouses as they form an integral part of such buildings, but most farm buildings are secondary to the house and are largely ignored in the text. The section could have been augmented by illustrating examples of the loose arrangement of farm buildings found in the uplands and the more formal or planned layouts favoured in the vale. Also, reference could have been made to the use of horse works and horse engine houses as at Cwm Ciddy, Barry (p. 537) or waterwheels, to drive barn machinery or, as in the case of both Hayes and Cog farms near Sully (p. 537) of windmills for both milling and for powering threshing machines.

What does this book tell us about the agriculture of Glamorgan up to the nineteenth century? Cattle-rearing dominated the economy of the upland farm as evidenced by the emphasis on cattle housing on the farmsteads of the Blaenau, whilst the small size of upland barns on the other hand suggest that corn crops, generally oats and barley were of little significance, with arable crops being grown purely to meet the family's own requirements. Farmers in both the Vale and Gower peninsula practised mixed agriculture with corn playing a much more important role than was the case in the uplands. In the Vale, up to a third of a farmer's land might be devoted to corn crops, mainly wheat, though dairying and in particular butter production, provided the chief source of export. Gower boasted an even stronger dairying economy with corn representing about a fifth of a farmer's capital. Corn growers were able to reap the rewards of high prices during the inflationary period of 1540–1640 and this is reflected in the number and quality of houses built in the lowland areas at this time. Later the emphasis shifted, favouring pastoralists, a trend that again was reflected in their buildings.

Farmhouses and Cottages of Glamorgan must surely become a classic of its kind in the study of vernacular dwellings and the RCAHM in Wales is to be congratulated on yet another superb book.

GERALLT D NASH

BILL ALBERT and ADRIAN GRAVES, eds, *The World Sugar Economy in War and Depression, 1914–40*, Routledge, 1988. 241 pp. £25.

With the collapse of world sugar prices during the world depression of the 1930s, the sweet malefactor was once again a source of disaster for many communities. Prices had been falling rapidly from 1925, and the decline accelerated from 1929. Excessive concentration on a single crop was not confined to the major exporters such as Cuba and Java, but characterized many smaller producers such as Hawaii, Trinidad and Mauritius, and also localized regions such as the island of Negros in the Philippines and the state of Perambuco in north-eastern Brazil. Major beet sugar exporters such as Germany and Czechoslovakia also faced problems of adjustment, although obviously this was easier to achieve in diversified economies.

There was an enormous range of experience, not least because of heavy State involvement, whether

through regulation, subsidies or protection, and one of the strengths of the book is that it reflects this great diversity. There are eighteen essays, selected from thirty papers presented at a conference at the University of East Anglia in 1986. The editors have written a good introduction that places the industry in its historical and international trading context, as well as providing a very necessary pulling together of themes from the other pieces. The contributors have been kept on a tight rein in terms of length, but a much looser one in terms of the focus of their papers. Hence we have studies of linkages between the ideology of the Nazi party and of leaders of the sugar industry in Germany, a comparative investigation of technology and plantation labour supply in Queensland, Hawaii, Louisiana and Cuba, and two essays which focus on the structure of the industry in Mexico and the Philippines. Other producing areas included are Czechoslovakia, Spain, Brazil, Peru, Cuba, Trinidad, Haiti, Australia, Java, India, Mauritius, South Africa, Central and Equatorial Africa. Yet for all the diversity of the studies, there are recurring themes. Perhaps the most persistent is that of heightened struggle, particularly as millowners attempted to push the burden of adjustment onto their workforce or onto the farmers producing the cane. There was also intra-class conflict between domestic and foreign capital. Although United States capital dominated the industry in Cuba and Haiti, it was unable to make its voice heard in Washington against the clamour of domestic producers as well as colonial interests in Puerto Rico and the Philippines. Those unable to secure protection or preference were left to face catastrophe in the world market, and Cuba, discriminated against in the United States market, suffered a fall in sugar production from 5.2 million tons in 1929 to below 2 million tons in 1933. Cuban experience highlights one of the extraordinary features of the world trade in sugar: the free market was very restricted, so that even on the eve of the depression only an estimated 25 per cent of sugar was sold in non-protected or non-preferential markets. In this context, might not space have been found for some discussion of the UK experience? The British developed such an astonishingly sweet tooth that by 1938 they were each consuming an average of over 50 kilos of sugar per year. But the rapid development of subsidized beet sugar production, and the effects of imperial preference on imports into one of the two great import markets clearly had a profound effect on world trade in sugar.

