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Forthcoming conferences

David Hey Memorial Meeting, Channing Hall, Sheffield, 23 June 2018

The British Agricultural History Society, with the British Association for Local History, the British Records Society and the Yorkshire Archaeological and Historical Society invite you to attend a celebration of the life and work of David Hey

Speakers include George Redmonds, Ian Rotherham, Melvyn Jones, John Chartres, Peter Edwards, Henry French, Andrew Wareham, Catherine Ferguson, Richard Hoyle, and Gill Cookson.

Book before 18 June on the Society's web site at www.bahs.org.uk, where you will also find full programme details.

British Agricultural History Society Winter Conference 2018 *Material Culture*

This conference will be held at the Institute of Historical Research, University of London, on Saturday 1 December.

Details of the conference will be circulated to members and made available on the Society's web site at www.bahs.org.uk.

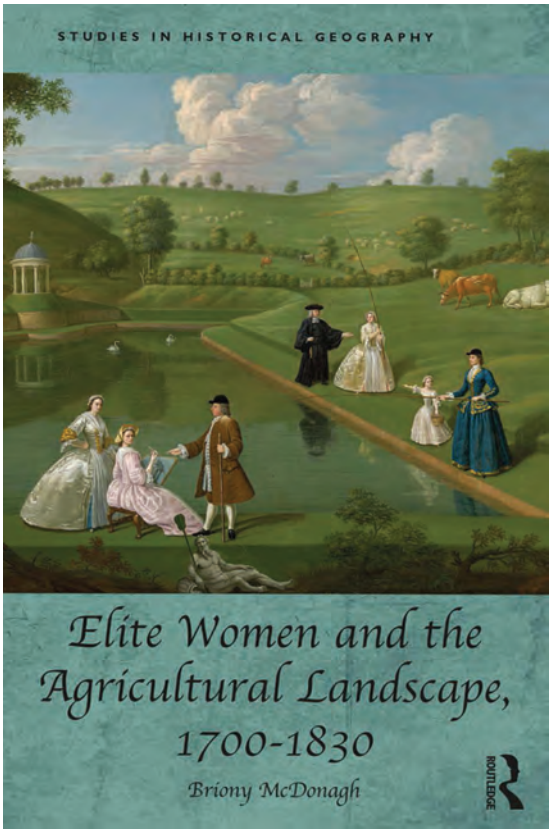
Rural History 2019

This conference, following on from the successful conferences held in Brighton (2010), Bern (2013), Girona (2015), and Leuven (2017), will take place in Paris, from Tuesday 10 to Friday 13 September 2019.

The call for papers is now open and details are available on the conference web site at ruralhistory2019.ehess.fr.

Joan Thirsk Memorial Prize

The Joan Thirsk Memorial Prize was awarded at this year's Spring Conference to Dr Briony McDonagh for her book, *Elite Women and the Agricultural Landscape, 1700–1830*, published by Routledge.



Presenting the prize, the President of the Society, Dr John Broad said, 'The excellence of the field for the Thirsk Prize this year was such that all submissions would be worthy winners in a normal year. We found it extremely difficult to rank the books and indeed each of the four was ranked first or equal first by one of the judges. However we were ultimately unanimous in our decision to award the prize to Briony McDonagh for her book *Elite Women and the Agricultural Landscape, 1700–1830*. She used both national samples and local case studies to illuminate how female landowners could be independent managers of their estates and shapers of the landscape. I am sure that Joan Thirsk would have warmed to both the subject matter and the quality of the argument and writing.'

The sale of produce from non-commercial gardens in late medieval and early modern England*

by Malcolm Thick

Abstract

This paper explores the question of how much private gardens contributed to the supply of vegetables and fruit available for purchase in late medieval and early modern England. After an introduction describing the sale of crops from many monastic gardens in the later Middle Ages, the paper covers the surplus traded from gardens of both rich and poor in England to the early nineteenth century. Sources used include household accounts, estate records, gardeners' contracts, market records, tithe disputes and contemporary writings on gardening. Overall quantification of the sales of surplus produce is not possible from the data so far discovered but the diverse sources of information give an impression of a significant level of trade in surplus produce of all types: cheap vegetables and fruit sold in the open markets for general consumption and luxury items, pineapples, grapes and the like emanating from stoves and hothouses of the rich.

Earlier studies by this writer and others have considered aspects of commercial gardening in England in the early modern period.[1] This paper is an attempt to assess an aspect of gardening for the market which has not previously been explored: the role of predominantly non-commercial gardens in supplying the market with produce surplus to their owners' requirements. From the earliest writings, English books on gardening linked private with commercial gardening. The pleasure of owning a garden and the benefit to be gained from consuming and selling its produce were summarized in the phrase 'pleasure and profit'. On the first page of the earliest printed English gardening book, Thomas Hill employs the phrase; it recurs in gardening books well into the eighteenth century. Although in Hill's time (the 1560s) 'profit' might have simply meant 'produce', it was acquiring its modern meaning and Hill was certainly aware of the commercial possibilities of gardens. Pleasure and profit occur

* I thank the two anonymous referees whose helpful and constructive comments are reflected in the version of the paper presented here.

[1] Malcolm Thick, 'Market gardening', in Joan Thirsk (ed.), *The agrarian history of England and Wales* [hereafter, *AHEW*], V, *1640–1750* (2 vols, 1985), II, pp. 505–32; id., *The Neat House Gardens* (1998); Maisie Brown, *The market gardens of Barnes and Mortlake* (1985); J. G. L. Burnby and A. E. Robinson, *'Now turned into fair garden plots' (Stow)* (Edmonton Hundred Historical Society, Occ. paper, new ser. 45, 1983); F. Beavington, 'Early market gardening In Bedfordshire', *Trans. Institute of British Geographers* 37 (1965), pp. 91–100; J. M. Martin, 'The social and economic origins of the Vale of Evesham market gardening industry', *AgHR* 33 (1985), pp. 41–50.

iconographically on the engraved frontispiece of Ralph Austen's *A Treatise of Fruit Trees* in 1657 where clasped hands emerge from cartouches labelled 'profits' and 'pleasures'. The phrase is employed by Leonard Meager in 1697 and 1704, and John Lawrence hoped fruit trees 'may bring pleasure and profit' to his readers in 1727.[2] But in the eighteenth century the words used to describe private and business gardens became more entangled. 'Kitchen garden', hitherto signifying a vegetable and herb garden next to a private house was used by Stephen Switzer in 1727 to describe *commercial* vegetable gardens around London. Others used this term: for example, the authors of *The Practical Husbandman and Planter* of 1733 and Philip Miller in 1765.[3] Here we argue that the mixing of words to describe gardens and their purpose is no accident; it reflects a consistent use of the market by 'non-commercial' gardeners and their employers, to dispose of gluts and make a little money on the side. Gardeners might slide from private into commercial gardening.

Writing of the contribution garden produce made to diet in the later middle ages, Christopher Dyer remarks: 'Documents informing us fully about horticulture, the trade in garden produce, or the consumption of vegetables and fruit are indeed scarce', but he goes on to say that a wide variety of documents *mention* gardens, if only in passing. In the seventeenth and eighteenth centuries the rise of commercial gardening has left more records but the question of how much produce from non-market gardens came onto the market is as difficult to discern in this period as in earlier centuries. In consequence, we will often have to look obliquely at a trade that has left few direct records and decide what we can extrapolate from limited evidence. This paper will first look at late medieval gardens, taking as a case study the gardens of Norwich Cathedral Priory, and then consider private gardens up to the early nineteenth century.[4]

I

The Norwich Cathedral Priory garden accounts cover 34 of the years between 1329 and 1540. They list income received and expenditure made by the head gardener and provide an insight into the running of an institutional garden that yielded surplus produce. The last nine annual accounts are of limited interest because between the end of the fifteenth century and the Dissolution, the gardens were largely leased out and little or no produce was grown or sold by the Priory. Consequently, receipts are mostly of rents, with sales confined to fruit, nuts, and wood – the produce of trees, not annually planted crops.

[2] Thomas Hill, *The arte of gardening* (1608), p. 1; Leonard Meager, *The new art of gardening* (1697), A2, pp. 88, 95; id., *The compleat English gardner* (1704), A3; Ralph Austen, *A treatise of fruit trees* (1657), frontispiece. The phrase 'pleasure and profit' remained in use for some time after; in 1800 Charles Marshall considered 'the profit and pleasure to be reaped from a good garden' (Charles Marshall, *A plain and easy introduction to gardening* (1800), p. 25) and in 1910 a six-volumed work was published under the editorship of W. P. Wright with the title *Practical gardening for pleasure and profit: a complete guide to plant cultivation and practical gardening* (1910). For Hill's attitude to sales of garden produce, see below p. 7.

[3] Stephen Switzer, *The practical kitchen gardener* (1727), A1; *Anon., The practical husbandman and planter* (1733), p. 145; Philip Miller, *Gardeners kalendar* (1765), p. 145.

[4] C. C. Dyer, 'Gardens and garden produce in the later middle ages', in C. M. Woolgar, D. Serjeantson and T. Waldron (eds), *Food in medieval England* (2013), p. 27.

Over the years when gardening was carried out by the Priory, several gardens within the monastic precinct are mentioned in the accounts. A typical monastery would have possessed at least a kitchen garden for vegetables, a physic garden for medicinal herbs, and orchards of fruit trees. At Norwich there were also areas of grass which were regularly mown for hay, bee hives yielding wax for sale (the honey never appears in the accounts and was presumably all used by the convent), areas for grazing cattle, and for chickens to run in; a nursery for fruit and timber trees and an orchard of pear and apple trees; a cherry orchard; a fair amount of standing timber, including willow trees, and other woods yielding brushwood and firewood; and fishponds containing pike and roach.

Before the period of leasing, sales from the gardens were broadly of two types: surpluses of produce raised principally for the convent and cash crops. Amongst the former were leeks, porrets, onions, garlic, beans, apples, pears, coleworts, parsley and other herbs, and nuts. The accounts also contain surpluses derived from livestock: milk, eggs, chickens, calves, and cattle. The quantity of vegetables sold varied considerably from year to year, perhaps reflecting the amounts planted or sown but more likely a reflection of variable annual yields. In some years there are no *sales* of a product but some were *purchased* for the convent, perhaps indicating a particularly bad harvest. Tree fruit were notoriously variable in yield. In 1429 apples and pears were sold for a total of £2 2*s*. 5½*d*., but in 1405 the total had been only 5*s*. In most years there were some spare onions to sell, but proceeds varied from nothing in some years to a magnificent £6 1*s*. 6*d*. in 1406. Good years for onions often coincided with high takings from colewort sales. On other occasions items appear as both sales and purchases in the same year, milk for instance. Here the explanation is probably that the gardeners' cows were 'dry' for part of the year.

Cash crops were grown to provide extra income. Teasels were regularly harvested and sold, in one year making over a pound for the convent. For a few years madder was raised in some quantity. Both these products were used in the important East Anglian cloth making industry. Faggots and firewood, osiers and timber were sold in many years, as on occasion were nursery trees. Payments for mowing often appear as a garden expense and hay was a regular source of income.

How big was the gardening operation? The make-up of the accounts makes any assessment difficult. Some non-gardening expenditure has to be stripped out and we are left with a profit and loss account consisting of *all* expenditure in cash on the garden and the cash income from sales.[5] But only the *surplus* was sold, so there is an unknown amount, presumably by far the largest slice, of produce consumed each year by the convent. A further amount of outgoings and income may have been omitted because produce – including plants, seeds, and young trees – was *bartered* with other gardeners. The scale of the unknown may be judged by what is *not* in the accounts: as mentioned above, no sales of honey are recorded but wax sales totalling 9*s*. 7*d*. in 1339–40 point to many bee hives in the gardens. Roots (parsnips and carrots) and coleworts were a staple part of monastic diets, being major constituents of pottage, the main

[5] Certain non-gardening expenses were charged to the gardener's account, presumably to hypothecate the expected surplus on the account against recurring convent expenses, such as quills, parchment, and the upkeep of monks studying at Oxford.

course of Benedictine monks' dinners. Most of those grown must have been used for home consumption because roots are never found amongst the sales, and colewarts only yield a few shillings in most years. Only occasionally do we glimpse transactions involving fowls or cattle and a single entry records expenses relating to fishponds. We can try and get an idea of the whole garden operation by the payments for labour in the gardens. From an exercise, based on the annual accounts for 1406/7, I calculate that the head gardener and the equivalent of 13 full-time workers were employed the year round, and they probably had some help from the monks. This is quite a large workforce.[6]

Trying to index prices over a long period is fraught with difficulty but the highest receipts, from onion sales in 1406–7, would roughly represent £5,800 at today's prices. Total income in 1339–40 would be equivalent to £10,380 today, say about £200 per week. Bear in mind that this figure represents only produce *surplus* to requirements, and excludes bartered transactions and also any unauthorized sales by the gardener on his own account. I conclude that the gardens were, in total, a substantial enterprise, which supplied the convent and made a small but steady contribution to the needs of the City.[7]

The long-standing connection between monasteries and gardening is a commonplace in garden history. The ninth-century plan of St Gall abbey in France, now thought to be a blueprint for an ideal abbey rather than an actual plan, sets out in detail the kitchen garden and the produce to be sown in it. A similar plan of the monastery at Canterbury from the twelfth century also survives. The Cellarer's accounts for Durham Cathedral Priory portray a picture of the gardens there in the fifteenth century not unlike the arrangements at Norwich, with many payments for seeds to stock the kitchen garden and records of produce harvested from it. Durham's gardens contained pigsties, a poultry yard, fishponds and a goose house. There was more than one orchard and the West Orchard contained a coneygarth. A cell of the Priory at Monkwearmouth also had gardens, tended in 1360 by three women on an annual salary. At Ely the monastery had extensive orchards and Glastonbury Abbey not only had gardens within its precinct but also administered gardens at eight nearby manors. Sales of surplus produce are only rarely recorded at Glastonbury but they are more frequent at Beaulieu Abbey in Hampshire, whose accounts, which exist only for the single year 1269–70, record much activity in the gardens and sales including leeks and leek seed, onions, and 5 quarters, 5 bushels of beans sold for 18*s*. 9*d*. Wax and honey were also sold.[8] Battle Abbey

[6] In 1406/7, excluding the head gardener's wages, £2 11*s*. 5*d*. was paid to casual workers in that year. At say 3*d*. a day, that works out at 1851 person-days. Excluding Sundays and say, 25 saints' days, these casual wages represent an average of 6.5 casual workers every working day. Servants' stipends were £2 15*s*. 10*d*., a figure near to the casual wage bill, so add an estimated 6.5 servants and we arrive at a notional workforce, the year round, of 13 workers under a full-time gardener plus any work done by the monks. Of the Premonstratension order of canons in late Middle Age England, David Knowles concludes: 'while the normal heavy pastoral or agricultural work was done by labourers, garden work and harvest help was furnished by the canons'. D. Knowles, *The religious orders in England* (3 vols, 1948–59), II, p. 237.

[7] Gregory Clark, 'The price history of English agriculture, 1209–1914' (2003), faculty.econ.ucdavis.edu/faculty/gclark/papers/Agprice.pdf, accessed 29 June 2016; Kate Morley, Historical UK inflation rates and calculator, inflation.stephenmorley.org, accessed 29 June 2016.

[8] Paul Mayvaert, 'The medieval monastic garden', in Elizabeth B. MacDougall (ed.), *Medieval gardens* (1986), pp. 24–53; Teresa MacLean, *English medieval gardens* (1981), pp. 203–4.

gardens produced a wide variety of fruit and vegetables and sales of apples, hemp and grass are recorded. Ely was famous for its grapes. Alicia Amherst records that: 'In 1298 as much as twenty-seven gallons of verjuice (*viridi succo*), from the grapes, were sold; and the next year, twenty-one gallons.' In the same year 109*s*. 8*d*. was received for pasture and herbage sold in the vineyard, and 25*s*. 3*d*. for fruit sold. Sales of surplus garden produce are also recorded in the records of monastic institutions at Ramsay, Abingdon, and Westminster.[9] It is not unreasonable to conclude that many of the monastic houses in late medieval England were gardening for home consumption and selling surpluses in local markets and that a not insignificant amount of vegetables and fruit were available to the general public from these institutions.

II

Gardens owned by the higher clergy, gentry and aristocracy, as well as ordinary citizens regularly supplied a bustling market with produce in London in the mid-fourteenth century. Alicia Amherst extracted a vivid picture of this market from contemporary records:

> It appears that for many years previous to 1345 the gardeners of the Earls, Barons, Bishops, and citizens of London were accustomed to sell their 'pulse, cherries, vegetables, and other wares to their trade pertaining', on a piece of ground 'opposite to the church of S. Austin near the gate of S. Paul's churchyard'. By 1345, however, this fruit and vegetable market had grown to such an extent, and had become so crowded, as to hinder 'persons passing both on foot and on horseback', and the 'scurrility, clamour, and nuisance' of the gardeners and their servants had become so obnoxious 'to the people dwelling in the houses of reputable persons there', and 'such a nuisance to the priests who are singing Matins and Mass in the church of S. Austin, and to others, both clerks and laymen, in prayers and orisons there serving God', that the Mayor and Aldermen were petitioned to interfere, and to remove the market to some more suitable place.

The result of this petition was a meeting of the Mayor and Aldermen, and an order 'given to the said gardeners and their servants, that they should no longer expose their wares aforesaid, for sale in that place, on peril which awaits the same'. The gardeners counter-petitioned, complaining that 'they cannot serve the commonalty, nor yet their masters, as they were wont to do'. After a conference with the Alderman, the market was moved to a more convenient location.[10]

Records of the gardens tended by this throng of gardeners are not easy to find but one such belonged to the Bishop of Ely, at his London residence in Holborn. In 1372–3 his gardener sold onions, garlic, leeks, parsley, 'herbage' and pasture for a total of 79*s*.[11] Nearby was another garden, that of the earl of Lincoln, from which, in 1295–6, produce was sold for about £11 in all. A translation of its accounts reveals sales as follows:

[9] C. M. Woolgar, *The culture of food in England, 1200–1500* (2016), pp. 101–12; Alicia Amherst, *A history of gardening in England* (1895), pp. 1–30; MacLean, *English medieval gardens,* pp. 9, 24, 26–7, 34.

[10] Amherst, *History of gardening,* pp. 39–41.

[11] MacLean, *English medieval gardens,* p. 25.