A valuable service has been performed in bringing these essays together, and there is plenty here, as the publishers hope, for regional specialists, labour historians and readers of the *Agricultural History Review*.

TIM ROOTH

P VOISEY, *Vulcan: The Making of a Prairie Community*, University of Toronto Press, Toronto, 1988, xxvi + 341 pp, 13 maps, 28 figures, 16 photographs. £26.50 (hbk); £13.50 (pbk).

Voisey's book is a detailed account of the settlement and development up to World War II of a smallish (maximum population about 6500) rural area midway between Calgary and Lethbridge, Alberta.

The book is divided into four major sections. 'Settlement' looks at Pioneers (the first arrived in 1904 – it is often hard to remember how *recent* history is in much of western Canada), at Farms (notably the homesteading procedure), and at Towns (highly dependent on the railroad). 'Agriculture' examines Crop Selection (an 'infatuation' with mixed farming battling the economics of wheat monoculture), Technique (desperate attempts to cope with erratic rainfall), and Farm Size. 'Social Life', a significantly shorter section, considers Activities and Institutions (rural boredom spawned numerous clubs, which struggled to cope with a low population base and time-consuming distances) and focuses more specifically on Schools and Churches (both valued more in principle than in practice). 'Society', even briefer, probes the Social Structure (egalitarianism encompassed all but the Chinese) and Social Relations (towns too small to generate any real rural-urban rivalry). Short opening and concluding chapters set the work in the context of frontier research, though the author ends with a healthy scepticism about such 'grand generalizations that employ woolly definitions and assumptions, and often rest for support on casual observations'.

Voisey utilizes a wide range of sources: official statistics, newspapers, local histories and a series of personal interviews with old-timers. Comprehension is aided by the extensive use of graphs rather than tables. More and better maps would have helped. There are seventy pages of notes: as is increasingly common these irritatingly mix source references with informational notes. There is no separate bibliography.

The book is readable, and it is hard to think of any aspect of the development of settlement in the Vulcan area not adequately dealt with. Indeed, the General Editor (the volume is in the series Social History of Canada) might usefully have insisted on a shorter text. For those interested in the development of agriculture and settlement in one of the last frontiers, this is a valuable book.

ROBERT S DILLEY

THOMAS J MORAIN, *Prairie Grass Roots: An Iowa Small Town in the Early Twentieth Century*, Iowa State University Press, 1988. xviii + 287 pp. Illus. $24.95.

Prairie Grass Roots is a splendid example of a community study which is both interesting to the general reader and relevant to an academic audience. Jefferson, Greene County, Iowa, the county seat town some 60 miles northwest of Des Moines, was in the first third of the present century a small retail centre – population 3416 in 1920 – serving a thriving agricultural economy. It was typical of rural Republican White Anglo-Saxon America in its values and institutions. With few ethnic inhabitants, virtually no Blacks and no major industry, residents were self-confident in their Yankee heritage. Isolated and insulated, they knew that their views of society and their standards of conduct were correct. Yet despite this superiority they were not bigoted towards their neighbours like the Irish Catholics, the alcoholic lawyer or the card-playing Methodists who differed. They could afford to be magnanimous because they were in the majority in Jefferson and because they treated people as individuals rather than as groups representing national problems.

But the traditional standards and institutions would only survive into the 1930s in a much weakened form. Technological innovations in the shape of cars, buses, telephones, farm machinery, household electrical appliances and movies brought freedom from the former limitations of time and space. Daily life underwent significant and rapid transformation. For example, church authority waned as local residents took to enjoying sports, films, concerts and country drives on the Sabbath. Town schools consolidated and offered expanded curricula as rural population declined and motorized transport undermined the viability of the one-room country school. Shopping habits altered under the stimuli of brand-name items and retail price competition. Women enjoyed greater freedom and influence thanks to improved domestic conveniences, new social outlets like clubs and the vote. Men had to adjust to new masculine roles. World War One accelerated the changes which came to fruition in the 1920s.

Thomas Morain has written a vibrant detailed book based on his local knowledge and experience and on a sound historical perspective. As a Jefferson native who had access to a century of files of the local paper, the *Jefferson Bee*, and who interviewed over 40 longtime town residents, he is an insider steeped in the community. As director of research and interpretation at the Living History Farms in Des Moines and as a former academic he is well versed in regional and national history. He successfully interweaves narratives of the early Model Ts, the impact of the Spanish influenza epidemic in autumn 1918, the draft process in Greene County in World War One and the collapse of every one of Jefferson's five banks in the early 1920s with general threads about Midwestern voting patterns, national gender roles and attitudes to prohibition. This is a solid contribution to the 'new rural history' of the United States. Though neither testing socio-economic theories, nor using sophisticated quantitative analysis, this is a systematic study of human behaviour over time and in a rural environment. The author prefers the narrative approach to community studies in order to show how people lived and treated others and what their lives actually meant. He may thus not be able to generalize about the region, but he most certainly can describe what is typical in Jefferson. In achieving this he adds valuable information on a mind-set and value system which is an essential part of American social history.

MARGARET WALSH

JOHN F RICHARDS and RICHARD P TUCKER (ed), *World Deforestation in the Twentieth Century*, Duke University Press, 1988. x + 321 pp, 39 tables, 13 figures. £45.15.

To follow their *Global Deforestation and the Nineteenth Century World Economy* (1983), John F Richards and Richard P Tucker have now edited a further series of conference papers extending their discussion into the twentieth century. Inevitably such volumes fail to provide an even-handed coverage of their subject. Instead they usually consist of a number of essays written by different hands, embodying different approaches and dealing with different time periods for areas of markedly different size. Thus in the first section of this volume which deals with forests in the developing world, one paper discusses Togo under German rule 1885–1915, another Assam and Kumaon between 1914 and 1950, a third the Mount Kenya area before 1950, a fourth Thailand between 1900 and 1975, a fifth Sahelian Africa (Niger, Mali and Upper Volta, now Burkina Faso) in the same years, while the final contribution deals with the Araucaria zone of southern Brazil. This list incidentally draws attention to one of the shortcomings of this volume, an almost complete absence of maps. For the developed world, one chapter discusses the exploitation of Tasmania forests for papermaking. All these accounts are variations of the general theme that the extension of agricultural production and the growing export trade in timber to meet industrial needs have resulted in a great reduction in forests in the developing world where their extent has declined by almost half in the twentieth century. At the present rate of operation, twenty-seven million acres are being currently cleared each year. By contrast, despite the continued export of softwood from the USA and Canada, and mismanagement in the Soviet Union, the decline of forests in the western world has been halted and the area under

trees has markedly increased in many countries. There has been a nearly four-fold increase in annual wood growth in the USA in the past sixty years. (See Marian Clawson, 'Forests in the Long Sweep of American History', *Science*, CCIV, 1979, pp 1168–74.) The problem in the 1980s therefore is not so much global deforestation but the loss of tropical forests. The trade in tropical hardwoods, as one paper reveals, is a trade which was small before 1946 and has expanded rapidly since then with South East Asia (particularly Malaysia and Indonesia) being the major source and Japan, which has striven zealously to preserve its own forests, the main consumer of hardwoods as it is of North American softwoods and Tasmanian timber. It is part of the current mythology in some western countries that the market provides the best means of ensuring effective development through the workings of a competitive system. Whatever may be the case in other fields, this volume brings out the deficiencies of such an approach in forestry. Deforestation in the tropics is being carried out by multinational companies who have little interest in the problems which their activities bring, and competition, as with other primary products, forces down prices resulting in wasteful cutting and the reduction of the income of the inhabitants of the producing areas. Further, as the recent murder of a Brazilian who led the opposition to further reduction of the rain forests indicates, the market for such timber is ruthless. 'Japan in the dock over log imports' ran a headline in *The Times* on 18 November 1988 which discussed the effects of Japanese demand throughout the areas producing tropical hardwoods. As this volume indicates, only international action on a global scale to reinforce the attempts of countries like Brazil which are now taking steps to halt deforestation can be effective. To allow the market free rein is a recipe for disaster not just for the producing areas but for the whole planet with the problem of the glasshouse effect. Even if this volume does not pursue such issues with sufficient emphasis, it nonetheless provides some information for areas round the world which should lead to better-informed debate.