£9 for pears, apples, and great nuts of the garden sold
2*s*. 3*d*. for cherries of the garden sold
8*s*. 9¾*d*. for herbs and 'Jeritis' of the garden sold
6*s*. for beans of the garden sold
20¾*d*. for verjuice 'in fobis'
12*s*. 3*d*. for 49 gallons of verjuice of issue
3*s*. 2*d*. for roses sold
4*s*. 6*d*. for herbage of the garden
2*s*. 3*d*. for hemp of the garden
4*s*. 1¼ *d*. for onions and garlick sold
2*s*. 6*d*. 'for little plants [*plancettis* or *plantettis*] of the vines sold'.[12]

The two gardens at Holborn exhaust our direct evidence of sale of surplus produce from non-monastic, private, late medieval gardens but the vivid description of the bustle of the market at St Paul's and the inconvenience it caused indicates that there were many other such gardens around London selling surplus produce. Indirect confirmation comes from contemporary literary sources referring to gardens: Langland's peasants grew a variety of vegetables, and a poor widow depicted by Chaucer had a bed of 'wortes' in her yard.[13] C. M. Woolgar remarks that 'Gardens were part of the culture of both peasant life and large institutions' in late medieval England, and Christopher Dyer has made a convincing argument for the ubiquity of vegetable gardens nationwide at this time. The frequent mention in manorial records of messuages, cottages with closes, or with curtilages, and archaeological evidence of backyards or back gardens attached to peasants' cottages leads him to the conclusion that: 'As there were about a million households in England in 1300, there must have been a similar number of gardens'. Whilst most peasants would have consumed all the produce of their vegetable gardens, there must have been occasions when a glut gave some surplus to sell. Poorer households would not have had access to preservatives – sugar or quantities of salt – or large containers for preserving fruit and vegetables and so would dispose of surpluses immediately.[14] Richer households most probably would have had more surplus produce: aristocratic families moving between manors or townhouses might spend little time at a house with a productive garden in a given year, allowing the gardener to sell the produce not consumed by the family, either for the benefit of his master, as in the case of the earl of Lincoln above, or on his own account, in which case no records are likely to have been kept. Dyer points out that owners of gardens for which we have records seem to have had little difficulty obtaining seeds or young fruit trees – did these come from other private gardens?[15] The overall conclusion for the late medieval period, albeit on slim evidence, must be that there was more private gardening for fruit and vegetables than hitherto has been supposed and there is good reason to think that at least some of this produce entered the market. Indeed, such surpluses probably *were* the market since no commercial market gardeners have been identified before *c*.1500 in England.

[12] Amherst, *History of gardening,* p. 35.

[13] William Langland, *Piers the Plowman*, ed., F. J. Goodridge (1959), p. 89; F. N. Robinson (ed.), *The works of Geoffrey Chaucer* (1966), p. 203.

[14] Woolgar, *Culture of food,* p. 102; Dyer, 'Gardens and garden produce', p. 29.

[15] Dyer, 'Gardens and garden produce', p. 34.

III

At the Dissolution monastic gardens probably ceased to exist. The release of skilled gardeners from monasticism had some impact on gardening – some may have become commercial gardeners and others, gardeners to the upper classes. Gardens of the gentry and aristocracy replaced monasteries as a major source of surplus produce, especially in the countryside, but the prevalence of gardens of all sizes in London is striking. These ranged from the extensive gardens attached to institutions, for instance the many Livery Company halls, the gardens of large mansions such as those on the Strand and the houses of London merchants, to small plots behind very modest private dwellings. It is impossible to say, from the plans of these sites, whether the gardens were ornamental or productive but they had the *potential* to yield garden crops and produce a surplus.[16] Over time they were built on, but new houses with gardens were erected in the suburbs.[17]

The sale of surplus produce from private gardens is introduced early in printed English gardening literature. Thomas Hill in the 1560s quoted with approval Varro's and Palladius' recommendation that gardens 'be placst neere to a citie, both for the commodittie of hearbs and rootes for serving to phisicke, as all other hearbes and flowers, which be profitable for the citie', whereas gardens deep in the countryside 'hinder the apte bringing of all kinds of hearbes and flowers unto the market to be solde'. William Lawson, writing before 1618, assumes that private gardens will produce surpluses for sale and John Parkinson implies this in 1629, commenting that kitchen gardens provided 'profits and pleasure' for their owners and 'content and nourishment' for the many.[18]

The sale of surpluses from gentry gardens in the London suburbs was well established by the 1630s. Early in the seventeenth century the Gardeners' Company of London attempted to extend its jurisdiction to those selling garden produce within a six-mile radius of London. This aroused strong opposition from gentlemen within this area who had surplus produce to sell, as was somewhat tortuously explained in 1635:

> many gentlemen, merchants and others that have houses within the distance aforesaid may as well be considered to bee within the Gardeners patent [and] many of them doe of those sorts of provisions comodities and herbes bring to the marketts what is above … their owne needs.[19]

In the latter part of the seventeenth century John Worlidge sought to encourage husbandmen and labourers in the countryside to create kitchen gardens for vegetables and fruit. Any farmer

[16] Dorian Gerhold, *London plotted* (London Topographical Soc. 178, 2016), pp. 54–5, 59, 66–7, 81, 92, 89, 99, 101, 133–4, 206, 208–9, 232, 234. Plans showing very small houses in Bishopsgate and off Goldsmiths' Alley in 1692, all with gardens, on pp. 108–10, are particularly striking, as are those of former monastic precincts at St Bartholomew's and Greyfriars, which still had extensive gardens in 1613 and 1616, pp. 68–71.

[17] John Stow mentions infilling in the late sixteenth century: off Leadenhall Street was 'a frame of three fayre houses, set up in the year 1590 in [a] place where before was a large garden plot' (Gerhold, *London plotted,* p. 100).

[18] Hill, *Arte of gardening*, p. 1; William Lawson, *A new orchard and garden* (1618), p. 2; John Parkinson, *Paradisi in sole* (1629), p. 461.

[19] City of London RO, Repertories, 49, fo. 262ff, 9 July 1635. I am indebted to Dr David Marsh for this reference.

could set aside some land for a garden 'wherewith to feed his own family and furnish the market'. Likewise: 'The meanest cottager may well afford that little ground (if he hath any) that is contiguous to his tenement, for the propagation of some or other of these esculents'. But Worlidge sought to accelerate a trend that was already evident:

> there is scarce a cottage in most of the s*outhern* parts of *England,* but hath its proportionable *garden,* so great a delight do most of men take in it; that they may not only please themselves with the view of the flowers, herbs, and trees, as they grow; but furnish themselves and their neighbours upon extraordinary occasions; as nuptials, feasts, and funerals, with the proper products of their *gardens*. It furnishes our kitchen and tables with various esculents, as well satisfying nature, as pleasing our appetites.

He comments that particular vegetables are commonly found in English gardens: of cabbages he says 'Here in England [there is] not a village without them' and 'the constant and vulgar use of them is manifest'. On several occasions he points out that new and improved varieties of vegetable have lately been raised in English kitchen gardens: turnips 'have been very much improved in *England* of late years', more varieties of peas were grown, cucumbers were more common than before.[20]

A few years before Worlidge, the Oxford nurseryman Ralph Austen had observed:

> fruit trees are profitable to the husbandman in respect of sale of the fruits, when a man has more than he can spend in his house; especially to such as live neare some great towne or city, where they are vent at pleasure.[21]

In 1670, one chapter of a book by John Smith describes in detail a 'Garden of Pleasure' where all manner of delightful foods are produced 'to serve your family … besides the monies made at markets'. Indeed, he concludes: 'If you did know the yearly profit that does arise out of this pleasant land, you would find it sufficient overweight to all your pleasures'.[22] Leonard Meager in 1697 advised that a private kitchen garden should be only as large as can be well managed with the labour available, 'and may produce a sufficiency of herbs and roots for use, and a supply for the markets'. Harvested onions not required by the household could be 'disposed of by measure, as the custom for sale is'.[23]

Occasionally we have direct evidence of sales by the gentry and aristocracy. For instance in 1604 the gardener at Woolaton Hall paid over to his master five shillings he had received for the sale of parsnips.[24] In 1651 a correspondent of Samuel Hartlib wrote about quinces that:

> a Gentleman at Prichenel in Essex, who had a tree from beyond Sea, hath the best in England, and hath made above 30 pound of a small piece of ground planted with them, as I

[20] John Worlidge, *Systema horti-culturae* (1700), pp. 5–6, 158, 168, 175, 183.

[21] Austen, *Treatise of fruit trees*, p. 22.

[22] John Smith, *England's improvement reviv'd* (1670), p. 192.

[23] Meager, *New art of gardening*, pp. 88, 95.

[24] Mark Dawson, *Plenti and grase: food and drink in a sixteenth century household* (2009), p. 142.

have heard from his own Wife's mouth. And therefore it is by reason of our ill *Husbandry*, that we have Quinces from Flanders.[25]

Only rarely were detailed accounts of sales from private gardens kept. There are two lists of sales made by the head gardener at Coopersale House in Essex. The earliest, probably from 1740, headed 'Re[ceive]d for things out of the garden', lists 37 sales of 15 different types of produce totalling £1 19*s*. 0*d*. Another for 1741 lists sales totalling £3 0*s*. 11½*d*. Another apparent instance of selling private garden produce is revealed by a tithe dispute in 1730. William Cox Rector of Kingsdon, a small village in Somerset, alleged that a yeoman, James Evans, was refusing to pay tithes on the produce of a large garden and orchard. He lists the produce of this as apples, pears, nectarines, plums peaches, cherries, nuts, apricots, carrots, parsnips, turnips, cabbages, potatoes, 'and other kinds of fruits and roots from time to time'. The produce reads like that of a well-ordered kitchen garden for supplying a household but William Cox claims that Evans has 'carryd off & sold' some of the vegetables and fruit and refuses to account for the sales.[26]

An even fuller account of the range of produce a well-kept private garden might produce was provided by John King, Rector of Chelsea, who, in 1702, alleged that the late Duke and the Duchess of Beaufort had evaded tithes for years on the 15-acre garden around their house in Chelsea. The garden was, he said, 'very well planted and furnished with all sorts good fruit trees, flowers, greens and all manner of herbs plants and other garden stuff'. He goes on to list over 50 varieties of vegetables, salads, and herbs grown there. The garden, an acre of which had been at some time leased to a market gardener, was managed by William Oram who, since 1694 was said to 'yearley … pull, gather, sell and dispose of ye said fruit, flowers, herbs, plants, garden stuff and greens which happened renewed grew and increased thereupon to ye yearely value of 250 li or thereabouts'. The Beauforts claimed that a composition for tithes had been agreed with Dr King's predecessor but King said they did not pay him this. At other times it was claimed that the whole garden was leased to Oram and that and he should pay the tithe. The Rector believed these excuses to be just delaying tactics. It is not difficult to believe the estimate of £250 for annual sales of such a diverse range of produce.[27]

The relative rarity of records of sales from gardens in estate accounts may be because, as was probably the case at Beaufort House, head gardeners were allowed to sell produce on their own account according to their contracts. Head gardeners were commonly on annual contracts. Some, like John Hopkins, gardener to Lord Petre at Ingatstone Hall in 1704, received only an annual wage (the relatively high sum of £80 in his case), but many were paid less cash and given the right to keep the proceeds from the sale of garden surpluses. William Lawson advised in 1618, 'The house being served, fallen fruit, superfluity of hearbs, and flowers, seeds, grasses, sets, and besides all other of that fruit which your bountifull hand shall reward him

[25] Part of a letter from Robert Child to Samuel Hartlib, dated 1651, reproduced in *Samuel Hartlib, his legacy of husbandry* (1655), p. 18.

[26] Somerset Heritage Centre, DD/S/BT25/1/12; Essex RO, D/DU/363/4, fo. 97 (see appendix).

[27] Gloucestershire Archives, D2700/QJ5/3. Mary, Duchess of Beaufort was a keen botanist who took great interest in her gardens. She did, however, dislike the Chelsea house and may have either leased the garden to Oram or allowed him to sell produce from it after the Duke died in 1700. Molly McCain, *Beaufort, the Duke and his Duchess, 1657–1715* (2001), pp. 103, 120–2.

withal, will much augment his wages'. John Evelyn, in a manuscript written probably in the 1690s, laying down detailed rules for the conduct of his gardener, which he also conceived as a template for other gentlemen, is cautious about allowing his gardener to sell garden ware but he reminds us of the many types of produce a gardener could potentially dispose of:

> He may not dispose of any the above said fruit [i.e. all orchard fruits and nuts] nor sell any artichock, cabbages, aspargus, melons, strawberries, rasberries, wall, or standard and dwarfe fruite, roses, violets, cloves, or any greenes, or other flowers or plants, without first asking, and having leave of his Master or Mistress, nor till there be sufficient of all garden furniture for the Grounds stock and families use.[28]

A gardener's contract at Londesborough, Yorkshire, of 1704, stipulated that, 'The gardener was allowed to take all the fruit of the gardens and orchards except for that needed by the steward or agent'. Joseph Plummer, gardener to the Freeman Family at Hammels in Hertfordshire, was, in 1716, paid a cash wage 'over and above the benefit of the fruit of the said gardens' and in the same period the gardener at Knole in Kent was told that all fruit was reserved for his Lord's use: 'And that he may have the liberty and privilege of desposing of for his own particular use all such beans, pease, cabbidges and other kitchen herbs as shall be spared over and above what is used in my lord's kitchen'.[29] An apparently very generous agreement seems to have been made with Cadwallider Morgan, gardener at Quickswood, one of the manors owned by William Cecil, second earl of Salisbury. When Cecil and family stayed in the house for a time in 1634 Morgan was *paid* £3 for 'Fruit brought to the table, the 3 November'. This high figure may represent a reward for producing out-of-season fruit but it implies that Morgan had the right to all sales of produce, including that supplied to his master, maybe to compensate for wages of only £5 per annum.[30]

David Marsh has found that a succession of gardeners to the Archbishops of Canterbury had rights to sell surplus produce beginning with Francis Lovedale, the gardener for Archbishop Abbott (1611–33), who was paid 20 Nobles (£6 6*s*. 8*d*.) and received two liveries or an allowance for them. 'Hee had likewise the benefitt of all herbs, flowers and rootes, cabbages and such like things by him sowed set or planted in the garden over and above what was for my lord's owne use'. In 1705 a detailed job description was drawn up for the gardener at Lambeth Palace, which included the following:

> He is to have the profit of the garden against the kitchen door, salading when the Archb[isho]p is there excepted … He is to have the profit of the orchard next the brewhouse except fruit on trees and walls with the exception of strawberries.[31]

[28] Essex RO, D/DPE 26, fo. 256; Lawson, *New orchard and garden,* p. 2; John Evelyn, *Directions for the gardiner and other horticultural advice*, ed., Maggie Campbell-Culver (2009), p. 123.

[29] Barbara English, *The great landowners of east Yorkshire, 1530–1910* (1990), p. 223; Anne Rowe (ed.), *Garden making and the Freman family: a memoir of Hamels, 1713–1733* (Hertfordshire Record Publications, 17, 2001), pp. 43; Sally O'Halloran and Jan Woudstra, '"Keeping the garden at Knolle": the gardeners of Knole in Sevenoaks, Kent, 1622–1711', *Garden Hist.* 30 (2012), pp. 34–55.

[30] L. M. Munby (ed.), *Early Stuart household accounts* (1986) (Herts. Rec. Soc. 2, 1986), pp. xvi, xix.

[31] I am greatly indebted to Dr David Marsh for these references.

An engraving of Londesborough of *c.*1700 shows a large kitchen garden and at least 300 fruit trees, regularly spaced. There was much interest amongst the gentry and aristocracy from the late seventeenth century onwards in fruit growing: this is reflected in the ever lengthening lists of fruit trees available in nurserymen's catalogues or listed in gardening manuals, surviving bills for trees supplied, as well as views of country seats showing large orchards near the house. Despite the size of these orchards (augmented by 'wall-fruit' trained on the warm walls of kitchen gardens), it is noticeable that Lawson only includes *fallen* fruit in his proposed contract and other agreements exclude fruit altogether. There are several possible reasons for this. Fruit was high-status product when compared with root crops and cabbages, and the family may have desired all that was available. Also, fruit was preservable: apples, pears, and other hard fruits could be stored in cool, dark rooms on wooden shelves. Over time these 'conservatories' became more sophisticated, with ranks of drawers to keep the fruit in. More delicate fruit was preserved in sugar syrup. Preserved fruit (known as 'banqueting stuff') was used for desserts and was a particularly high-status food throughout this period.[32]

Another reason for not giving head gardeners the right to sell fruit was that produce from private orchards could, in areas near London and other large towns, be sold with little effort to fruiterers. These professional fruit traders would buy, at a discounted market price, whole orchards of fruit, often before the crop was ripe, from both private and commercial orchards. In due course they would harvest, pack, transport, store and sell the fruit. Richard Bradley explained this process to a gentleman who had asked him for advice in the 1720s:

> I know very well, that when Fruiterers go about the Country to buy Orchards of Fruit, their price is not always at this rate; for they run the hazard of loss, either by blasts or high winds; they are at the expense of gathering, carriage, and house-room to keep the fruit 'till the proper season for exposing it in the markets; and then there may be a great loss by untimely or accidental rotting of the fruit; so that their first price in the orchard cannot be above half as much as perhaps the fruit will sell for in the market.[33]

This process was well established in Kent by the second half of the seventeenth century. John Boys, writing of Kentish orchards in 1813 explained: 'The sorts of apples for domestic uses are sold to fruiterers, who send them to London by the hoys, and to the North of England by the coal vessels'. A successful fruiterer relied on his skill in collection, transport, and storage of fruit, which is why the pamphlet published in 1604, *The Fruiterers Secrets*, was almost exclusively concerned with these matters.[34]

John Hook, gardener at Brickwall House in Sussex was more fortunate than many gardeners. His contract in 1748 allowed him to sell 'such parts of the beans, pease, cabbage, carrots, parsnips etc … as are not wanting for his master's table or use'. He was also allowed to sell 'all

[32] *The husband mans fruitful orchard* (n.d., *c.*1618), pp. 110–11, appended to Lawson, *New orchard and garden*; J. C. Loudon, *An encyclopaedia of gardening* (1824), pp. 335–6. Richard Bradley lists 65 varieties of plums alone, in 1726; *A general treatise on husbandry and gardening* (1726), pp. 286–97.

[33] Bradley, *General treatise*, p. 353.