WALTER MINCHINTON

Shorter Notices

W GROENMAN-VAN WAATERINGE AND L H VAN WIJNGAARDEN-BAKKER, eds, *Farm Life in a Carolingian Village. A model based upon botanical and zoological data from an excavated site*. Van Gorcum, Assen, 1987. Illus. DFl. 37.50.

The title is not the reviewer's translation; this book is in English. It therefore takes a stage further in bringing to the wider academic community some of the results of the major, multi-period, interdisciplinary investigation in the Kootwijkerzand in the 1970s. This data-packed but modestly sized publication (131 pages) complements Heidinga's *Medieval settlement and economy north of the Lower Rhine. Archaeology and history of Kootwijk and the Veluwe* (Assen, 1987) by concentrating on the presentation and discussion of the environmental evidence from Kootwijk, 'with respect to palaeobotanic and zooarchaeological research . . . still one of the best investigated sites from the Dutch sandy soils' (p vii).

With relatively minor exceptions in chapters 2 and 5, the book's focus is specifically on Kootwijk 2, a settlement of *c* AD 750–1000 and the 'Carolingian village' of the title. At its most prosperous, it consisted of some twenty farmsteads in a contemporary landscape of arable fields, boundaries and trackways. The thrust here is the dynamism of its ecological context including, quite properly, cultural activity such as the deposition of peat on arable and the fetching of hay from some distance. The model carefully discussed in chapter 7 requires equally careful consideration, not least in its potential applicability to situations outside Carolingian Veluwe; and the book itself, less self-consciously, provides a model of how to publish palaeo-environmental detail while teasing out contextual history.

P J FOWLER

REX RUSSELL, ed, *Barrow on Humber*, Joyce Martin, Barrow on Humber, 1988, 150 pp, 7 maps; 8 plates, £3.50 (or £4.50 from R C Russell, 11 Priestgate, Barton on Humber, DN19 5ET).

This is a memorial volume to Jack Martin, lifelong inhabitant of Barrow, sometime blacksmith, farmer, local historian, and WEA student of the editor. It includes previously published pieces: 'The Barrow Town Book' edited by Maurice Barley, published in 1938, and 'Lawrence Wilkin's Diary' by Jack

Martin, published in 1964. There is also a much enlarged analysis of the enclosure of Barrow by the editor. 'The Town Book' is very instructive on the workings of a pre-enclosure agricultural system and the extracts from the diary illustrate the costs and activities of an early eighteenth-century farm. The book also includes an interesting description of the state of the parish church before Victorian restoration by Geoffrey F Bryant and an excellent piece by Dinah Tyszka on the early nineteenth-century incumbents. These are part of the largest section of the book on 'Change and Progress 1801–1851' mostly written by Rex Russell. It includes sections on population, housing, employment, non-conformity, education, Foresters and self-help, and farmers. The book is concluded by an analysis of the 1851 census returns for Barrow. It is well illustrated and, of course, includes some of Russell's beautiful enclosure maps. it will be of great interest to all who are concerned with Lincolnshire history and it is a model for the use of the readily available sources for local history in the nineteenth century.

DAN BYFORD

MARY PAGET, ed, *A History of Charlton Kings*, Gloucestershire County Library, Gloucester, 1988. 225 pp. Illus. £9.50.

This parish history is a product of the active local history society at Charlton Kings, near Cheltenham. The editor was the former County Archivist of Shropshire, and although she describes the parish as 'a community in which nothing spectacular ever happened', she has nonetheless produced a readable and well-illustrated history. A map showing the parish in its regional setting and in its relationship to Cheltenham would have been useful, and not all the photographs are as clear as they might be, but otherwise this is a well-produced book, tracing thehistory of the parish from the Iron Age to the present. The main interest for readers of this *Review* will be in the chapters on manorial custom and agriculture. As part of the royal manor of Cheltenham, the parish retained throughout the Middle Ages the custom whereby property passed to the youngest son; widows were also greatly favoured and could retain a tenement and even remarry and make the youngest son by the second husband the heir to the first husband's estate. This custom survived until 1625. The chapter on agriculture uses the evidence of field-names, surveys, tithe and enclosure disputes, probate inventories and terriers to provide a much fuller account of farming than is found in many local histories.

The Charlton Kings Society and its Editor are to be commended for this well-researched and interesting account.

J H BETTEY

DAVID BUTLER (ed), *Tithe Apportionments and Maps of the City of Durham*, Durham County Local History Society, Documentary Series, No 7, Durham, 1988. xii + 80 pp. £2.50 (+ £0.25 p & p). [Available from D.J. Butler, Secretary, DCLHS, 3 Briardene, Margery Lane, Durham DH1 4QU.

Tithe maps and apportionments are a useful source for agricultural and local historians, but they are not always easy or convenient to use. Now David Butler has provided a model for any individual or group wishing to incur the gratitude of future generations by putting them into printed form.

His book begins with an introduction which explains the background to and basic details of tithe legislation. There is also a bibliography of the most useful recent publications on tithes. The main part of the book consists of a transcription of the apportionments for the Durham city tithe districts of Crossgate, Elvet, Framwellgate, St Giles and St Mary Magdalene, giving details of landowners, land occupiers, field number on the tithe map, field name, the state of cultivation, field size and tithe rent charge. Each transcription is accompanied by a clearly drawn map on which each field, and in some cases each house and garden, is numbered. It concludes with a personal name index. Family and local historians interested in Durham city and the surrounding area in the late 1830s and 1840s will obviously find this book useful. For others, it is an expensive way of showing students what they will find in tithe maps and apportionments.

PAUL BRASSLEY

HILARY M THOMAS, ed, *The Diaries of John Bird, 1790–1803*, South Wales Record Society and Glamorgan Archive Service, Cardiff, 1987. 189 pp, illus. No price given.

John Bird and James Loch belonged to the same profession, estate management. The similarity largely ends there. Whereas Loch, as prime adviser to the Stafford/Sutherland family, was called upon to resolve complex management issues regarding that vast estate, Bird was of a much humbler standing altogether. Clerk rather than agent and serving the absentee landlord of a badly managed estate – unlike the second Marquess of Bute who contributed so much to the development of Cardiff a generation later – Bird appears a rather frustrated man, anxious to enhance his role but blocked by the apathy of his superiors. Neither the Bute estate nor Cardiff itself offered much scope for career advancement and Bird turned instead to creating pockets of economic and

political activity, thereby emerging in time as an official of middling importance in town affairs.

Bird's aspirations and achievements are clearly explained in the editor's full and well balanced introduction. She draws out Bird's efforts to improve the efficiency both of rent collecting and accounting procedures but these seem to have fallen on deaf ears. He was a loyal servant to the Butes but seems to have received scant recognition. No doubt he derived more satisfaction from his career in town government which opened up after the years covered by the diaries.

The diary extracts are very much the small talk of small town society. The annual cycle of Assizes and Jury sessions and the pursuit of rents outstanding provide the framework within which newsworthy events are recorded – disputes between the well-known local iron-making families and between them and the local canal companies; skirmishes with the press gang; fears of bank failures; floods and other natural disasters. National events make an occasional intrusion but essentially the diaries portray the 'cat bites man' (5 October 1790, p. 63) tonality of a quiet backwater.

GERARD L TURNBULL

VIVIANE J M BRYANT, *A History of Potten End*, privately published, by E W Bryant, Cherry Bounce, The Common, Berkhamsted, 1986. 168 pp. 16 plates; 3 maps. £4.50 (plus postage).

Potten End is a Hertfordshire village not far from Berkhamsted so unobtrusive that it did not gain an entry in Kelly's Directory until 1874 and was frequently omitted from maps of the county. This is perhaps less surprising than the author thinks, since it was small, with a population of under 200 in 1841, had a Baptist chapel from 1835 but no Anglican church until 1865, and was not made into an ecclesiastical parish until 1895; in any case it was, in fact, quite correctly marked in the first edition of the one-inch Ordnance Survey. Although obscure, it is a place which has as much of a history to tell as any other small settlement, and Viviane Bryant had clearly spent many happy and fruitful hours before her untimely death in collecting what materials she could find concerning Potten End in the county record office. These she pieced together to give some account of the families of farmers and cottagers who lived there, mainly in the nineteenth century, and of some of their activities in the school, the church, the bakery, and in straw plaiting, but unfortunately not in farming. It appears that the village was very much in the shadow of the Ashridge estate, and the Brownlow earls and countesses often intervene in the narrative, busy about school or church, cottages or parish-making, but unhappily there is no clear statement about the Brownlows' relationship with the village, in terms of land-ownership, patronage, or local employment. This is an unfinished chronicle, a labour of love which will be of much interest to present-day residents in what has become part of commuter-land.