[34] Alan Everitt, 'The marketing of agricultural produce', in Joan Thirsk (ed.), *AHEW,* IV, *1500–1640* (1967), pp. 510–11; John Boys, *General view of the agriculture of Kent* (1813), p. 122; N.F., *The fruiterers secrets* (1604).

such apples, winter pears, raspberries and gooseberries' that were not wanted by the household. He was, however, 'to have no liberty of selling or disposing of any of the wall fruit, cherries or plumbs'. The 'wall fruit' was likely to have included peaches, apricots, nectarines and grapes: in other words, the choicest fruit. Such fruit might command high prices in London but the highest prices were paid for exotic fruit grown with the aid of glass and heat. In the 1770s, James Cook, a London fruiterer, complained that eight of a batch of pineapples sent to him by the earl of Dorset from his garden at Knole in Kent were bad. For the remainder he offered 4*s*. the pound but he was loathe to pay half a crown (2*s*. 6*d*.) a pound for the grapes he received from the same garden. Note that these were wholesale prices: the fruiterer would add his mark-up when selling from his shop in Covent Garden.[35]

Even without the specific right to sell the best fruit, gardeners often had ample scope to make money from sales of other produce. In many cases gentry or noble families were absent from their country homes for considerable periods of the year. They may, like the Cecils, have moved to other properties, or gone to London or a major provincial town to live. The absence of the family, together with many of the servants, allowed a gardener to sell produce not required by the reduced household. In any case, allowing the gardener to sell surpluses gave him an incentive to maximize the amount and quality of his output, to the mutual benefit of himself and his master. We must also bear in mind that head gardeners, especially those employed by nobleman, sometimes embodied the merging of commercial and private gardening by combining the job of head gardener with that of commercial nurseryman. For instance John Field, long-time gardener to the earl of Bedford at Woburn, was also a partner in Brompton Park, the pre-eminent nursery garden in England, in the 1680s.[36]

Head gardeners, and individual private gardeners in and near London may have disposed of surplus produce at Covent Garden, the principal London fruit and vegetable market in the eighteenth century, only turning up when they had produce for sale. In 1748 'chance gardeners, not having yearly stands' were charged 2*s*. a day for selling produce. 'Chance Gardners' and 'Higlers' paid £79 12*s*. in tolls in 1747, compared with the £239 4*s*. in total received from those with yearly stands, so roughly 25 per cent of individual gardeners' stallage came from casual sellers. But this may underestimate casual traders because a paper on the 'Present state of Covent Garden markett' and ways to improve it dated May 1748 claims that 'numbers of people supply ye market att all ye seasons with unknown quantities of Goods, subjectt to no toles, much complained by ye cuntry gardners, yearly tennants, and others paying ye market dues'.[37] On a much smaller scale, gardeners attended a weekly market at Billericay in the early eighteenth century. Total market tolls from gardeners ranged from nothing or 2*d*. or 3*d*. in January to well over a shilling in high summer, a pattern which may indicate that private gardeners were bringing seasonal surpluses to market.[38]

As well as selling in the open market, head gardeners traded with each other: plants and seeds were bought and sold between one country house garden and another. Sometimes

[35] East Sussex RO, FRE 8087; Kent History and Library Centre, U269/E434/5.

[36] English, *Great landowners*, p. 208; Gladys S. Thomson, *Life in a noble household, 1641–1700* (1937), p. 252.

[37] London Metropolitan Archives, E/BER/CG/E10/4.

[38] Essex RO, D/DP M992.

prices were noted, on occasion no doubt, the transaction was a barter, and at other times the arrangement was classed as a 'gift' which was nevertheless rewarded. The accounts of the Willoughby family of Nottinghamshire in the sixteenth century record many gifts of garden produce from the gardens of other gentry.[39]

The blurring of business and pleasure in gardening is exemplified by Richard Bradley's advice in the 1720 to a gentleman requesting suggestions for the use of a one-acre 'piece of ground, which you design to make into a garden of profit' situated near London. Bradley gives detailed advice, including likely profits of employing this plot in the raising of turkeys, chickens and ducks, fish of various sorts in ponds, an artificial rabbit warren, an orchard of a variety of fruits and kitchen garden ground. He concludes 'And you have the pleasure of enjoying all these at your own time, and in the highest perfection'. But the emphasis throughout is on selling produce in London markets as well as consuming it: each suggestion is costed, and a total net profit £46 1*s*. 0*d*. calculated if all was sold.[40]

Sales by those at the bottom of the social ladder, cottagers and labourers, are particularly difficult to find but we can speculate that, especially in rural areas, 'gifts' from poor people to the local gentry may, in effect, be casual sales of garden produce. Ben Jonson in his poem in praise of Penshurst, a country house in Kent, thinks it bountiful and needing no gifts of produce. Nevertheless he laments:

> But all come in, the farmer and the clown;
> And no one empty-handed, to salute
> Thy lord and lady, though they have no suit.
> Some bring a capon, some a rural cake,
> Some nuts, some apples; some that think they make
> The better cheeses, bring 'em; or else send
> By their ripe daughters, whom they would commend
> This way to husbands; and whose baskets bear
> An emblem of themselves in plum, or pear.[41]

The apples, nuts, plums and pears no doubt came from cottage or farmhouse gardens, as did the 'dysshe of pears for a present' from a 'pore woman' delivered to Haddon Hall in 1599, the cherries brought by William Bird's wife to Naworth Castle in Cumberland in July 1612, and the melons donated to Sir Arthur Throckmorton in 1593 by a local woman. The Willoughby household accounts record many gifts – nuts, apples, strawberries, and cherries – from poor people. A dish of artichokes was among the food gifts given to Sir Edward Wise at Sydenham in 1656 and a Hereford gentlewoman received damsons, apples and quinces in 1639–40. Such gifts were rewarded by gratuities: for instance the poor woman in 1599 got 6*d*. for her trouble. The Hereford gentlewoman Joyce Jeffries paid between 4*d*. and a shilling for her fruit, Sir Edward Wise shelled out a shilling for various gifts of food although his accountant thought them worth 4*s*. while William Bird's wife was rewarded 2*s*. 6*d*. There may have been mixed

[39] Dawson, *Plenti and grase*, pp. 146–7.
[40] Bradley, *General treatise*, pp. 338–61.
[41] Thomson, *Life in a noble household*, p. 255; Ben Jonson, 'To Penshurst' in Alastair Fowler (ed.), *The county house poem* (1994), p. 55.

motives for these gifts – tenants needed to keep in with their landlords – but it is possible to see them as casual sales from the gardens of the poor because a money reward was usually given. Bear in mind that Joyce Jeffries paid 6*d*. a day plus diet for casual gardening work, so in comparison 4*d*. for quinces and a shilling for damsons are commercial transactions and William Bird's wife was handsomely rewarded.[42]

In Norfolk, the Le Strange household's kitchen books between 1613 and 1627 record almost 1500 gifts of 126 different sorts of food from 317 people. Ordinary vegetables were not gifted but there were 78 instances of apples given, 48 of codlings, 69 of pears, and 38 of peas – one assumes early peas. Occasional gifts of more exotic fruits, such as grapes, were usually donated by wealthier households. There is no indication in the accounts that these were commercial transactions, they may have simply been part of the bonds which held society together at this time, but some of the circumstances point to commerce: at least two-thirds of the gifts elicited immediate reward; the rewards were much more than mere tips to the bringers and some seem to have been linked to the value of the gift; some of the women who made gifts specialized in certain commodities.[43]

Encouragement to the rural poor to adopt gardening, both for their own kitchens and for the market, continued to be given into the nineteenth century. In an article on 'Cottage gardens for the poor' in 1837, it was claimed 'by means of a not very large garden, a man may obtain sufficient culinary vegetables for a moderately large family, and even have some to dispose of in other ways'.[44]

Higher up the social scale, by the second half of the eighteenth century the purchasers of gardening books were, to some writers at least, assumed to be producers for the markets as well as their own households. In a book addressed to 'gentlemen of ample fortune', John Gibson in 1768 favoured apples and pears amongst tree fruit because

> the trees not only thrive vigorously in many places, but also bear plentifully, the fruits are not hurt by being carried to market, and are readily sold for good price … gentlemen cannot employ their grounds to better purpose … so profitable as the planting of orchards.

He also thought, if a market was at hand, 'summer fruit … bring the most money' and plums were profitable: 'Near great towns, where there is a demand and a ready sale'. Samuel Fullmer in 1781 advised digging up bulbs when they were dormant, 'for sale, or to send any distance', and also gave advice on raising Myrtle cuttings 'to those who raise them for sale'. In a much reissued book for gentleman and gardeners it is assumed that surplus produce from a kitchen

[42] 'Haddon Hall Steward's accounts, June 1549', *J. Derbyshire Archaeological and Natural History Soc*. 16 (1894), pp. 60–80; Dawson, *Plenti and grase*, pp. 147, 150; Gray Todd (ed.), *Devon Household Accounts, 1627–59*, I, *Sir Richard and Lady Lucy Reynell of Forde (1627–48); John Willoughby of Leyhill (1644–6); and Sir Edward Wise of Sydenham (1655–9)* (Devon and Cornwall Rec. Soc., 38, 1995); Judith M. Spicksley (ed.), *Business and household accounts of Joyce Jeffreys, spinster of Hereford, August 1639–November 1640* (2012); Rev. George Ormsby (ed.), *Selections from the household books of the Lord William Howard of Naworth Castle* (Surtees Soc., 68, 1877), pp. 29–32; Canterbury Cathedral Archives, Sir Arthur Throckmorton's Diary, vol. II, fo. 118. I thank Margaret Willes for the previous two references.

[43] Jane Whittle and Elizabeth Griffiths, *Consumption and gender in the early seventeenth-century household: the world of Alice Le Strange* (2012), pp. 72, 77–93. I thank Jon Stobart for this reference.

[44] 'On cottage gardens for the poor', in *The Floricultural Magazine*, I, no. XII (May 1837), p. 207.

garden will be sold: horseradish, 'where the large roots are designed for sale', should have their tops cut off; parsley, 'if large quantities are wanted for sale', should be sown in rows; apples, pears are 'very profitable in a family and for market; likewise walnuts 'are always profitable for sale'.[45]

IV

The prosperous middle classes of early nineteenth-century London were, like the aristocracy before them, building pleasant country retreats with gardens. Catering to this demand, John Claudius Loudon turned his attention to the subject of 'A suburban villa or residence' in his *The Suburban Gardener and Villa Companion* of 1838. Loudon described suburban residences and gardens of all sizes. His largest example, the 'First-rate Suburban Garden' (a house, park and farm of between 50 and 100 acres), was an establishment of some sophistication, a cross between a hobby farm and a garden, which in the previous century had come to be called a *ferme ornée*. Although principally a place of pleasure, 'to increase the interest of a *ferme ornée*' cash crops might be tried:

> the hop culture might be adopted; or apple pear, cherry, walnut, or filbert orchards might be introduced. A willow-ground would be suitable for some situations; and a coppice of ash trees for walkingsticks, crate-ware, or hop-poles, for others, and so on. Near large towns, the raising of garden crops and small fruits such as currants, gooseberries, raspberries, and strawberries etc. will form a source of interest for the cultivator of the *ferme ornée*, and one which, in some cases, may afford a little profit.

In suitable areas, amateur farmers could try growing for the market madder, woad, liquorice, rhubarb, poppy, and raising seeds for field and garden crops.[46]

Loudon must have realized that he was encouraging a trend that was already well under way: the rich in the London suburbs were already gardening on a significant scale. In 1799 a detailed survey of tithable lands in the suburban parish of Ealing revealed that much land was devoted to market gardening but the gentry were also occupying a large amount of garden ground. Many of the gentry's gardens were walled: market gardens too had some or all of their land walled. Many private gardens were over an acre in extent and some were much larger. General Lassells and Edward Robert Esq. both had gardens exceeding two acres; Richard Meaux had a walled garden of 3¾ acres; and Thomas Wood esq. had one of four acres. All told, the gentry and aristocracy of Ealing occupied 85 acres of garden ground, compared with 289½ acres of commercial garden ground. Bearing in mind what Bradley thought could be done with one acre of suburban garden ground, and the size of the alleged annual sales from the fifteen-acre Beaufort House garden in Chelsea, it is highly likely that there were surpluses from many of the Ealing private gardens to sell at London markets. It may be significant that private gardens

[45] John Gibson, *The fruit gardener* (1768), pp. 25–6, 246, 270; Samuel Fullmer, *The young gardener's best companion* (1781), pp. 196, 303; Thomas Mawe and John Abercrombie, *Every man his own gardener* (1805), pp. 21, 88, 153, 675–6.

[46] John Claudius Loudon, *The suburban gardener and villa companion* (1838), pp. 623–52.

there were tithed more heavily than commercial; walled market garden ground was tithed at 20*s*. the acre, similar private ground attracted tithes of between 23*s*. and 26*s*. an acre.[47] Ealing was just one suburban parish. Some idea of the scale of suburban gardens at this time can be gained from examining the pioneering land-use map of London and its environs in 1800, produced by Thomas Milne. The map shows that there were many private gardens in the London suburbs, but it must be viewed with caution: Milne treated private gardens, paddocks and parks as one, so it is not possible to distinguish them.[48]

The combined surpluses of private gardens in and near London was, claimed a polemical article in a gardening trade journal of 1843, having a noticeable effect on the fruit and vegetable market as a whole. 'Market gardeners have, among other evils, a just complaint, that gentlemen, aye, noblemen, send their produce to market, and with their commodities, which they can afford to sell at less than men who get their living by it, depreciate all their prices.' The editorial continued:

> To us, it seems a despicable idea, that wealthy competitors should be scrambling to sell their surplus commodities, instead of distributing them among their poor neighbours … the nobleman who sells cabbages and onions ought to be known as a dealer. He has no right to be received as a gentleman when he gets part of his income by costermongering; and no man who gets his bread by gardening, can compete with a rival to whom price is no object, and whose very act of selling appears to be an endeavour to injure an industrious class.[49]

V

The conclusion must be that for many centuries non-commercial garden sales did have an impact on the market and by the nineteenth century this was considered significant. Twenty-five per cent of the market tolls from gardeners at Covent Garden in the mid-eighteenth century were from casual traders. If many of these were private gardeners, and more private gardeners traded there without paying market dues at all, then, adding in the trades in seeds and plants *between* gardeners and the rewarded 'gifts' by the poor to their social superiors, this 'non-commercial' supply of produce may have appreciably augmented the horticultural market. Similarly, if we consider the number of monastic institutions in England prior to the Dissolution, these too may have made a significant contribution to the amount of fruit and vegetables available at markets up and down the country.

In this paper we have drawn attention to an aspect of the trade in fruit and vegetables that has, prior to this, remained undescribed. This paper has drawn information from a variety of sources and covered several centuries. There is scope for more detailed research on this topic, utilizing the archives of institutions, market records, and household accounts to build up a picture of the trade in surplus produce of non-commercial gardens nationwide and perhaps, ultimately, to try and quantify it.

[47] LMA, DRO/037/A/08/001.

[48] *Thomas Milne's land use map of London and environs in 1800*, ed., G. B. G. Bull (London Topographical Soc., 118–19, 1975–6).

[49] Editorial in *The Gardener and Practical Florist* I (1843), p. 2.

Appendix: A list of sales of garden produce from Coopersale Hall, Essex, *c.*1740.

Rec[eive]d for things out of the Garden

For Sallets		6*d.*
For Cucumbers	1*s.*	4*d.*
For 2 Peaks of Peases	1*s.*	0*d.*
For 3 Peaks of Beans	1*s.*	0*d.*
For Collaflowers	1*s.*	6*d.*
For 4 Peaks of Peases	1*s.*	0*d.*
For 4 Peaks of Beans	1*s.*	4*d.*
For Cabbages	1*s.*	0*d.*
For Cucumbers	6*s.*	0*d.*
For Cherries	1*s.*	0*d.*
For Apricocks	1*s.*	0*d.*
For 2 Peaks of Beans		8*d.*
For Cabbages	1*s.*	1*d.*
For Plumes		6*d.*
For Apricocks		6*d.*
For 3 Peaks of Beans	1*s.*	0*d.*
For 4 Peaks of Beans	1*s.*	0*d.*
For Cabbages	1*s.*	1*d.*
For Plumes		6*d.*
For Gooseberries	1*s.*	0*d.*
For Currants	1*s.*	0*d.*
For 2 Peaks of Beans	1*s.*	0*d.*
For Gooseberries	3*s.*	0*d.*
For Currants	4*s.*	0*d.*
For 4 Peaks of Beans	1*s.*	0*d.*
For Cabbages	1*s.*	0*d.*
For Plumes	1*s.*	0*d.*
For 2 Peaks of Peases		8*d.*
For 4 Peaks of Beans	1*s.*	0*d.*
For Cabbages	1*s.*	0*d.*
For Gooseberries	2*s.*	0*d.*
For Collaflowers	1*s.*	0*d.*
For Grapes	1*s.*	0*d.*
For Carrots	1*s.*	0*d.*
For Cabbages		6*d.*
For Cabbages	1*s.*	0*d.*
Rec[eive]d	£1 19*s.*	0*d.*
Disbursed as by bill	£1 0*s.*	3½*d.*
Remains	18*s.*	8½*d.*

Source: Essex RO, D/DU/363/4, fo. 97.

Adapting to new markets: the income and expenditure of a Catalan peasant family, 1686 to 1812*

by Julie Marfany

Abstract

Greater market involvement by households, as producers and consumers, has been a key factor in explanations of economic change, particularly the notion of an industrious revolution. The degree, nature and implications of market involvement, however, varied across households, depending on many factors such as the type of farming, size of holdings and demand for labour. Identifying market involvement in the sources is also not easy. This paper reflects on these questions through the study of a Catalan peasant household over the years 1686–1812. This family was able to take advantage of new markets by increasing sales of wool to the growing textile industry. Comparison with their hired labourers, however, suggests that such flexibility was often dependent upon landholdings, particularly where these enabled continued self-sufficiency in foodstuffs in an era of rising prices. Peasant accounts need to be read carefully, however, and may reveal as much about tradition as they do about innovation or changing mentalities.

For some time now, the debate surrounding the transition to capitalism in Europe has focused on household decision-making processes. Both as producers and as consumers, households are the key protagonists of Jan de Vries' 'industrious revolution'.[1] In this model, peasants are seen as adapting to changing markets by choosing to specialize in certain activities which commanded higher levels of market remuneration, whether that be commercial agriculture, or proto-industry, and by choosing to work more intensively in terms of longer hours, more days per year, and an increased use of female and child labour. The additional income generated by such activities allowed households to be more active as consumers, purchasing more goods and particularly, new goods.

* I would like to thank the archivist of the Arxiu i Biblioteca Episcopal de Vic (ABEV), Rafel Ginebra, for his help with the Quatrecases accounts and other sources. A preliminary version of this paper was presented to the XXVII Economic and Social History seminar at the University of Girona, July 2016. I would like to thank participants in that session, the anonymous referees and Alex Brown, Andy Burn, Harry Cross and Adrian Green for helpful comments.

[1] Jan de Vries, *The industrious revolution. Consumer behaviour and the household economy, 1650 to the present* (2008).

While the hypothesis of the industrious revolution has proved hard to substantiate empirically, particularly in terms of labour allocation and the degree of choice involved, household decision making remains key to explaining the transition to capitalism.[2] For de Vries, such an idea requires the abandonment of any notion that peasants were rigidly risk-averse in terms of their economic behaviour.[3] Indeed, historians have long recognized that peasant self-sufficiency was a myth.[4] At the very least, peasants needed to generate a cash income with which to pay taxes and there were always some products, for example salt, which could only be obtained from markets. Pastoral farming and rural manufacturing by definition required a certain degree of commercialization.[5] The more relevant question becomes one of the degree and nature of the relationship between peasants and markets. For many historians, peasants are only 'partially integrated into incomplete markets'.[6] For Robert Brenner, the crucial distinction is between market involvement and market dependency.[7] Larger producers, with better access to land and credit, may have chosen to specialize or to diversify in order to benefit from market opportunities, whereas smaller producers may have been forced to turn to markets for subsistence when their own holdings proved inadequate to meet their needs.[8] Involvement or dependency may have varied from year to year, depending upon the vagaries of the harvest, for example, or over the life cycle, as the dependency ratios within the household changed.[9] It is also crucial to remember that markets were indeed plural, often interlocking and could be formal or informal.[10] Market growth was not straightforward: Epstein distinguishes between 'widening', that is, an increased geographical range of exchanges, and 'deepening', that is, an increase in the total or per capita volume of traded goods and services, or the trading of new goods and services.[11] A key contention of this

[2] For criticisms, see M. Overton, J. Whittle, D. Dean and A. Hann, *Production and consumption in English households, 1600–1750* (2004); J. Marfany, 'Was there an industrious revolution in Catalonia?', *Zeitschrift für Agrargeschichte und Agrarsoziologie*, 59 (2011), pp. 76–91; ead., *Land, proto-industry and population in Catalonia, c.1680–1829. An alternative transition to capitalism?* (2012).

[3] Jan de Vries, 'The transition to capitalism in a land without feudalism' in P. Hoppenbrouwers and J. L. van Zanden, *Peasants into farmers? The transformation of the rural economy and society in the Low Countries (Middle Ages – 19th century) in light of the Brenner debate* (2001), pp. 67–84.

[4] M. Aymard, 'Autoconsommation et marchés: Chayanov, Labrousse ou Le Roy Ladurie?', *Annales E.S.C.*, 38 (1983), pp. 1392–1410.

[5] A. Antoine, 'Entre macro et micro. Les comptabilités agricoles du XVIIIe siècle', *Histoire et mesure*, 15 (2000), p. 267; S. R. Epstein, *Freedom and growth. The rise of states and markets in Europe, 1300–1750* (2006), pp. 38–49.

[6] F. Ellis, *Peasant economics. Farm households and agrarian development* (sec. edn, 1993), pp. 219–20; J. Whittle, *The development of agrarian capitalism. Land and labour in Norfolk 1440–1580* (2000), p. 11; C. Dyer, *Making a living in the middle ages. The people of Britain, 850–1200* (2002), pp. 163–78.

[7] R. Brenner, 'The agrarian roots of European capitalism', in T. H. Aston and C. H. E. Philpin (eds), *The Brenner debate. Agarian class structure and economic development in pre-industrial Europe* (1985), pp. 300–2. See also P. Hoppenbrouwers and J. L van Zanden, 'Restyling the transition from feudalism to capitalism. Some critical reflections on the Brenner thesis', in P. Hoppenbrouwers and J. L van Zanden, *Peasants into farmers?*, pp. 19–40.

[8] C. Dyer, *Standards of living in the later middle ages. Social change in England, c.1200–1520* (1989), ch. 5; Aymard, 'Autoconsommation', p. 1394.

[9] Aymard, 'Autoconsommation', p. 1395.

[10] R. Domínguez, *El campesino adaptativo. Campesinos y mercado en el norte de España, 1750–1850* (1996), pp. 16–23, 181–90.

[11] Epstein, *Freedom and growth*, p. 57; Marfany, *Land, proto-industry and population in Catalonia, c.1680-1829: an alternative transition to Capitalism?* (2012), pp. 17–18.

paper, however, is that market involvement is hard to capture in practice, given the limited sources available.

This paper offers some thoughts on these questions via the in-depth study of the household accounts of an eighteenth-century Catalan peasant family, the Quatrecases. They were fairly typical of the Catalan peasantry or *pagesia de mas*, owner-occupiers of farms of varying sizes, practising mixed cultivation depending upon the area. Traditionally, the *mas* was seen as primarily aimed at subsistence farming and the reproduction of the family unit, but more recent studies have emphasized the capacity to adapt and innovate and the degree of market integration such holdings could possess.[12] The account books offer insights into the income from mixed arable and pastoral farming, showing how sales of wool became increasingly important with the growth of proto-industry in the area, and reveal the main items of expenditure, allowing a picture to be formed of the local market networks. The wages paid to servants and day-labourers provide some glimpses of how the rural labour market functioned over this period. Local commodity markets in particular were already integrated into commercial networks reaching to Barcelona and other coastal areas and to markets in the Castilian interior by the late sixteenth century.[13] The eighteenth century, however, saw profound transformations at all levels of economy and society and the creation of global networks across the Atlantic, with the expansion of commercial viticulture, the growth of proto-industry, rapid population growth and increased regional specialization.[14] As elsewhere, household decision making has been shown to be crucial in driving these changes and the intensification of labour in particular is evidence of 'industrious' behaviour, though not always in the ways hypothesized by de Vries.[15]

I

Account books have been seen as evidence of a 'capitalist or commercial mentality': the desire to record transactions in a rational fashion that ultimately allows for economic calculation and profit making.[16] This discussion, however, has largely focused on merchant accounts. It is not until the nineteenth century and even later in many parts of Europe that peasant or farm accounts can really be described as accounting proper, that is, the systematic use of double-entry book keeping, with a clear separation between family or household accounts and farm or business accounts.[17] Before the nineteenth century, accounts were often combined with

[12] Ignasi Terrades, *El món històric de les masies* (1984); Pere Roca Fabregat, 'Una masia de la muntanya vallesana a l'inici del segle XVIII. El Llibre de notes dels hereus de Can Torres de Matadepera', *Arraona*, 18 (1996), pp. 9–45; Pere Pascual, 'L'agricultura de finals de l'antic règim (1833–1847). Una aproximació de tipus microeconòmic', in *idem*, *Agricultura i industrialització a la Catalunya del segle XIX* (1990), pp. 21–81.

[13] Albert García Espuche, *Un siglo decisivo. Barcelona y Cataluña, 1550–1640* (1998).

[14] The classic account of these transformations remains P. Vilar, *La Catalogne dans l'Espagne moderne* (3 vols, 1962). See also Francesc Valls Junyent, *La Catalunya atlàntica: aiguardent i teixits a l'arrencada industrial catalana* (2004).

[15] Marfany, *Land*, *passim*.

[16] The discussion ultimately goes back to Weber and Sombart. For a critical discussion, see Jack Goody, *The East in the West* (1996), ch. 2 and Giacomo Todeschini, 'La comptabilité à partie double et la "rationalité" économique occidentale: Max Weber et Jack Goody', in N. Coquery, F. Menant and F. Weber (eds), *Écrire, compter, mesurer. Vers une histoire des rationalités pratiques* (2006), pp. 67–76.

other types of information, such as diary entries, news and extracts copied from other texts, to the extent that a recent strand of scholarship views them as a form of autobiography or life writing.[18] Strictly speaking, the kind of account books used here, which are fairly typical of the period and place in which they were written, were what Winifred Rothenberg describes as memoranda books, that is, books in which entries were made haphazardly, in the order in which they occur, compared with ledgers, which distinguish between debt and credit, and accounts proper, which distinguish assets, liabilities and equity.[19] Nevertheless, some of the Catalan examples of memoranda, rather than being entirely haphazard, list transactions under sub-headings, such as 'wool sales', 'harvest labour' and so on. Later on, some households kept separate books for each category.[20]

The limited number of peasant account books in existence and the form they tend to take as memoranda reflects, first, the question of skill and, second, the private nature of such accounts. On the first point, the failure to keep accounts may be evidence not of a lack of market orientation but simply of illiteracy or innumeracy. Conversely, however, a rise in literacy and numeracy may reflect a desire to acquire skills that were increasingly important once peasants became more integrated into markets. Cause and effect are hard to separate.[21] On the second point, as Saguer and Jover point out, whereas business accounts were eventually required by legislation, no such obligation pertained to family and household accounts.[22] Accounts tended to be produced where an element of stewardship existed, so for large estates managed for a distant landlord, or sometimes on behalf of minors. Owner-occupiers were not accountable to anyone except themselves and perhaps to future generations.[23] Here, however, there is an important question as to which kinds of documentation survive. As Pere Gifre notes, there is a distinction to be drawn between documents that households needed to keep for the long term, such as titles to land, or records of important sales or transfers, and documents with a more immediate purpose.[24] Gifre suggests that accounts, receipts of sales and the like may well have been kept in the short term, but perhaps did not merit being bound into volumes and thus are less likely to have survived.

[17] W. Rothenberg, 'Farm account books: problems and possibilities', *Agricultural Hist.* 58 (1984), pp. 106–12; E. Saguer and G. Jover, 'Les comptabilitats com a font per a la història rural', in E. Saguer, G. Jover and H. Benito (eds), *Comptes de senyor, comptes de pagès. Les comptabilitats en la història rural* (2013), pp. 15–32. Goody argues too much emphasis has been placed by Western historians on double-entry bookkeeping at the expense of other types of financial records.

[18] Adam Smyth, *Autobiography in early modern England* (2010), ch. 2, but for a more sceptical view, see Jason Scott-Warren, 'Early modern bookkeeping and life writing revised: accounting for Richard Stonely', in Liesbeth Corens, Kate Peters, and Alexandra Walsham (eds), *The social history of the archive: record-keeping in early modern Europe* (*Past and Present* supplement 11, 2016), pp. 151–70.

[19] Rothenberg, 'Farm account books', p. 110, n. 8.

[20] For examples from the nineteenth century for Catalonia and Majorca, see Terrades, *Món històric*, pp. 156–84; Antònia Morey, 'Un exemple de comptes de pagès. Els amos de possessió: Mallorca (segles XIX–XX)', in Saguer, Jover and Benito (eds), *Comptes de senyor*, pp. 147–70.

[21] Saguer and Jover, 'Les comptabilitats', p. 27.

[22] Ibid., p. 18.

[23] Pere Gifre, 'En els orígens de la comptabilitat de la pagesia del mas (reflexions sobre el cas gironí, s.XVII–XVIII)', in Saguer, Jover and Benito (eds), *Comptes de senyor*, pp. 129–31.

[24] Ibid., p. 130.

Given the compelling explanations for why peasants might not keep accounts, we are left with the question of why some did. It is perhaps no accident that the Catalan peasant accounts that have survived all seem to be for households in which pastoral farming was important. All were also hiring labour, and often leasing out land on a sharecropping or other basis. In short, they had diverse activities to manage.

Account books have the advantage of recording transactions with the market directly, whereas historians who rely on inventories have to speculate about commercialization based on the scale of, for instance, food processing equipment owned by a household.[25] The private nature of peasant accounts, however, has considerable influence on what information they record. As Rothenberg notes, peasants did not transact with themselves, so there is rarely any record of the use of family labour, especially that of women, their own livestock or tools.[26] We rarely know how large the household is at any one time. Gifre argues that Catalan peasant accounts are more likely to record expenditure, since there was a concern not to over-pay, but are less likely to record income. The same may be true of accounts elsewhere.[27] There is, as Rothenberg also emphasizes, an overwhelming 'preoccupation with debt', reflective of a period in which credit was essential to the functioning of the economy. This last point on context brings us to a key issue when it comes to thinking about the emergence of a commercial mentality and the degree to which peasants were integrated into markets, namely, the question of risk and certainty. Rothenberg makes the valuable suggestion that we should distinguish between accounting as a tool for recording and as a tool for control. Peasants appear to be doing the former but not the latter, since they do not record transactions in a way that would allow for calculations of profit, productivity and projections into the future. However, they were operating in a world over which they had little or no control, in which markets were far from perfect, and thus cost accounting made little sense.

II

The case study in this paper is of the peasant accounts kept by three (possibly four) generations of the Quatrecases family of Pruit, a parish near the town of Vic, in central Catalonia. The family's *mas* or farmstead was situated in the Collsacabra mountain range, in an area of dispersed settlements, approximately 80 km from Barcelona.[28] The parish of Pruit had 19 households in 1687, and 30 in 1780 with a population of 337 inhabitants.[29] The parish archives were burned in 1936 so few other sources survive, but a tax register (*cadastre*) from 1757 gives

[25] For attempts to measure production and consumption, as opposed to just consumption, within the household economy using probate inventories, see Overton *et al*., *Production and consumption*; Marfany, *Land*, chs. 5 and 6.

[26] Rothenberg, 'Farm account books', pp. 108–9.

[27] R. W. Hoyle, 'Farmer, nonconformist minister and diarist: the world of Peter Walkden of Thornley in Lancashire, 1733–4', *Northern History* 48 (2011), pp. 280–3.

[28] On this area, see Antoni Noguera, *Collsacabra* (1963); Quirze Parés, *La despoblació rural i les masies del Collsacabra* (sec. edn, 2001). The Quatrecases farmhouse still survives, though it had ceased to be a working farm by 1936.

[29] The figure for 1687 comes from Antoni Pladevall, 'El bisbat de Vic entre 1685 i 1688', *Ausa* 82–3 (1976), p. 49. The 1780 figures are taken from id., 'Un cens demogràfic i econòmic del bisbat de Vic del 1780', *Revista Catalana de Geografia* 1 (1978), p. 587.

some idea of the scale of the property.[30] In that year, the household paid tax on an area of approximately 80 hectares.[31] Some land was leased out, likewise a smaller building adjacent to the main farmhouse, described as a *cabanya*.[32] There is no mention of the leasehold or the *cabanya* in the *cadastre*, nor do the tenants feature, though in theory either they or the Quatrecases would have been liable for tax. As a result, the property recorded in 1757 may not be the full extent of holdings, though it is likely to be very close. Only property held in the parish was included in the *cadastre* but it seems reasonable to suppose that had the family owned land in another parish, there would have been some mention of this in the accounts. Similarly, the fact that no sales, purchases or transfers of land are recorded other than the leases just mentioned, allows us to be confident that the total holdings did not change size during the period covered by the accounts. The balance between cultivated and uncultivated land, however, may well have varied over time. As was typical of most *masos* in Catalonia, the Quatrecases practised mixed farming. In 1757, only a small proportion of land (6.3 ha or 7.9 per cent) was used for grain. Another 0.1 hectares were for vegetables, 0.17 for fruit trees. Just over 10 per cent (8.5 ha) was categorized as rocky, and therefore not worth cultivating. A significant amount (13.6 ha or 17 per cent) was wooded, but most of the land (51.2 ha or 64 per cent) was uncultivated, presumably for pasture. These different land uses are discussed in more detail below.

The three generations in question are Joan Quatrecases, who died in 1745, his grandson Vicenç, whose dates of birth and death are unknown, though he died some time before 1792, and Vicenç's son Francisco, born 1746. The editor of the memoranda, Rafel Ginebra, believes these to be the sole authors, with no entries attributed to Joan's son and Vicenç's father Francisco, who died in 1752.[33] Certainly, whereas the other three frequently begin entries with phrases such as 'I, Vicenç Quatrecases', the only entry in the accounts where Francisco appears as author is in partnership with his son. In Book 2, one page is headed: 'Notes and book of accounts of Francisco Quatrecases and Vicenç his son to know what I spend and what work I have done'.[34] In Book 1, however, there are three entries from 1730 concerning repayment of a debt to Joan Costa, 'brother-in-law'. These are likely to be by Francisco, since he was married to a Magdalena Costa, unless Joan Quatrecases' second wife, whose surname is unknown, also happened to be called Costa. Nevertheless, the bulk of the accounts were kept by Joan and Vicenç. They are contained in three surviving account books, small bound volumes. These do not correspond to the three generations. The first book, following the catalogue listing,

[30] ABEV, AVV 673, 'Relación del repartimento por menor de la Real Contribución del Catastro del lugar de San Andres de Pruyt para el año 1757', unfoliated manuscript.

[31] Land measurements in the *cadastre* are given in *quarteres* and *cortans* or *quartans*. There were 12 *qurtans* to the *quartera*, which varied across Catalonia. My calculations are based on the assumption that a *quartera* in the Vic area equals 3,400 m², following C. Alsina, G. Feliu and L. Marquet, *Pesos, mides i mesures dels països catalans* (1990), pp. 215–8.

[32] The term *cabanya* was usually used to describe an outbuilding for storage, but in some places they were larger and incorporated living space as well. The Quatrecases' *cabanya* is cited as a more impressive example than most by Parés, *Despoblació rural*, p. 74.

[33] Rafel Ginebra (ed.), *Guerra, pau i vida quotidiana en primera persona. El llibre de memòries de Bernat Puigcarbó de Muntanyola (s.XVI–XVII), el llibre de notes de Francesc Joan Lleopart de Vilalleons (s.XVII–XVIII), i els llibres de comptes i notes dels hereus Quatrecases de Pruit (1686–1812)* (2005), p. 110.

[34] Ibid., p. 125. All translations are my own.

covers the years 1686–1735 in terms of transactions, recorded entirely by Joan, though there are notes referring to later years made towards the end by Vicenç. The second book runs from 1696 to 1812, with entries by all three men. The third covers 1740–1768, written entirely by Vicenç. Books 1 and 2 are typical of many other Catalan memoranda books, in that while accounts make up the bulk of both volumes, they are interspersed with observations on the weather, descriptions of the War of the Spanish Succession, and, in particular, descriptions of the activities of both Joan and Vicenç as *batlles* (bailiffs) for the neighbouring village of Rupit. Book 1 also records at the end various payments signed before notaries, such as dowry payments, with notes on which notaries. Book 3, the shortest, contains some notes on births, baptisms, marriages, deaths and burials of family members, and also a remedy for toothache on the inside front cover, but is otherwise almost entirely taken up with accounts. What makes the Quatrecases accounts more valuable than others used so far, however, is that they survive for a longer run of years.[35]

Book 2 has been transcribed and edited in its entirety by Rafel Ginebra, and it is his edition that is used here.[36] Some excerpts from Book 1 have also been transcribed and edited by Ginebra in the same volume, though most of these extracts are not concerned with the household economy. The remainder of Book 1 and the entirety of Book 3 have been consulted in the manuscript versions.[37] Book 1 follows a more chronological sequence than the other two, but is much harder to read. Books 2 and 3 are organized quite differently. Both tend to group transactions with the same individual in a particular year together, but without any chronological order. So, for example, in Book 3, payments to a farm servant, Joan Camps, for 1749–51 appear on fos 29r–v, while payments to the same Joan Camps for 1752 appear earlier, on fo. 25v. It may be that the volume was bound after the entries were made.