F M L THOMPSON

JULIET CLUTTON-BROCK, *A Natural History of Domesticated Mammals*, CUP and British Museum (Natural History), 1987, 208 pp. £9.95 pbk.

I wonder how many readers have fallen (as I have) for the paperback publisher's ploy of changing the cover of a book in order to get one to buy a second copy in the belief that it is a new edition? The changed title and new cover picture of the present book took me in until I saw the small print stating that it is a reprint of the hardback *Domesticated Animals from Early Times* published in 1981. One misleading feature of the original title has been removed – the book covers only mammalian species, but the term 'natural history' in this context suggests that it has been introduced to stimulate sales at the Natural History Museum.

Dr Clutton-Brock shows how agriculture had its origins in population pressure. The book deals fully with domestication and the early history of livestock for the general reader, but there is nothing later than the Roman period and so little on the origin and history of breeds. She gives the definition of a breed and stresses that breeds must not be given Latin names, but places too much reliance on the use of blood types for relationships. Great use is made of ancient illustrations, but no attempt made to summarize the evidence from skeletal remains nor that from wool in textile remains. There is a good index, and a reasonable, although selective bibliography. But a reprint is at once inadequate for the academic who seeks more recent evidence. The author has done well, however, to give such an excellent introduction to a vast subject in few words and it remains good value at the price.

M L RYDER

DAVID FRASER, ed, *The Christian Watt Papers*, Caledonian Books, Collieston, 1988. xvii + 186 pp. Illus.

Christian Watt was born in Buchan (north-east Scotland) in 1833 and died in 1923. She earned her living by gutting and selling herring. Although she spent the last 47 years of her life in a mental asylum (her description of which demolishes conventional ideas of what Victorian institutions were like), she remained lucid and articulate until the day she died, and she recorded many of her memories. She had strong views, some of them conventional, others

radical – she never believed the gentry were in any way better than her or that men were superior to women.

In order to get the most out of *The Christian Watt Papers* the reader needs a good grounding in Scottish history, because her memoirs are rather like oral history: very vivid, but also very subjective, and not particularly sound on dates or even facts. A better editor would have helped. David Fraser is fine at unravelling who is who, but he is no historian. For example, he writes that the 'Wee Frees' left the Church at the time of the Disruption of 1843, which is totally incorrect. (And this is the second edition of the book – 'with corrections'!)

As so much of Christian Watt's life was centred on the sea, the agricultural historian will not find much detail on changes in land use, although she makes some startlingly modern observations on what she saw of the transformation of Scotland from an agrarian to an industrial nation. The enormous value of the book for anyone working in the field of nineteenth-century Scottish history is that in Christian Watt one hears the genuine voice of the kind of person who rarely left a written record. The only way of conveying the flavour of the book is by quoting a small chunk of her narrative, and I will therefore end this book review by doing just that:

> After Royalty came Deeside was ruined. The rich came and built huge palaces to try to outshine Easter Balmoral. Some of the ha' houses were very grand. In our fisher dress a group of us stood by the roadside near Crathie. The Queen came by, she looked so sour you could have hung a jug on her mouth. The carriage stopped and Prince Albert came down and spoke to us. He was very pleasant. The Prince of Wales was a bonny loon then, nobody would have thought he would turn out the foul bawdy man he did. The whole area was now invaded by the curious. Our hill trade was ruined, for we were no longer permitted to traverse the mountains after they made the deer forest.

LEAH LENEMAN

BOB POWELL, *Scottish Agricultural Implements*, Shire Publications, Princes Risborough, 1988. 32 pp. Illus. £1.50.

In a limited space Bob Powell covers a wide range of topics relating to Scottish agricultural implements. Each implement is treated chronologically within a seasonal framework, with an additional section at the end on transport. The concentration is more on the larger machines than hand tools although some such as scythes and broadcast sowers are covered. Included within this treatment are interesting vignettes of some of the Scottish innovators such as James Small, Patrick Bell, and Andrew Meikle. Brief mention is also made of some of the social aspects of agricultural work such as the migrant seasonal workers. As is usual with Shire albums the illustrative material is strong and the booklet serves as a good introduction to the subject.