There is no firm explanation for why the accounts were kept. Joan Quatrecases describes Book 1 as a record 'of the accounts I have had … and other things that have happened to me …, out of curiosity and to note them and to remember what has happened to me'.[38] Interestingly, he began the accounts before becoming head of the household. Joan's parents were still alive when the accounts began: in 1701 they recognized Joan officially as their heir, suggesting perhaps that he was taking over management of the household.[39] Joan's father was dead by October 1705, when an entry refers to an arrangement made 'in my father's time', but his mother was still alive in 1706, when the book records her falling and breaking her arm.[40] Either Joan's role as bailiff was more important than the household accounts alone in prompting him to keep a record, or he was literate where his parents were not. There is no evidence either way for the second point, but the first is supported by the title he gave to Book 2: 'A book for

[35] Of the accounts published or used so far by historians, cited in the notes to this paper, most are from the nineteenth century and often survive for only short runs or single years. Earlier accounts, such as the seventeenth-century memoranda of Joan Guàrdia, from the neighbouring Collsacabra parish of Santa Maria de Corcó, are patchier than the Quatrecases' memoranda and only cover 40 years. For Guàrdia, see Antoni Pladevall and Antoni Simon Tarrés (eds), *Guerra i vida pagesa a la Catalunya del segle XVII* (1986).

[36] Ginebra, *Guerra*, pp. 109–233.

[37] These are held in ABEV, Arxiu Patrimonial Quatrecases de Pruit, numbers 1 and 3, cited here as Book 1 and Book 3. The only extract published from Book 3 is the remedy for toothache.

[38] Book 1, fo. 1r. Book 2 has a similar statement at the start.

[39] Book 1, fo. 47v.

[40] Book 1, fo. 57r; Ginebra, *Guerra*, pp. 226–7 (Book 1, fo. 57v in the original).

accounts … and other things that have happened to me, especially as bailiff …'.[41] For Vicenç and Francisco, keeping accounts may have been a case of following precedent and updating the record, particularly since in Book 2 they inserted notations between entries made by their grandfather and great-grandfather. Vicenç added a note at the start of Book 2, directly below that of his grandfather just cited: 'Today, 3 May 1747 I, Vicenç Quatrecases, became bailiff … And I continue the work begun by my grandfather above'.[42] However, for Vicenç there may also have been an element of stewardship involved, since he notes at the start of Book 3 that he had to take over the household because his father was ill and his grandfather and mother dead.[43] Vicenç seems to have had some sense of keeping a record for future generations. At one point, referring to Joan Font, who had worked for the household as a shepherd for 30 years, he addresses Francisco directly. Font had stopped working in 1752 and had been paid his remaining wages, but the family gave him bed and board until his death in 1763 when they paid his funeral, 'as if he were one of the family'.

> In case, Francisco my son, anyone should ever ask you about him [Font], you will find the receipt [for his wages] and the paper he signed to say he had been paid everything, it is in the house, and if anyone suggests that I kept anything of his, the answer is no.[44]

Joan and Vicenç kept more careful and detailed accounts than Francisco. From 1780 onwards, when the accounts were solely down to Francisco, the only record is for leases of the cottage or *cabanya* and the adjoining plots of land, and some expenditure on building work, discussed below. Other types of transaction are no longer recorded. We thus know most about the household's activities for the period 1686–1779.

III

Taken together, the three books include 1,567 transactions, loosely defined, which involved either expenditure or income on the part of the household. Many transactions do not record actual sums, but simply the settling of accounts. Some transactions are in cash, some in kind, but in the latter case sometimes with the value of the goods noted. As should already be clear, these books are far from being an accurate record of the household's income and expenditure. Nonetheless, they do provide insight into some activities, and the family's relationship to the market.

First, Gifre's suggestion that expenditure was recorded to a greater extent than income is borne out here. Of the 1,567 transactions, 1,004 (64 per cent) were payments of some sort, whether purchases or wages, whereas only 563 (36 per cent) were sales or income from rent or other sources. Second, the accounts show the same priority as accounts for other peasant households, namely, expenditure on maintaining the household and ensuring family reproduction. Table 1 shows the proportion of total number of payments for different types of expenditure for two sub-periods. The analysis goes only until 1779, as from 1780, with a couple

[41] Ginebra (ed.), *Guerra*, p. 122.
[42] Ibid., p. 122.
[43] Book 3, fo. 3r.
[44] Ginebra (ed.), *Guerra*, p. 181. There is a similar statement in Book 1, fos 66v–67r.

TABLE 1. Types of expenditure as percentage of recorded payments, 1686–1731, 1732–1779

Category of expenditure	*1686–1731*		*1732–79*	
	n	%	*n*	%
blacksmith	38	7.9	1	0.2
building	11	2.3	18	3.5
carpenter	0	0.0	3	0.6
clothing	3	0.6	25	4.9
debt repayment	39	8.1	3	0.6
dowries and inheritance	9	1.9	28	5.5
food	78	16.2	10	1.9
kitchenware	2	0.4	6	1.2
livestock	41	8.5	21	4.1
loans to others	1	0.2	12	2.3
medical	1	0.2	58	11.3
other	2	0.4	1	0.2
funerals, masses and tithes	3	0.6	31	6.0
schooling	0	0.0	15	2.9
seed	1	0.2	0	0.0
tax	3	0.6	1	0.2
textiles	38	7.9	46	9.0
wages	209	43.5	234	45.6
war	2	0.4	0	0.0
Total	481	100.0	513	100.0

Source for Tables 1–5: author's calculations from ABEV, Arxiu Patrimonial Quatrecases de Pruit, numbers 1 and 3 and Rafel Ginebra (ed.), *Guerra, pau i vida quotidiana en primera persona. El llibre de memòries de Bernat Puigcarbó de Muntanyola (s.XVI–XVII), el llibre de notes de Francesc Joan Lleopart de Vilalleons (s.XVII–XVIII), i els llibres de comptes i notes dels hereus Quatrecases de Pruit (1686–1812)* (2005), *passim*.

of exceptions, only leases were recorded. Most of the categories are self-explanatory. 'War' refers to two entries in 1709 and 1712 estimating losses incurred during the War of the Spanish Succession, when crops were stolen by both French and Spanish troops, the house was taken over and Joan Quatrecases had to pay to pasture livestock elsewhere.[45] It is clear that we are not seeing the full picture of household expenditure here. Only four tax payments, for the *cadastre*, normally paid three times a year, are recorded.[46] Both figures are dominated by wage payments,

[45] Ginebra (ed.), *Guerra,* pp. 230–2.

[46] The single year of accounts for Jaume Brugués, of Castellolí in central Catalonia, for 1841–2, show that taxes were 12% of expenditure, though the proportion might have been lower in the eighteenth century. Pascual, 'Agricultura', p. 46.

because of the turnover of labour, as well as the tendency to pay wages in instalments. Other types of payment occur more in the second period than in the first, reflecting the life-cycle of the family: thus there were 28 payments of dowries and inheritance portions between 1732 and 1779, compared with nine payments before 1732. Similarly, the second period saw more payments for medical expenses and funerals and anniversary masses. Other payments, for food and clothing in particular, are clustered in certain years. No food payments are recorded for the years 1713 to 1725, for example. Food payments are for sugar, salt, nuts, spices, rice, wine and oil, suggesting that the household was largely self-sufficient in provisioning of grain, meat, dairy, fruit and vegetables. The same was true of other households, such as that of Jaume Brugués from Castellolí, a village in central Catalonia. As late as 1841–42, only 3.8 per cent of his income went on food purchases.[47] All the Quatrecases' food purchases came from a single shopkeeper. Terrades sees this practice, common to other areas, as control over the market for certain consumer goods by one or two individuals with whom households were forced to shop.[48] As discussed below, initially, this same shopkeeper purchased the wool sold by the Quatrecases, but this relationship would change. Clothing payments are intriguing: all except three payments occurred between 1769 and 1778 and were to the same tailor, Francisco Vilagran Corominas, alias Candalero. This might suggest a switch in household production from domestic production of clothing to market purchases, except that a similar annual agreement is recorded in 1707, with another Candalero, presumably Francisco Vilagran's father. It may be that the balance between domestic production and market purchases of clothing varied over time depending on the number of women in the household and other demands on their time. Uneven patterns of expenditure on food and clothing and for the blacksmith may also simply be due to more diligent recording in some years, or to particular individuals requiring stricter account keeping than others. Candalero would seem to be an example of this last point: he was paid in advance more than once and frequently ended up owing money to the Quatrecases.

The value of these different types of expenditure is shown in Table 2. These are limited to the 731 payments with a cash value recorded, that is, those made in cash or where the payment in kind was valued in cash, again, up to 1779. Payments for funerals and masses do not appear after 1731 and only account for a tiny proportion of expenditure before then, because although the accounts were strict in recording that these important obligations had been fulfilled, they rarely stipulate how much was paid, simply that it was the customary amount.[49] Tithes, which were not regularly recorded, were always paid in grain with no cash value assigned to it. The single medical payment before 1732 was also in kind with no cash value. The wage bill, while accounting for the most frequent payments, only made up 16 per cent of cash expenditure. This reflects in part the small sums involved, and also the fact that many servants were paid in bed, board and clothing only.

Some of the differences in proportions of expenditure follow on from the numbers of payments shown in Table 1, such as the much greater outgoing on dowries and inheritance portions after 1732. Vicenç, for example, had to pay dowries of 500 *lliures* each to his three sisters and smaller

[47] Ibid., p. 46.

[48] Terrades, *Món històric*, pp. 161–2.

[49] These costs could be considerable. See ibid., pp. 171–2.

TABLE 2. Types of expenditure as percentage of total cash value of payments, 1686–1731, 1732–79

Category of expenditure	*1686–1731*				*1732–79*			
	lliures	*sous*	*diners*	*%*	*liures*	*sous*	*diners*	*%*
blacksmith	27	2	4	0.6	0	0	0	0.0
building	41	1	0	0.9	57	4	0	1.6
carpenter	0	0	0	0.0	35	19	0	1.0
clothing		16	1	0.0	29	11	6	0.8
debt repayment	1698	2	0	37.2	6	14	0	0.2
dowries and inheritance	644	0	0	14.1	2092	0	4	57.0
food	290	9	0	6.4	5	18	0	0.2
kitchenware	10	7	0	0.2	40	7	0	1.1
livestock	370	5	11	8.1	514	15	0	14.0
loans to others				0.0	64	9	10	1.8
medical				0.0	179	12	6	4.8
other	1	4	0	0.0	2	2	0	0.1
funerals, masses and tithes	0	11	4	0.0	0	0	0	0.0
schooling	0	0	0	0.0	25	11	0	0.7
seed	2	12	6	0.1	0	0	0	0.0
tax	26	18	10	0.6	13	4	0	0.4
textiles	56	5	8	1.2	104	11	10	2.8
wages	736	6	11	16.1	501	1	10	13.6
war	655	0	0	14.4	0	0	0	0.0
				100.0				100.0

Source: as for Table 1.

inheritance portions, including livestock, to two brothers and an uncle. Other differences, however, are more striking, such as the predominance of debt repayments in the earlier period. They were mostly of two kinds. First, there was a concerted effort by Joan Quatrecases to liquidate debts in the form of *censals*. *Censals* were a type of disguised loan to get round the question of usury. The creditor purchased the right to an annuity (*pensió*), which until 1750 was 5 per cent of the capital and after that, 3 per cent. *Censals* were the most common form of credit in early modern Catalonia. They were of indefinite duration and could be inherited, sold, or transferred. For the creditor, they represented a regular income for only the effort required to collect the annual payment. For the debtor, they often reflected a need for cash to cover a payment that could not be made in kind. In 1704, Joan Quatrecases paid off a *censal* of 50 *lliures* owed to Joan Girabou of Falgas. He had initially borrowed the money to pay his brother's inheritance portion, and had raised the cash to pay back the loan from the sale of livestock.[50]

[50] Book 1, fo. 51v.

The Quatrecases accounts give a distorted picture of debt since they never record payments of *pensions*, which would have been fixed each year. Instead, what is recorded are the payments made to *lluir* or *quitar* a *censal*, that is, to pay the capital back and any arrears. These, like dowry and inheritance payments, mattered for future generations, and are always accompanied in the account books with a note of which notary registered the repayment, as well as often the details of the original loan. However, they show the larger, but one-off payments rather than the small amounts that would have been paid out regularly each year.

The other type of debt repayments were those made by Joan Quatrecases for loans from his father-in-law, Joan Francesc Bassas. These are more complicated to follow, but seem to involve loans to buy livestock, with some kind of sharecropping arrangement, though it is not clear whose animals were pastured where. In addition, Joan Francesc had taken over two *censals* that the Quatrecases family had previously paid to the cathedral of Vic. The debts ran until 1714, paid in instalments, often livestock. In 1707, when Joan Francesc died, Joan Quatrecases came to an arrangement with his mother-in-law Beneta Bassas whereby one of the two *censals* was repaid, and the Quatrecases family pastured livestock for Beneta instead of paying the *pensions* on the other. In 1714, the second was finally repaid, by this time to Joan Francesc's daughter Magdalena, who had been bequeathed the annuity in her father's will. Between 1714 and 1753, the debt repayments recorded are only small, including six to two brothers-in-law. After that, there are no more debt repayments, suggesting that larger loans were no longer necessary as the family became more prosperous. It is possible that later loans were not recorded in the accounts, but this seems unlikely, given the importance given to recording such transactions.

A similar sign of greater prosperity, visible elsewhere in the Collsacabra, was the increase both in relative and absolute terms in expenditure on building.[51] Some payments were for repairs, but the house was also expanded and the kitchen newly built in the 1760s and 1770s. In fact, the increase was greater than appears here, since Francisco Quatrecases undertook a particularly expensive bout of rebuilding, including a new cistern, in 1788 and 1789, which he estimated at 1000 *lliures*. Moreover, such expenditure was carried out without incurring debt or retrenching on charity to the poor, as Francisco made a point of noting.[52]

Table 3 shows the frequency with which different types of income were recorded. Again, the picture is incomplete. The picture regarding debt is as distorted as our view of the expenditure side. The income from loans is mostly that discussed above, from Joan Quatrecases' father-in-law. These payments were concentrated in a three-year period, from September 1696 to September 1699. Income from loans made by the Quatrecases family to others, from *censals*, is under-recorded: there are a cluster of payments of interest (*pensions*) between 1747 and 1768, some with arrears, suggesting perhaps a flurry of activity to collect in overdue payments, which may in turn reflect a need for ready cash. The original loans are not recorded, though the notes make clear that one *censal* was for 300 *lliures*, loaned to Josep Marcet of Olot, who may in fact have taken over an original loan to Ignasi Bassols, surgeon, as the amounts and the day for payment are identical. Another, for 110 *lliures*, was to Joan Coma of Falgas, who paid four

[51] For other examples of building projects, see Xavier Solà Colomer, 'La febre de la construcció en el segle XVIII: urbanisme i arquitectura en el Collsacabra', *Ausa* 26 (2014), pp. 991–1019.

[52] Ginebra (ed.), *Guerra*, p. 124.

TABLE 3. Sources of income as a percentage of recorded payments, 1686–1731, 1732–79

Type of income/ expenditure	*1686–1731*		*1732–79*	
censals	0	0.0	13	5.9
dowries and inheritance	0	0.0	9	4.1
grain sales	5	1.7	1	0.5
leases	190	64.4	116	52.3
livestock sales	70	23.7	22	9.9
loans	13	4.4	0	0.0
other	5	1.7	2	0.9
wool sales	13	4.4	52	23.4
	296	100.0	215	100.0

Source: as for Table 1.

pensions in 1765 that had been owed since 1761, but apparently owed four more. These were fairly substantial sums to have loaned out, suggesting the Quatrecases family had a reasonable amount of credit at their disposal by the mid-eighteenth century, having previously owed substantial amounts. They may have had more, since other debtors, perhaps more trustworthy or less recalcitrant, may have gone unrecorded.

Nearly two-thirds of income payments overall were rent from the leasing of the *cabanya*, usually with a plot of land attached. In some periods, the two storeys were leased out separately, with one tenant occupying the upper floor and another the lower. Sometimes, the lease also included two *vessanes* of land for planting, and an unspecified area for fruit and vegetables (*hort*), with reference to apple and plum trees.[53] The frequency of these income payments reflects the short-term nature of the lease, between one and four years, but with payment usually annually. After these leases, wool and livestock sales represent the most frequently recorded sources of income over the entire period. Only six grain sales are recorded, and two at least of these appear more like loans. As elsewhere, and in keeping with the small surface area dedicated to cereals, most grain production was probably for household consumption, though it was sometimes used for payments in kind, discussed below.[54] Roca points out that hiring labour required a grain surplus, as even servants hired by the day expected to be fed.[55]

Table 4 gives the value of different types of income, again, restricted to those with a cash value, 390 of the 563. As with expenditure, we see life-cycle effects in the income from dowries in the second period. Francisco's wife Caterina brought in 1000 *lliures*, a fairly large dowry by contemporary standards. However, the sums spent on dowries and inheritance portions totalled over 2000 *lliures*, whereas the income from dowries was only just over 1400 *lliures*.

[53] A *vessana* was roughly equivalent to 2.2 m².

[54] The two households from central Catalonia studied by Pascual for the 1840s sold no grain in those years, despite having fairly substantial harvests. Both were in a viticultural district. 'Agricultura', pp. 47 and 56–7.

[55] Roca Fabregat, 'Una masia', pp. 19–21.

TABLE 4. Proportion of income with a cash value from different sources, 1686–1731, 1732–1779

Type of income/ expenditure	*1686–1731*				*1732–1779*			
	lliures	*sous*	*diners*	*%*	*lliures*	*sous*	*diners*	*%*
censals	0	0	0	0	214	4	0	4.6
dowries	0	0	0	0	1412	10	0	30.2
grain sales	37	14	0	1.8	1	18	0	0.0
leases	756	10	10	35.5	202	5	6	4.3
livestock sales	1164	0	8	54.7	898	18	11	19.2
loans	61	4	9	2.9	0	0	0	0.0
other	6	15	8	0.3	2	16	0	0.1
wool sales	103	4	3	4.8	1943	1	10	41.6
				100.0				100.0

Source: as for Table 1.

Nevertheless, the income side also shows the family's growing prosperity, as there was a shift from debt owed to others to a modest income from credit (*censals*). Income from leases shrank in absolute terms, and even more proportionally to other types of income. The most striking change over time, however, is the decreasing importance of livestock sales, to be replaced by a massive increase both absolutely and proportionally in the value of wool sales. We turn to these next, then to wool sales and finally to labour. We consider both in turn before turning to what the accounts tell us about the Quatrecases' use of labour.

(a) Livestock

The Collsacabra mountain range, due to its rich natural pastures, had traditionally been an area for livestock raising.[56] The Quatrecases kept various types of livestock. Both sales and purchases refer to mules and mares; sheep; cows and oxen, goats and pigs. They were engaged in breeding sheep and pigs, as is evident from differences in sales and purchases depending upon the age and sex of the animals. The 1757 *cadastre* records two oxen, two horses, eight pigs, 40 sheep and ten goats on their holding. It is not clear if this is all the livestock, or just that present in the parish when the register was drawn up, in March. The size of flocks and herds would vary over the year, but also from year to year. On 7 November 1749, Vicenç paid to send 57 young ewes for pasture at another *mas* in nearby Folgueroles for two months.[57] The flock was returned on 24 December, and on 29 December 34 young ewes, presumably part of the same flock, were sent for pasture on another farm in Sallent. These are the largest figures given for head of livestock; other sales or purchases, or mentions of pasturing are for smaller numbers. Joan sold 33 sheep in 1695, however, so no trend towards an increased size of flock or otherwise is discernible.[58] The highest number of pigs recorded in the accounts is 21.

[56] Joan Vilà Valentí, 'La ramaderia a Catalunya' in *Geografia de Catalunya* 1 (1958), pp. 447–66.

[57] Book 3, fo. 31v.

[58] Book 1, fo. 10r.

TABLE 5. Value of livestock sales, 1686–1779

Type	*Value of sales*			*% of total value*
	lliures	*sous*	*diners*	
Cows and oxen	429	2	0	20.8
Goats	36	2	0	0.8
Mules and horses	382	18	0	18.6
Pigs	615	16	9	29.9
Sheep	618	1	0	30.0

Source: as for Table 1.

Payments refer not only to sales and purchases of actual animals, but also to expenditure for pasturing animals on other farms and (conversely), receipts for allowing animals to be pastured on their land. In fact, such payments dominate the expenditure side: there is far less evidence of where livestock were initially obtained. There seem to have been regular exchanges of grazing for flocks with other farmers in the vicinity, resulting in complicated reckonings per head and per month. The accounts clearly reveal a practice known as *transtermitància*, movements of livestock down from the mountains to the plain known as the Plana de Vic in late autumn and winter, and back up to the mountains for spring and summer. (This is a distance of about 35 km each way.) The exchanges of livestock with farms in Folgueroles and Sallent above are clear examples of this.

Sales were recorded with much greater frequency. Table 5 shows sales with a cash value (the majority) according to type of livestock. Horses and mules, mostly the latter, would have been work animals, used for ploughing and transport. Oxen dominated over cows and calves. For both categories, transactions were only ever for one or two animals at a time. Oxen could also be used for ploughing, though one ox was sold to a butcher (see below), as was a cow in 1704.[59] Pigs and sheep, however, were the main types of commercial livestock. The importance of pigs is unsurprising since the area around Vic specialized in raising pigs and in pork products (and still does). Sheep were sold for meat, but as discussed below, also for wool. Sales of pigs tended to be smaller, occasionally single animals, more usually five, six or seven pigs at a time, with the largest sale in 1723 of 11 piglets and 14 pigs to someone nicknamed 'lo Frare' from Sant Pere de Torelló. Sheep sales ranged more widely from single animals to 33 at one time.

As discussed above, by definition pastoral farming requires engagement with markets. However, livestock sales are perhaps the best example of how market widening or deepening is hard to identify on the basis of household accounts. Sometimes sales were very local, at the market in Rupit or other villages down in the Plana de Vic, another way in which livestock connected plains and mountains. Other sales were further afield, to the urban markets of Olot and Vic. In 1700, Joan Quatrecases sold 15 lambs to the municipal butcher of Olot.[60] In 1752,

[59] Book 1, fo. 51r.

[60] Book 1, fo. 27r.

Vicenç recorded the sale of an old ox, purchased on behalf of the town of Vic, perhaps here for the leather industry, which was prominent there.[61] On a couple of occasions, however, sales were further afield, twice to purchasers from Barcelona and once from Girona. The Barcelona sales were to individuals described as the *comprador* (official purchaser), a clear example of how markets in the interior were part of wider networks satisfying urban demand. Distinguishing local from more distant markets is tricky, however. On 30 June 1701, Joan sold 17 lambs, five sheep and one ox in Sant Pere de Torelló, some 12 km from Pruit, to Ando Feliu, the *comprador* for the municipal butcher of Olot.[62] In other words, local sales may have been to satisfy local demand, but they may equally have been the first link in a longer chain. The accounts are silent as to whether the latter option was becoming more dominant over time.

What is interesting is that livestock do not feature in the accounts after 1758. In fact, the last recorded sales of pigs and sheep are in 1754, followed by a single record in 1758, with no cash value given, that 30 sheep were sent to pasture for two months at an unidentifiable location. Wool sales, however, continue to be recorded. There may well have been a switch from breeding for meat to breeding for wool, given the evidence discussed in the next section, or livestock sales may have been recorded in a separate account book, now lost. While this would explain changes in the recording of sales, however, it does not explain why the costs of grazing cease to be recorded.

(b) Wool

It is with markets for wool that the greatest degree of change in the household's market orientation can be seen. Initially, wool may have been produced more to meet domestic needs, as sales are recorded only very infrequently before the mid-eighteenth century, as shown in Figure 1. On the expenditure side, there are payments to weavers and clothiers for producing cloth for household needs. Only on one occasion, in 1738, did the household record a purchase of cloth from a shopkeeper.[63] Until 1729, various individuals were paid for weaving or for other tasks of cleaning, carding, and preparing wool that were carried out by clothiers (*paraires*). Fifteen names appear only once, including a female weaver, Magdalena Espona. There were some individuals who seem to have enjoyed a more regular relationship with the family. Jaume Targarona, a clothier, was paid in 1695, in 1702, and in 1705–07. He also did some agricultural work for the family. From the 1720s, however, these relationships became more long-standing. An individual known only as 'Pedretes' appears from 1722 to 1739, both as a weaver and a clothier, though mainly the former.[64] He overlapped with another weaver, described only as of 'La Pedrera', who appears from 1732 to 1761, overlapping in turn with a clothier, Llorenç Quatrecases (no apparent relation), who prepared cloth for the household from 1753 to 1764, followed by Salvador Noguera in 1764 and 1765, after which the accounts record no more payments of this kind.[65] Whether one-off or regular, payments were often in kind, most commonly in wheat, or a sucking pig, though payments in apples or cheese also occur. By the

[61] Ginebra (ed.), *Guerra*, p. 205.

[62] Book 1, fo. 30v.

[63] Ibid., p. 188.

[64] The two nicknames 'Pedretes' and 'La Pedrera' probably indicate the names of farmhouses: Can Pedretes, in Rupit and La Pedrera, in l'Esquirol (Parés, *Despoblació rural*, pp. 107 and 390).

[65] Ginebra (ed.), *Guerra*, pp. 186–7, 194–5, 206–7.

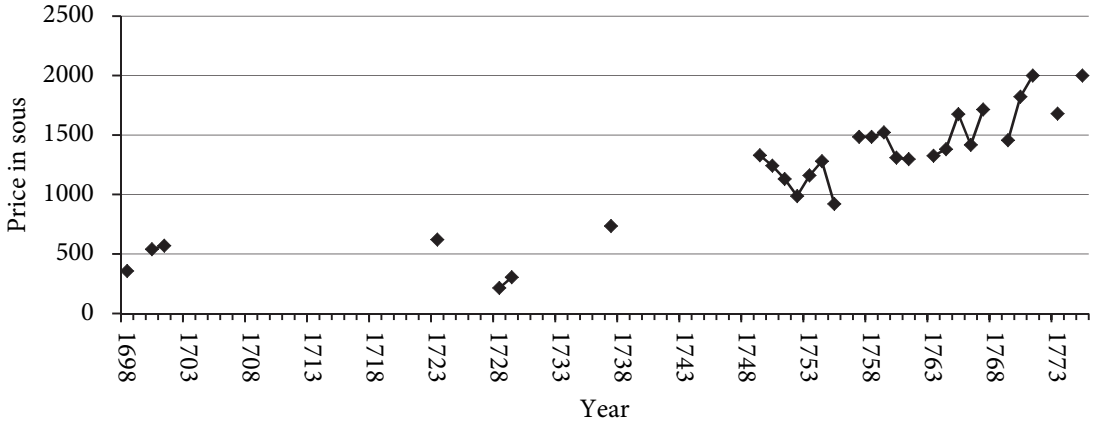


FIGURE 1. Wool sales, 1698–1788

1760s, payments were entirely in cash, and hint at changes in the production process. Thus the last payment to Llorenç Quatrecases, on 8 January 1764, was 8 *lliures*, 14 *sous* and 2 *diners* for his work as a clothier, including the costs of weaving, and a payment of 2 *lliures*, 10 *sous* and 11 *diners* for the *bolla*, a tax on cloth. Vicenç noted that Llorenç 'has taken care of everything'.[66] Instead of employing a weaver and a clothier separately, as they had done previously, here the Quatrecases household appears to be leaving the putting-out of spinning and weaving to the clothiers. The growth of proto-industry in Catalonia was associated with increasing control over the production process by clothiers, often at the expense of weavers, whereas previously, weaving had been considered the more skilled task.[67] Indeed, in 1696, Joan recorded a payment for weaving 24 *canes* of cloth to Antoni Roca, along with the additional payments for carding, fulling and the *bolla*, but does not mention the clothier by name.[68] Interestingly, however, the Quatrecases family had not abandoned self-provisioning when it came to textiles. A note accompanying the payment to Salvador Noguera on 8 December 1765 records that he was paid for carding, spinning and finishing the cloth, with some of the spinning done by his wife and some by the women of the Quatrecases household.

Sales of wool also reflect changes in the woollen industry. The two accounts, payments for cloth and sales of wool, overlap in just one instance in 1752, when a clothier, Esteve Llosas, settled part of his account for purchases of wool in cloth rather than cash.[69] Otherwise, the household had separate arrangements with different individuals when it came to selling wool as opposed to making cloth for domestic needs. Wool sales, shown in Figure 1, are recorded from the start of the accounts, though there are long gaps. From 1723 to 1748, wool was occasionally sold to two grocers, Joan Angelats and Josep Serra, in exchange for goods purchased in their shops. In some years, these exchanges had a cash value recorded, in others, they did not. From 1749 until the last recorded wool sale in 1779, however, the Quatrecases sold direct to clothiers.

[66] Ibid., p. 108.

[67] Jaume Torras, *Fabricants sense fàbrica: Els Torelló, d'Igualada (1691–1794)* (2006); Marfany, *Land*, pp. 56–76.

[68] Book 1, fo. 14r.

[69] Ginebra (ed.), *Guerra*, p. 192.

Six names appear, but the longest relationships were with Esteve Llosas of Sant Esteve d'en Bas, from 1749 to 1756 and Joan Sobreroca of Rupit from 1763 to 1779. The other four appear only for a maximum of two years. There was no overlap between clothiers: the arrangement seems to have taken the form of an annual contract, with wool sometimes paid for in two instalments. Payments are only ever recorded in cash. The impression is of a more formal, commercial set of transactions, at least from the mid-eighteenth century, which, again, fits with more capitalist structures and wider market networks.

Figure 1 shows the value of annual wool sales in *sous*, for those years where this is known. In some years even after 1749, the clothier was paying in arrears and it is impossible to ascertain the year to which the payment relates. Despite the gaps, there is a marked upward trend in the value of wool sales over time. For those years in which the Quatrecases recorded the price per weight, this fluctuated around 18–22 *ll* per *quintar*, sufficient to explain short-term fluctuations but not the overall trend.[70] The conclusion, therefore, is that the Quatrecases were producing more wool for sale, taking advantage of the increase in demand following the expansion of the Catalan woollen industry. This commercialization, while fitting to some extent de Vries' view of economically rational peasants, did not require direct engagement by peasants with more distant markets. Rather, the sales were local in the extreme, particularly as they became more important in terms of income. Again, local sales may have been the first link in a longer chain, but equally local demand for wool was high. A survey by the Barcelona Junta de Comerç (Chamber of Commerce) in 1764–65 identified 411 looms in the Vic district, with clothiers manufacturing a variety of cloths using both local and Aragonese wool.[71]

(c) Labour market

For a long time the *mas* was thought of as a family farm and thus it was assumed that most labour was supplied from within the family. However, while on smaller *masos* this might have been possible, there were always times when labour was in demand, either at busy times of the year such as harvest, or to fit within the life-cycle of the family. For larger *masos*, recent studies have shown that there was a need for hired labour throughout the year.[72] Conversely, alongside the *masos*, there existed a mass of smallholders with insufficient land for subsistence who therefore needed to hire themselves out.[73] The Quatrecases hired labour through the year and by the day or the task when needed. The clearest distinction in the accounts is between the labour hired at harvest, usually a team of threshers, who were paid by the day, and the

[70] A *quintar* was about 40 kg.

[71] My calculation based on Antoni Pladevall, 'Estado de la fabricación de lana en la comarca de Vich en los años 1764 y 1765', *Ausa* 5 (1965), pp. 249–56.

[72] Roca Fabregat, 'Una masia'; idem, '¿Quien trabajaba en las masías? Criados y criadas en la agricultura catalana (1670–1870)', *Historia Agraria* 35 (2005), pp. 49–92; Carme Sanmartí Roset, 'El treball assalariat en els masos de la Catalunya interior al segle XIX. L'exemple del mas Santmartí (Bages)', *Estudis d'Història Agrària* 10 (1994), pp. 143–55.

[73] Josep Colomé, 'Pequeña explotación agrícola, reproducción de las unidades familiares campesinas y mercado de trabajo en la viticultura mediterránea del siglo XIX: el caso catalán', *Revista de Historia Económica*, 18 (2000), pp. 281–307; Josep Colomé, Enric Saguer and Enric Vicedo, 'Las condiciones de reproducción económica de las unidades familiares campesinas en Cataluña a mediados del siglo XIX', in J. M. Martínez Carrión (ed.), *El nivel de vida en la España rural, siglos XVIII–XX* (2002), pp. 321–56.

longer-term contracts, most commonly for a year, of farm servants. The majority of these were hired to look after the livestock, though sometimes with the proviso that they could be called upon for other tasks as needed.

Although wage payments dominate among types of expenditure recorded, the accounts are less informative than those used by other studies. While most of the servants hired are named, we are not told their ages, and often not where they were from. The accounts are not always consistent in recording start and end dates of contracts, and annual wages, but until the mid-1750s, the Quatrecases seem to have been diligent in keeping careful accounts of small sums paid out to servants, usually for purchases of clothing or to send home to families. After 1755, there is far less information. By contrast, payments of wages at harvest time to teams of reapers and threshers are recorded much more carefully from this date. Prior to this, there are only sporadic entries, except for a run of years in the 1720s when Joan was more diligent. Harvest payments are sometimes given as a total sum, sometimes as the daily wage, but the accounts do not always record how many days were worked by how many people and how much household labour was included, though from 1756 there is a note almost every year to the effect that household labour did contribute. The teams were occasionally from the same or the neighbouring parish, but usually from Vic, Manlleu or Roda de Ter, all located in the flat area known as the Plana de Vic, between 10–20 km away. Interestingly, the daily wage was 5 *sous* in 1701 and 5 or 6 *sous* in 1712, but then remained at 4 *sous*, 6 *diners* a head until suddenly increasing at the beginning of the 1770s. In 1771 the captain of the team and his son demanded 5 *sous* a day. The following year, the entry reads 'having finished, they demanded 5 *sous* a day each, and on top the captain wanted 5 *sous*, 6 *diners*. I didn't want to argue, so paid what they asked'. Up until the final recorded payment in 1775, the wages remained at this new level. Clearly, threshers were in a position to demand a higher wage in certain years, but the reasons are unclear. 1701 and 1712 were both war years, with possible labour shortages, but so was 1711, when the price was 4 *sous*, 4 *diners*.

Harvest labour aside, some 141 individuals appear in the accounts as receiving wages of some form or another.[74] The places from whence they came were recorded for 84 of these, showing an overwhelmingly local labour market of under 25 km for most. Many surnames occur more than once, suggesting servants followed older siblings, though only in two cases are relationships stated. It is not always easy to determine length of contract, as many people were hired for the year but left after a shorter time, while others, who are recorded as receiving payment for months worked, had possibly originally been hired for the year. Converting payments for shorter lengths of time into annual wages is highly problematic, as on the one hand, servants hired for the year were getting clothing as well, so their monthly cash wage may have been lower, but on the other hand, other studies have found that servants hired for short periods were paid only for days worked and not when bad weather prevented work.[75] There are 114 references to individuals being hired on an annual basis, of which 81 were references to males (71 per cent) and 33 to females (29 per cent). The gender balance is even more skewed if daily

[74] 141 is an estimate based on assuming that some names with variant spellings relate to the same person, and counting separately those individuals with illegible or no surname given.

[75] Sanmartí, 'El treball', p. 151.

labour and short-term contracts are included. No women were hired by the day, and very few by the month. Two of those hired for the short term were wet-nurses. However, the Quatrecases employed more women than are found in the other extant accounts. In the mid-nineteenth century, women made up 18 per cent of the servants hired by the Santmartí household in the Bages district, though this included all lengths of contract.[76] The accounts of the Torres family from the Vallès Occidental, in the mountain range north-west of Barcelona, record only two live-in female servants for the period 1699–1824.[77] By contrast, the Santamaria family of Serrateix usually hired four female servants a year out of around twelve servants in total.[78]

Wages for servants varied considerably, a pattern found elsewhere in Catalonia and one that persisted until well into the nineteenth century. Garrabou and others attribute these differences to the persistence of different wage rates according to age, gender and task, the tendency to pay wages partly in kind, making wage rates hard to establish, and the limits to bargaining power set by local conditions.[79] Nineteen male and 21 female servants were paid only in clothing, but these contracts for men were concentrated between 1687 and 1700, whereas for women they continued until 1722. Other servants were paid wages ranging from 1 *lliura*, 8 *sous* to 16 *lliures*, 10 *sous* for men, and 4 *lliures* to 7 *lliures*, 10 *sous* for women. These money wages do not seem to have increased over time. They may have varied according to task, but contracts do not always state if servants were hired for particular tasks. Wages were only partly in cash; almost all male servants also received the right to pasture some of their own animals alongside the Quatrecases' livestock, or the use of a plot of land and the right to keep the produce. No cash value is ever assigned to these rights, but variation in these may explain variation in the money wage. Women received clothing and footwear alongside cash. Only one female servant, Mariangela Pasqual, who was the highest paid in money terms, was allowed to keep livestock of her own, a single sheep. The shift away from contracts paid only in clothing may perhaps be a shift towards hiring older servants, since some of those paid in this way seem to have been children. Rosa Roca was hired in 1697 to look after the pigs, with a note that 'if she is too young to stay the year, she will be paid for however many months she has been here'. She lasted only seven days, and was paid 6 *sous*. Anna Maria Barcelons, hired the following day, lasted only a day.[80] There is also a pattern of recurring names, which may suggest that boys received only clothing until they had some experience. The next step was then to start building up livestock of their own by pasturing one or two animals with the owner's flock.