ANNIE HOOD

PETER and JEAN HANSELL, *Dovecotes*, Shire Publications, Princes Risborough, 1988. 32 pp. Illus. £1.50.

A great deal of interesting information about the keeping of pigeons from Norman times onwards is packed into this well-illustrated booklet. Originally a manorial perquisite, the dovecote became a common attachment to prosperous farms by the seventeenth and eighteenth centuries. Left to forage for their food, pigeons needed little care once they had been trained to accept the dovecote as their home. This was achieved by confining the initial stock until pairs had mated and hatched their first brood. As each pair could produce two chicks about eight times every year for up to seven years, a dovecote was obviously a sound investment.

They are amongst the most curious structures in the countryside. The Hansells' illustrations indicate some of the variety of designs and building materials. The booklet makes good armchair reading, but on the ground it will be less serviceable. Invariably, the most difficult question to answer when confronted with a dovecote is: what is the date? Few have datestones and many bear little resemblance to contemporary buildings that can be dated on stylistic grounds.It would have been a great benefit to have been given some advice on how to hazard a guess, if nothing more.

DAVID HEY

Yankee Drover; Being the Unpretending Life of Asa Sheldon, Farmer, Trader, and Working Man 1788–1870. Foreword by JOHN SEELYE. University Press of New England, 1988, xxi + 192 pp.

This unusual and fascinating account of life by no means as close to the bottom of early nineteenth century Massachusetts rural life as the title might suggest, first appeared in 1862 when its author paid for its publication. It has now been reissued with a fine forword by John Seelye, better known for his work in American literature, for it gives a unique account of Massachusetts on the eve of modernisation and from a lay point of view.

Readers will first discover a largely cashless world; one in which men's words not legal contracts bound them; one where white indentured labour lingered; and one in which hierarchical, deferential attitudes persisted. They will also see society change, as it experienced what Sheldon called its 'age of impro-

vement', especially coming to grips with the first railroads. Sheldon produced his autobiography in part to take issue with the Boston and Maine which he felt had acted unfairly toward him when one of its contractors and he reveals all the aggrievedness and bewilderment of a generation that felt the law and natural justice were parting company as corporations hired the better lawyers. This book is well worth acquiring both in itself and as a primary source.

R A BURCHELL

Notes on Contributors

DELLA HOOKE is a Research Fellow in Historical Geography in the University of Birmingham. Her primary area of research concerns the development of the English Landscape and its regional *pays*, particularly in the Anglo-Saxon period, using pre-Conquest charters as a major source of evidence. Her books on this subject include *The Anglo-Saxon Landscape: The Kingdom of the Hwicce* (Manchester, 1985) and she has recently edited *Anglo-Saxon Settlements* (Oxford, 1988). She is a consultant to the Countryside Commission advising on landscape evolution in Midland England, in medieval and later times, as a basis for future strategy plans.

DR DAVID POSTLES is Marc Fitch Research Fellow in the University of Leicester. He has published several articles on Oseney Abbey and an article in this *Review* for 1986 on the *proficuum* calculation of medieval lords. His current research is mainly concerned with anthroponymy in the Middle Ages.

CHARLES W J WITHERS is a senior lecturer in geography at the College of St Paul and St Mary, Cheltenham. He is the author of several books and articles on the historical geography of Highland Scotland and amongst his research activities, further work is planned on the relationships between philosophical enlightenment, the natural and physical sciences, and the development of agriculture in eighteenth-century Scotland.

PETER M SOLAR does research and some teaching at the Centre for Economic Studies, K U Leuven, Belgium. His principal scholarly interests are Irish agriculture and trade in the late eighteenth and nineteenth centuries. He is also coordinator of the Tenth International Economic History Congress which will be held in Leuven in August 1990.

DESMOND A GILLMOR is Associate Professor of Geography in Trinity College, University of Dublin. His research and published papers have been mainly in economic geography. The focus of this work, since his PhD on the Irish cattle industry in 1966, has been on agriculture and rural affairs. Books which he has written or edited include: *A Systematic Geography of Ireland; Resources, Economy, Society; Agriculture in the Republic of Ireland; Irish Resources and Land Use; Economic Activities in the Republic of Ireland; The Irish Countryside*. Current work includes contributions to the series of volumes *A New History of Ireland* which is being published by The Clarendon Press.