Certainly some male servants were older and more established. At least one, Jaume Costa, was married. It is likely that they had land of their own and supplemented their income by working as farm servants, still a common practice in the nineteenth century.[81] There are glimpses of this in the strict accounting kept by the Quatrecases of days owed to them when their servants took time off to work on their own land, as in 1752 when Vicenç made three separate notes that Joan Camps had taken a total of three and a half days to harvest his

[76] Ibid., my calculation based on p. 145.

[77] Roca Fabregat, 'Una masia', p. 24.

[78] Terrades, *Món històric*, p. 164.

[79] Ramon Garrabou, Josep M. Ramon-Muñoz and Enric Tello, 'Organització social del treball, salaris i mercat laboral a Catalunya: el cas d'una explotació agrària de la comarca de la Segarra a la darreria del segle XIX', *Recerques*, 70 (2015), pp. 105–11.

[80] Book 1, fo. 14r–v.

[81] Garrabou, Ramon-Muñoz and Tello, 'Organització', p. 95; Pascual, 'Agricultura', pp. 63–4.

own wheat, even though it was 'a working day'.[82] For these servants, wages often included foodstuffs, suggesting either that they were not given their board, or that they preferred to be paid in kind rather than buying in food for their households on the market, given rising prices.

An additional source of labour came from the family's tenants. These rented the *cabanya* or part of it, usually with rights to cultivate a vegetable plot, in return for an annual sum, valued in cash, though actual payment could take different forms. The amount varied depending on whether or not the whole cottage was rented. Renting the whole cost between 13 and 18 *lliures* a year, renting part between 5 and 9 *lliures*. There was no trend over time before 1784, so the variation may have been down to the amount of land involved, which is never stated, or to other terms of the contract, such as the amount and type of livestock kept, or rights to pick fruit. In 1784, a significant shift occurred when the household began renting the *cabanya* with two *vessanes* of land and no other terms stipulated, at a much higher price of 25 *lliures* a year. There is no explanation for this shift, and why the decision to change the lease to one with more land, though the initiative may perhaps have come from the tenants themselves, since the first new lease in 1784 was signed with the long-standing tenant Benet Cidrera but this time jointly with his son Joan. In 1785, only Joan renewed the lease. It may be that after years of leasing the cottage on more modest terms, the Cidreras had either the savings or the labour power to invest in a bigger lease.

Similarly, from 1784 on, the accounts simply record the annual agreement with the tenants, with a note of any arrears, whereas before, the accounts painstakingly record part payments of rent, in kind and in labour. For example, Joan Vinyeta rented the ground floor of the cottage in 1701, for 6 *lliures* a year, along with the right to cultivate a vegetable plot, keep a pig, and collect a certain amount of fruit and firewood. Over that year, he paid off his rent mainly in labour, such as six and a half days' ploughing in April, though he also sold a pig and some grain to Joan Quatrecases. All of these transactions were valued in cash, and where the day worked fell short for whatever reason (usually bad weather), the price was lower.

Clearly one advantage to the Quatrecases family in having tenants was the additional source of labour available from them, and one for which they did not have to pay cash. Whether the value assigned to this labour differed from the wages paid to those hired by the day is impossible to know, since there is no indication of what food and drink might be included. Tenants were available at short notice, however, and where labour was required for a run of days, probably cheaper insofar as they would not be given full board. How willing tenants were to work the Quatrecases' land rather than their own probably depended in part on how they chose to cultivate their land, and on the size of the debt owed to the family and the other means available to pay it off. Other members of tenants' households might also work. When Josep Casellas settled accounts with Joan in 1721, the payment included the days worked by his son.[83] It is unlikely that 1784 saw an end to tenants paying off debts in labour and kind, but neither Vicenç nor, more likely, Francisco, saw fit to record such payments any longer, unless they were recorded elsewhere.[84]

[82] Book 3, fo. 25v.

[83] Book 1, fo. 85v.

[84] The frequent phrase 'after going over the accounts, we are even' suggests exchanges throughout the year rather than a one-off payment.

From the tenants' point of view, we see a different kind of interaction with markets, namely, the dependence upon landlords for access to interlocking markets of land, credit and labour. There were complicated exchanges of labour, including borrowing the landlord's mare for ploughing, or help with the harvest. Some also borrowed money to pay for seed and the like. What this access to land meant in terms of social mobility is hard to assess. In the last decades of the accounts, the tenants seem to have been managing to pay rent without significant arrears, some years recording that rent had been paid in full. Many leased the cottage for years, before and after 1784. Benet Cidrera first leased part of the cottage in 1750, and his son Joan was still leasing it in 1812, when the accounts end. The lack of detail here urges caution, but the rising prices of the 1780s, 1790s and 1800s may well have benefitted those with either enough land to produce a surplus or at least sufficient land with which to meet subsistence needs and thus be insulated from market prices.

Others struggled, however. Many were soon in arrears. The most difficult cases were the widows of tenants, Maria Fiol, Magdalena Icart and Rosa Alou. Maria's tenancy seems to have ended with her husband Bernat's death in 1726, but it took her until 1735 to pay off all that was owed. The other two both tried to keep the tenancies going after their husbands' deaths, but were unable to sustain their holdings. In all three cases, the Quatrecases ended up reluctantly buying agricultural tools from the widows. Rosa Alou struggled particularly. After the death of her husband Josep, she rented only part of the *cabanya* and seemingly no land. Eventually she ended up in the pauper hospital in Vic, and died at her mother's home. Her outstanding debt was paid by her brother, partly in labour.

IV

The wool and labour markets with which the Quatrecases were involved show a shift from payments in kind to cash, and in the case of wool, a greater commercialization of output over time. Such shifts could be taken as signs of greater market involvement and a more commercial mentality. At the same time, however, the continued degree of self-sufficiency shown by the accounts and the persistence of payments in kind, 25 per cent of expenditure and 37 per cent of income, might suggest that this was still very much a traditional household economy, lacking the kind of economic rationality and commercial mentality discussed at the start of this paper. The issue is, however, more complex.

First, we have to acknowledge that payments in kind and a preference for self-sufficiency in some areas were perfectly compatible with a strong awareness of prices. Payments made exclusively in kind, with no cash value assigned to them, were rare. Much more usual was mixed payment, such as part of wages being in kind, or payment in kind with a cash value recorded, often one set by an expert from outside the household. A skirt for a female servant in lieu of part of her wages was valued by the tailor. When Joan and Vicenç reluctantly bought their husbands' tools from Maria Fiol, Magdalena Icart and Rosa Alou, they had the blacksmith value them. As Gifre notes, the market thus set prices.[85] The Gallardes household studied by Pascual kept a record of grain prices despite not selling any grain.[86] Even when

[85] Gifre, 'Orígens', p. 138.

[86] Pascual, 'Agricultura', pp. 56–7.

cash values were not recorded, it is likely that this is because the price was well known. All except six of the 94 payments received by the Quatrecases of this kind were for labour services performed in return for rent or loans of cash or ploughing animals, where the daily wage rate when recorded was fixed at three *sous* for a full working day. Similarly, the bulk of the 116 payments made by the Quatrecases exclusively in kind with no cash value were wages in the form of clothing, as described above. Otherwise, payments exclusively in kind were largely of a particular type: fixed annual payments in grain to specific individuals in return for medical services or clothing. Payments of this kind were made to a doctor, Josep Dorca; a barber surgeon, Joan Camps, and the tailor, Francisco Vilagran (alias Candalero).

More importantly, the Quatrecases accounts appear no more 'traditional' than those from the mid-nineteenth century studied by Pascual in terms of self-sufficiency in foodstuffs and a double flow of income and expenditure in cash and kind. Yet by the 1840s, Catalonia was well on the way to becoming a capitalist, industrialized economy, fully inserted into global markets for wine, spirits, textiles and other goods. The two households in question were both part of these market networks, exchanging significant amounts of output in the form of wine in the market. Once again, we need to be wary of how we read this kind of household account. Neither the Quatrecases, the Brugués nor the Gallardes households were operating as businesses with full cost accounting, but that did not prevent them from engaging with markets and displaying what was often a sophisticated understanding of costs.[87] If nothing else, they were managing flows of cash, kind and labour which had to be balanced in complex ways, often over generations. Doing so, however, allowed them to be commercially active while at the same time avoiding excessive risk. A striking difference in this regard was that, whereas the payments made wholly or partly in kind by the Quatrecases were very varied, including livestock, food, clothing and grain, the payments they received in kind were overwhelmingly in the form of labour services (74 per cent of the whole). That the Quatrecases preferred to make payments in cash but were more willing to receive them in kind makes sense, given rising prices. Elsewhere in Catalonia, landowners sought to insulate themselves from the effect of rising food prices by extracting more from their tenants in the form of shares of the harvest, rather than cash rents.[88] The main market from which the Quatrecases were insulated was the labour market. The evidence is scanty before the nineteenth century, but the impression is that nominal wages, particularly in the interior of Catalonia, were rising only slowly over the eighteenth century.[89] From the discussion above, however, it would seem that harvest wages at least were rising. If the daily wage of three *sous* used by the Quatrecases to keep account of work done by their tenants was the market rate, then it seems to have been unchanged for much of the period covered by the accounts. If it was not the market rate, then it suggests the Quatrecases were indeed able to use the leases of their land to secure cheap labour. In turn,

[87] See the description in ibid., pp. 57–60 of Gallardes' attempts to estimate different kinds of costs when drawing-up a balance sheet for some building works.

[88] Ibid., pp. 53–5, where the Gallardes household extracted grain and other foodstuffs from their tenants both for consumption *and* to sell; Marfany, *Land*, pp. 44–7.

[89] Ramon Garrabou, Enric Tello and Albert Roca, 'Preus del blat i salaris agrícoles a Catalunya (1720–1936)', in M. Gutiérrez (ed.), *La industrialització i el desenvolupament econòmic d'Espanya* (2 vols, 1999), I, pp. 422–60. There are only two wage series for the eighteenth century.

the tenants who accepted this lower rate presumably saw it as a trade-off between irregular employment on a higher wage but with no access to land, and a fixed-term tenancy on terms that were more secure but more exploitative. We know too little about rural wages in eighteenth-century Catalonia, however, for this to be more than speculation.[90]

A second point is that the form payments took reflects a chronic shortage of cash in the countryside, which persisted into the nineteenth century. Some payments, such as taxes, had to be in cash. Dowries usually were. Purchases of livestock and all but three sales of livestock were in cash. The preference for cash might be a reflection of the greater value of livestock, but is more likely to have been the consequence of the geographical breadth of the market, particularly for sales. The Quatrecases were dealing with purchasers whom they did not necessarily know and over distances that made payments in kind more complicated. In one instance, Joan sold five pigs to someone from Santa Cecilia, with a note 'I don't know his name because he paid me the same day he took them'. Whereas payments in grain or other crops might require waiting until the harvest, cash meant payments could be settled instantly, with no need to establish relationships of trust. It did, however, require purchasers to have cash at their disposal, hence, dowry payments might require a loan or sale, as noted above. Pascual is therefore right to argue that peasants preferred to keep cash for those payments that could not be in kind, particularly given shortages of cash and the irregularity of monetary income flows.[91] At the same time, cash was not necessarily hoarded: it was often also laid out on material improvements and consumption beyond mere subsistence needs, as shown in the building work done by the Quatrecases.

V

This study began with the question of market involvement and what household accounts can reveal about such involvement. Our first conclusion is methodological: this kind of source needs to be used with care. The Quatrecases accounts, like many others, are patchy. What the household chose to keep track of might well be significant in terms of the value of some activities and forms of income and expenditure to the household economy. Equally, however, it might be that income and expenditure less subject to variation, such as tithes and annuities, did not need recording since it was always the same. Questions of willingness and diligence also apply. Francisco Quatrecases can be assumed to be as literate and numerate as his father and great-grandfather (payments for his schooling appear in the accounts), but he chose only to record one income stream, and that in a more cursory fashion, unless there were other account books that have not survived. Finally, a single set of accounts makes widening and deepening hard to assess: the full network of sellers and buyers for commodities is hidden.

Second, there are issues of interpretation. The idea of a commercial mentality becomes elusive: what degree of hard-headed economic calculation is required? Similarly, 'risk averse' is a subjective term and one arguably unsuited to an early modern economy. To return to Rothenberg's valuable insight, peasants were not in control of their environment. Harvests could

[90] Most wage series are for urban building wages only. Agricultural wage series are very limited before the second half of the nineteenth century.

[91] Pascual, 'Agricultura', p. 58.

fail, wars could damage property, prices could fluctuate. Operating a double system of cash and kind was in part imposed by a shortage of cash, but to a large extent a strategy that allowed the Quatrecases to take advantage of those markets which offered the best prospects, namely, livestock breeding and above all, wool sales, while simultaneously protecting themselves from the greatest risks. Brenner's distinction between involvement and dependency is clear here. The Quatrecases household was largely self-sufficient in terms of food provisioning, thus insulated from rising prices. They were also able to employ labour on favourable terms by drawing on their tenants. By contrast, the tenants and labourers who worked for the Quatrecases were less free to choose their markets. While forms of tenancy such as the renting of plots of land and a cottage by the Quatrecases offered some access to land, keeping it meant dependency upon these landlords for access to credit, livestock and labour. These smallholders were unlikely to have been self-sufficient, forcing them into the labour market and into market provisioning at a time of rising prices and falling or stagnant real wages. Widows struggled in particular to cope on smallholdings. Decision making in the household economy is key to understanding economic transitions in the past, but we need to acknowledge that different households had different priorities and different options at the same time. At a moment when some households may have sought increased market integration, others may have felt that it did nothing to serve their purposes. For many households, there may have been no real choice to be made.

The loss of wetland agricultural value in north-eastern North America, 1800 to 1840

by Chelsea Teale

Abstract

Many of the surviving wetlands in north-eastern North America should be considered to be relict agro-ecosystems as a result of their widespread use for hay production and pasture during the colonial era. Open land in the heavily forested North East was frequently confined to areas with high water tables and colonists relied on graminoid-dominated wetlands to provide livestock fodder. To ensure a more consistent and palatable crop of this native hay, as well as allow mowers, wagons, and animals safe passage on wetlands, farmers manipulated water tables and tidal influences. This manipulation intensified in the early nineteenth century, to the extent that many wetlands ceased to be wet, which allowed the introduction of new crops such as upland forage species. The motivation for these changes were fears of a hay shortage as human and livestock populations increased in response to the emerging market economy that moved farmers away from mixed husbandry to livestock and forage specialization. From this perspective, the low value placed on wetlands in the United States is partially due to their inability to provide the quality and quantity of hay and pasture required by a new agricultural system.

In the early nineteenth century, much of the north-eastern United States and Canada began to make the transition from a subsistence-based agrarian society to a market economy emphasizing specialization and mechanization. One result of this change was a shift away from mixed husbandry to a focus on livestock and fodder crops, a shift enabled by an increasingly scientific perspective on crop production. European advances were shared with North American farmers and home-grown American and Canadian 'improvers' emerged who published their own works. Decreasing soil fertility and persisting pest infestations of grain crops partially influenced the switch, but the opening of the Erie Canal in 1825 – which gave eastern markets access to grain and flour from western New York and beyond – especially motivated north-eastern farmers to focus on the production of perishable goods such as meat and dairy products for growing urban populations.[1] To raise the marketable surplus required

[1] M. Bruegel, *Farm, shop, landing: The rise of a market society in the Hudson Valley, 1780–1860* (2002); C. Merchant, *Ecological revolutions: Nature, gender, and science in New England* (1989); C. Sellers, *The market revolution: Jacksonian America, 1815–1860* (1991); T. Steinberg, *Nature incorporated: Industrialization and the waters of New England* (1991); For information on fungal and insect infestations that reduced wheat production in nineteenth-century New England, see George S. J. Hill, *Essay on the hessian fly, wheat midge, and other insects injurious to the wheat crops* (1858); Cheese and butter were the most important products in eastern cities in the 1840s, see *Trans. State of New York Agricultural Soc., for the Year MDCCCXLI*, I, (1842).

a reliable source of fodder, and by 1860 New York was the nation's leader in hay production, followed closely by the New England states.[2]

Developing and maintaining sources of fodder was initially problematic, because for some time after European settlement grassy areas in the North East were limited to areas with high water tables, poor soils, or where indigenous people had cleared land. The South's milder climate allowed year-round grazing in forests but the North East lacked sufficient native flora suitable for over-winter provisioning apart from grasses, sedges, rushes, ferns, horsetails, composites, and other non-woody plants collected from wetlands. Wetlands supporting this herbaceous vegetation were called *meadows* in New England, *prairies* in New France, and *vlys* in New Netherland, and they were managed to a greater or lesser extent in order to maintain or improve yields of native hay.[3]

As human and livestock populations grew and north-eastern economies became dependent on forage (either in crop rotations or as the primary crop), wetlands in the region were put under increasing pressure to provide adequate hay and pasture. One solution was to 'improve' wetlands so that they would be more consistently productive, and in an early example from 1753, the pioneering American agriculturalist Jared Eliot recorded a vision of wetland improvement that encouraged his readers to clear, ditch, drain, burn, and otherwise manage wetlands for different purposes:

> Take a view of a swamp in its original estate, full of bogs, overgrown with flags, brakes, poisonous weeds and vines, with other useful product, the genuine offspring of stagnant waters. Its miry bottom, and harbour to turtles, toads, efts, snakes, and other creeping verm'n. The baleful thickets of brambles, and the dreary shades of larger growth; the dwelling-place of the owl and the bittern; a portion of foxes, and a cage of every unclean and hateful bird. Now take another survey of the same place, after the labour of clearing, ditching, dreining, burning, and other needful culture has passed upon it. Behold it now cloathed with sweet verdant grass, adorned with the lofty wide spreading well-set Indian-corn; the yellow barley; the silver coloured flax; the ramping hemp, beautified with fine ranges of cabbage; the delicious melon, and the best of turnips, all pleasing to the eye, and many, agreeable to the taste; a wonderful change this! And all brought about in such a short time; a resemblance of creation, as much as well, impotent beings, can attain to, the happy product of skill and industry.[4]

Eliot's enthusiasm reached a large number of educated, well-to-do New Englanders and New Yorkers, but although he strove to write in a manner to reach everyday farmers, his success in encouraging wetland improvement – and other agricultural advancements coming out

[2] J. H. French, *Gazetteer of the state of New York* (1860).