JOSEPH HARRISON is a Senior Lecturer in Economic History at the University of Manchester. He is the author of *An Economic History of Modern Spain* (Manchester, 1978) and *The Spanish Economy in the Twentieth Century* (1985). At present he is working on the Liberalization of the Spanish Economy in the 1950s.

BRUCE CAMPBELL has recently joined the Department of Social and Economic History in the Queen's University of Belfast after having served on the staff of the Geography Department in the same university for sixteen years. He has published a number of articles on medieval agriculture and rural society and was awarded the Arthur H Cole Prize of the Economic History Association for his essay on agricultural productivity published in vol XLIII of *The Journal of Economic History*. He is a committee member of the B A H S and is currently completing a book on the geography of seigneurial agriculture in medieval England.

Notes and Comments

ANNUAL CONFERENCE AND AGM, 1989

The Spring Conference was held at Burwalls Conference Centre, Bristol from 3–5 April 1989. The 38th AGM was held on 4 April 1989. Professor Thompson was elected President of the Society, Dr Collins re-elected Treasurer, and Dr Overton re-elected Secretary. Dr Chartres was re-appointed Editor of the *Review*. The meeting expressed thanks to Professor Mingay, the retiring president, for all he had done for the Society over the years. Before he became president he had been editor of the *Review* and had served on the Executive Committee from 1966. Dr Dewey, Mr Havinden, Dr Hoyle, Dr Phillips, and Dr Thirsk were elected unopposed to the Executive Committee.

The Chairman of the Executive Committee, Dr Hey, presented the Committee's report. Membership of the Society stood at 897, exactly the same figure as last year. The Treasurer presented the audited accounts of the Society and reported that although it was rather early to tell, it seemed as though the subscription increase would not have any substantial effect upon membership levels. If this proved to be the case then the Society's finances would remain on an even keel for a few years. He also pointed out that the Society received considerable hidden subsidies from the Universities of Leeds and Newcastle. The Editor, Dr Chartres, reported that the production difficulties at the University of Leeds had been considerable but now seemed to be at an end. The flow of articles had been increasing satisfactorily. Because of the production difficulties, the index to the *Review* would be issued with the first issue of 1990. The meeting expressed its thanks to Dr Bettey, the conference organizer, to the staff at Burwalls, and to the Officers of the Society.

WINTER CONFERENCE, 1989

The next winter conference is to be held at the Institute of Historical Research, Senate House, Malet Street, London, on 2 December 1989. Once again it is to be held jointly with the Historical Geography Research Group and the theme is 'Food Supply and Towns'. Booking forms should be included in this issue of the *Review*.

SPRING CONFERENCE, 1990

Next year's Spring Conference is to be held at Trinity and All Saints' College, Horsforth, Leeds, from 2–4 April. Further details are available from Dr Chartres at the University of Leeds.

WORK IN PROGRESS

The Society is compiling a list of those working in the general field of agrarian and rural history, to be published in the *Review*. A form is enclosed in this copy of the *Review* and all those engaged in such research are asked to complete it and send it to Mr Byford at the address on the form. Since we would like the list to be as complete as possible it would be of help if this request could be brought to the attention of non-members of the Society.

CONFERENCE ON THE HISTORY OF AGRICULTURAL SCIENCE AND EDUCATION

The British Society for the History of Science is organizing a one-day conference to be held at Rothamsted in May 1990. Further details and a booking form will be circulated with the next issue of the *Review*.

DR GEORGE FUSSELL

Dr George Fussell, founder member of the British Agricultural History Society, celebrated his centenary on 10 September 1989. The Executive Committee sent him the Society's best wishes and an appropriate gift to mark the occasion.

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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.

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An Inventory of the Ancient Monuments in Glamorgan, IV, Domestic Architecture from the Reformation to the Industrial Revolution, by the Royal Commission on Ancient and Historical Monuments in Wales — GERALLT D NASH — 213

The World Sugar Economy in War and Depression, 1914–40, edited by Bill Albert and Adrian Graves — TIM ROOTH — 214

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Membership is open to all who are interested in the subject and the subscription is £10 due on 1 February in each year. Details may be obtained from the Treasurer.

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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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