[3] V. D. Anderson, *Creatures of empire: how domestic animals transformed early America* (2004); J. S. Bleakney, *Sod, soil, and spades: The Acadians at Grand Pre and their dykeland legacy* (2004); B. Donahue, *The great meadow: Farmers and the land in colonial Concord* (2004); M. G. Hatvany, *Marshlands: Four centuries of environmental change on the shores of the St. Lawrence* (2003); C. Teale, 'Wetlands of New Netherland', *Hudson River Valley Rev.* 33 (2016), pp. 62–77.

[4] H. J. Carman, R. G. Tugwell, and R. H. True (eds), *Essays upon field husbandry in New England and other papers, 1748–1762, by Jared Eliot* (1934), pp. 96–7.

of Europe – was limited.[5] Eliot's work enjoyed a resurgence in the greater North East after the Revolution when his treatises were republished and excerpts printed by the emerging agricultural press. It took nearly a century in many parts of the North East for Eliot's vision to be achieved during the transition to a market economy, but ultimately the change might be called an 'ecological revolution' because the value, use, and management of many natural resources were dramatically altered.[6] Brian Donahue noted this change in his 1989 paper tracing a half-century of conflict between local farmers, the emerging market economy, and nascent industrialization on Massachusetts' Sudbury River. The extreme example offered by the flooding of that river's meadows by a mill-dam, and consequent degradation and loss of forage, can be generalized to many resources across the North East whose value decreased as new production priorities forced farmers to accept new management techniques and alternative crops.[7]

Environmental historians have developed a narrative explaining how the low value placed on wetlands in the nineteenth century was based on their association with disease and a perspective which viewed them as wastelands, inspired in part by musings of improvers like Jared Eliot.[8] It is more revealing to frame wetlands in terms of their changing agricultural value. Although agricultural historians have acknowledged the importance of wetland forage production for some time, only a few authors have addressed it in depth and most notably with regard to salt marshes, particularly in the French territories of Canada; an example is Matthew Hatvany's 2003 study of the St Lawrence River.[9] A notable exception is Brian Donahue's 2004 examination of land use in English-settled Concord, Massachusetts, a study that explicitly considered the same freshwater marshes on the Sudbury River that he had first written about in 1989.[10] Another is this author's dissertation on the value, use, and management of New Netherland wetlands.[11] The present study uses the emerging agricultural

[5] C. Grosso, 'The experimental philosophy of farming: Jared Eliot and the cultivation of Connecticut', *William and Mary Q.* 50 (1993), pp. 502–28.

[6] Merchant, *Ecological revolutions*; Sellers, *Market revolution*; Steinberg, *Nature incorporated.*

[7] B. Donahue, '"Dammed at both ends and cursed in the middle": the "flowage" of the Concord river meadows, 1798–1862', *Environmental Rev.* 13 (1989), pp. 46–67.

[8] H. Prince, *Wetlands of the American Midwest: A historical geography of changing attitudes*, (1997); C. B. Valencius, *The health of the country: How American settlers understood themselves and their land* (2002); A. Vileisis, *Discovering the unknown landscape: A history of America's wetlands* (1997).

[9] W. R. Baron and A. E. Bridges, 'Making hay in northern New England: Maine as a case study, 1800–1850', *Agricultural Hist.,* 57 (1983), pp. 165–80; K. W. Butzer, 'French wetland agriculture in Atlantic Canada and its European roots: Different avenues to historical diffusion', *Annals of the Association of American Geographers* 92 (2002), pp. 451–70; A. H. Clark, *Acadia: The geography of early Nova Scotia to 1760* (1968); R. Cunningham and J. B. Prince, *Tamped clay and saltmarsh hay (Artifacts of New Brunswick)* (1976); M. G. Hatvany, '"Wedded to the marshes": salt marshes and socio-economic differentiation in early Prince Edward Island', *Acadiensis* 30 (2001), pp. 40–55; Hatvany, *Marshlands*; D. Muir, *Reflections in Bullough's Pond: Economy and ecosystem in New England* (2002); D. Smith and A. Bridges, 'Salt marsh dykes as a factor in eastern Maine agriculture', *Maine Historical Soc. Q.* 21 (1982), pp. 219–26; D. C. Smith, V. Konrad, H. Koulour, E. Hawes and H. W. Borns, Jun., 'Salt marshes as a factor in the agriculture of northeastern North America', *Agricultural Hist.* 63 (1989), pp. 270–84.

[10] Donahue, *Great Meadow.*

[11] C. Teale, 'Informing environmental history with historical ecology: Agricultural wetlands in New Netherland, 1620–1820' (unpublished PhD Dissertation, Pennsylvania State University, 2013); ead., 'Agricultural wetland use and management in the

press to examine the processes that drove the devaluation of wetlands as an agricultural resource across the North East from colonial-era agricultural necessity to nineteenth-century liability.

I

To understand early changes in the value of wetlands in North America agriculture, we will focus on the North East (where hay was most important among the colonies) and consult agricultural publications from 1800 to 1840 when they focused on that region and began sharing information from Europe and other parts of North America.[12] Agricultural journals largely used each other's articles and excerpts from books (often verbatim), aside from some publication-specific editorials and reader submissions, and many early issues also reprinted material from mid- to late eighteenth-century essays. The result was dissemination of nearly identical material across a wide area, making agricultural journals a good source of information on regional-scale change.

The first true agricultural journals in the United States were the *Agricultural Museum* of Washington, DC (1810–12), the *Massachusetts Agricultural Journal* (1813–32), and Baltimore's *The American Farmer* (1819–34). This last publication was intended to be national in scope but was perceived as a more southern publication; its northern counterpart was Albany's *Plough Boy* (1819–23). The *New England Farmer* (1822–46) was the first widely circulated agricultural journal in the North East. The *New-York Farmer and Horticultural Repository* (1828–39) was relatively expensive and didn't have the circulation of the *New England Farmer,* but was its sole regional competitor for several years. The most widely circulated agricultural journal in the country was Albany's *Cultivator* (1834–39) that eventually merged with the Rochester-based *Genesee Farmer*; it continued under the name of *Cultivator*, then as the *Country Gentleman*.

The Cultivator had nearly 7000 subscribers in New York State by 1837 when it first reported figures, followed by Virginia (964) and Connecticut (835).[13] Every state had subscribers that year and several hundred also lived in Upper Canada (Ontario), Lower Canada (Québec), New Brunswick, and Nova Scotia; it was mailed as far afield as Scotland. Despite being an Albany-based publication, the journal's main areas of subscription aligned with 'New England extended': New England proper, the Erie Canal corridor, and lower Great Lakes region.[14]

The agricultural press came to Lower Canada in the early 1820s when the Earl of Dalhousie encouraged farmers in Québec and Montréal to subscribe to the Albany-based *Plough Boy*. John Young, of Nova Scotia, was simultaneously publishing *The letters of Agricola on the*

Note 11 *continued*
Dutch-settled Northeast, 1620–1800', *New York Hist.* 98 (2017), pp. 177–204.

[12] A. L. Demaree, 'The farm journals, their editors, and their public, 1830–1860', *Agricultural Hist.* 15 (1941), pp. 182–8; D. B. Marti, 'Agricultural journalism and the diffusion of knowledge: the first half-century in America', *Agricultural Hist.* 54 (1980), pp. 28–37; S. C. Stuntz, *List of the agricultural periodicals of the United States and Canada published during the Century July 1810–July 1910* (US Department of Agriculture, Miscellaneous Publication 398, 1941).

[13] *The Cultivator* 4, Mar. 1837, p. 5.

[14] J. Fisher, 'Improving the soil and mind: the geography of *The Cultivator*' (unpub. Master's thesis, Pennsylvania State University, 2008).

principles of vegetation and tillage, a collection of letters previously carried by the *Acadian Reporter* beginning in 1818. Other publications emerged in 1836 with the *Journal d'agriculture* (Montréal) and the *Farmer's Advocate* (Sherbrooke); most other eastern Canadian publications only started in mid-century.[15] *The Cultivator* greatly increased its circulation in Canada after 1838 and agricultural journals for the mid-western states appeared in the 1840s. Although regional publications like the *American Farmer* served the South by the 1820s, that region was also not well represented for another two decades.

II

Haying and pasturing practices in the seventeenth- and eighteenth-century North East were similar to those in England a century before, in that they took place wherever possible: in wetlands, on the aftermath of crop fields, in forests, and anywhere that was not fenced in.[16] The French, English, and Dutch used and managed wetlands ('natural meadows') in similar ways from Nova Scotia to New Jersey, typically mowing some for hay in the late summer and using others as pasture. Some wetlands were grazed after being mowed. Depending on size, wetlands were either independently owned or divided into parcels; some larger wetlands (like salt marshes) were managed in common. Early surveys often allocated separate house, garden, woodland, and meadow lots. Tax rolls sometimes distinguish between 'meadowland' and 'upland'.[17] Despite the importance of wetlands in the production of natural hay, early American farmers were aware of the low quality of natural forage found in wetlands. As early as 1637, for example, a New Englander wrote that hay from low-lying areas was:

> inferior in goodness to our reed and sedge in England, for it is so devoid of nutritive vertue, that our beasts grow lousy with feeding upon it, and are much out of heart and liking; besides, it breeds among them sundry diseases which we know not how to cure.[18]

A 1655 report from neighbouring New Netherland indicated that cattle also tended to be small in part because of malnourishment and often became ill by 'feeding on sweet pastures or sweet hay' ('sweet' often referred to freshwater plants, as opposed to those growing on salt marshes; as a remedy, afflicted animals were fed salty or brackish water and/or salt hay).[19] One possible cause of malnutrition and illness is that some native wetland plants, mainly

[15] 'Agriculture in Canada', *The Cultivator* 7, Dec. 1840, p. 183; S. Southwick, 'To the Patrons of *The Plough Boy*', *The Plough Boy* 3, 20 Apr. 1822, pp. 46–7.

[16] C. Lane, 'The development of pastures and meadows during the sixteenth and seventeenth centuries', *AgHR* 28 (1980), pp. 18–30.

[17] P. W. Bidwell and J. I. Falconer, *History of agriculture in the northern United States, 1620–1860,* I, *Agriculture in the earliest settlements* (1925); Hatvany, *Marshlands*; H. Russell, *A long, deep furrow: Three centuries of farming in New England* (1976); G. Whitney, *From coastal wilderness to fruited plain: A history of environmental change in temperate North America from 1500 to the present* (1994); Smith *et al.* 'Salt marshes'; Teale, 'Wetland use and management'.

[18] This comment is interesting because English reed and sedge were themselves not highly valued at the time; T. Hutchinson, *The history of the colony of Massachuset's Bay, from the first settlement thereof in 1628, until its incorporation with the colony of Plimouth, province of Main, &c. by the charter of King William and Queen Mary in 1691* (sec. edn, 1765), p. 483.

[19] D. W. Goedhuys (trans.), C. T. Gehring and W. A. Starna (eds), *A description of New Netherland written by Adriaen van der Donck in 1655* (2008), p. 44.

broadleaf species, are toxic to livestock unless additional processing is done. In some cases (like knotweed, *Polygonum amphibium*) this means simple cutting and curing, but in other cases the process required to neutralize toxins would be either unknown to farmers or cost- and time-prohibitive (such as the steaming and drying needed to make bracken fern, *Pteridium aquilinum*, edible). Not all plants are equally harmful, however, because animals select and tolerate forage species differently.[20]

Another influence on the nutrient content of wetland forage may be the timing of the hay harvest, which at least in New Netherland appears to be concentrated in the late summer, possibly when the ground was dry enough to support mowers and wagons. Haying may also have been pushed late in the summer and fall in order to accommodate the harvest of food crops. As the season progresses, however, there is an increasingly inverse relationship between yield and nutritional value and digestibility because plants grow more fibrous, making it difficult for farmers to perfect the timing of the harvest. For example, some species like cattail (*Typha* spp.) should be cut very early in spring while others like slough sedge (*Carex atherodes*) are best after setting seed in the summer.[21] When considering the diversity of species present in any given wetland, such inconsistencies undoubtedly led to hay of variable quality. A separate issue is the unpalatability of many wetland plants such as those listed by the naturalist Henry David Thoreau on the Sudbury River marshes including cattail, sedges (Cyperaceae), and arrowhead (*Sagittaria* spp.). Cattle may have favoured 'pipes' (or horsetails, *Equisetum* spp.) and a meadow full of them was valuable, though too many can poison horses.[22] The diversity of plants found in many non-tidal wetlands is illustrated by the cattails, sedges, forbs, and small shrubs in the Vermont wetland shown in Figure 1, which was owned by the Revolutionary War hero Ethan Allen. Ironically, Allen died in 1789 while transporting a borrowed load of hay back to his homestead after he failed to harvest enough of his own despite having access to both 'swales and rich upland meadow'.[23]

The issue of low-quality forage was not limited to wetlands, as the visiting Swedish botanist Peter Kalm noted on his journey through Pennsylvania, New Jersey, New York, and Québec in 1749. He wrote that livestock that grazed on upland grasses in western New Jersey were small in size and hungry, saying:

> most grasses here are annuals, and do not for several years in succession shoot up from the same root as our Swedish grasses. They must sow themselves every year, because the last year's plant dies away every autumn. The great numbers of cattle hinder this sowing, as the

[20] D. E. Hubbard *Using your wetland for forage* (US Fish and Wildlife Service, FS 853, 1988); C. Menard, P. Duncan, G. Fleurance, J.-Y. Georges, and M. Lila, 'Comparative foraging and nutrition of horses and cattle in European wetlands', *J. Applied Ecology* 39 (2002), pp. 120–33; J. Vetter, 'Toxicological and medicinal aspects of the most frequent fern species, *Pteridium aquilnum* (L.) Kuhn', H. Fernández, A. Kumar, and M. A. Revilla (eds), *Working with Ferns: Issues and complications* (2011), ch. 25.

[21] See, for example, Hubbard, *Using your wetland for forage*.

[22] Donahue, '"Dammed at both ends"'; D. Foster, *Thoreau's country: Journey through a transformed landscape* (1999), p. 55; R. J. Hill and D. Foland, 'Equisetum', *Poisonous Plants of Pennsylvania* (1986), pp. 67–8; A. S. Hudson, *The history of Sudbury, Massachusetts 1638–1889* (1889), p. 635.

[23] David Blow, 'Ethan Allen's Burlington Home, 1787–1789', www.ethanallenhomestead.org/ethan-allens-burlington-home-1787-1789.html, accessed 20 Mar. 2018.

> grass is eaten before it can produce flowers and seed. We need not therefore wonder that the grass is so thin on fields, hills and pastures in these provinces.[24]

Kalm was mistaken, in one respect. Native grasses north of Pennsylvania are most likely to be perennials. His error may have stemmed from an unfamiliarity with warm-season grasses, which are not common in Europe but comprise three-quarters of the native grasses in areas he travelled through in North America.[25] He may have believed grasses died away each year because, in contrast to cool-season grasses, they are active only during the warm months (primarily June through mid-September). In contrast, cool-season grasses grow in spring and fall and the absence of grasses Kalm observed later in the year may have been interpreted as death.

Kalm was correct in another regard though. The timing of grazing may have degraded warm-season grasses in the North East because farmers let their animals outside once they ran out of fodder, in some cases while snow was still on the ground. One farmer in eastern New York, for example, had run out of fodder by 1 March 1660 and his horses were forced to 'look for food under the snow'.[26] Over 125 years later, another farmer in the same area observed colts that were left outside all winter where they subsisted:

> chiefly on the roots of the grass which they paw up, though under two feet of snow. This cold and famine, stunt their growth so, that when the Spring comes, their ribs are as bare of fat, as the fields they fed off of are of verdure, there being no root of good grass left.[27]

Rules were eventually put in place to prevent farmers from letting their stock run at large too early in the year, but repeated early grazing could have led to a diminished capacity to set seed.[28]

Temporary solutions were to supplement livestock diet (typically with corn and other grains, cornstalks, straw, and/or leaves) and increase the amount of natural hay. Due to increases in population, however, accessing new meadows quickly became problematic. In some areas, and within a few decades of settlement, farmers were compelled to obtain wetlands far from their farms in order to feed their animals. The allotment of wetlands to farmers became increasingly strict, and conflicts between settlers were not uncommon in court records.[29] In 1686 the city charter for Albany, New York included rights to meadowland 35 miles to the west, in the

[24] A. B. Benson (ed.), *Peter Kalm's travels in North America: The English version of 1770* (1937), pp. 180–1.

[25] J. Dickerson, D. Burgdorf, T. Bush, C. Miller, B. Wark, R. Maher, and B. Poole, *Vegetating with native grasses in northeastern North America* (1997); USDA, NRCS, *The PLANTS Database*, plants.usda.gov, accessed 28 July 2016.

[26] A. J. F. van Laer (trans., ed.), *Correspondence of Jeremias van Rensselaer, 1651–1674* (1932), p. 229.

[27] A. Coventry, *Memoirs of an emigrant: The journal of Alexander Coventry, M.D. in Scotland, the United States, and Canada during the period 1788–1831* (1978), p. 123.

[28] It is unlikely that burning was a contributor to pasture degradation because fuel and climate studies indicate that wildfire would have occurred in the North East in fall and spring even without anthropogenic ignition. Native Americans were also known to have set fires in late fall and in spring, and early European settlers did the same. However, it is possible that burning slowed the establishment of introduced cool season grasses because those taxa evolved in the absence of fire. R. L. Bushman, *From Puritan to Yankee: Character and the social order in Connecticut, 1690–1765* (1967).

[29] See, for example, Teale, 'Agricultural wetland use and management'.



FIGURE 1. Wetland on the Ethan Allen Homestead, Burlington, Vermont. Photo by author, 2012.

1750s Jared Eliot noted that farmers from New Haven, Connecticut had to travel ten miles to gather 'sedge-grass' from the marshes around the town, and in the 1820s many farmers in New Bedford, Massachusetts owned salt marsh several miles from their homes.[30]

Toward the late eighteenth century some writers began expressing concern about the insufficient quantity of hay. In 1749 Jared Eliot described this scarcity as

> gradually increasing upon us for sundry years past. It is evident that the necessary stock of the country hath out-grown the meadows, so that there is not hay for such a stock as the present increased number of people really need: such a high price of hay, takes off much from the profit of raising and keeping stocks.[31]

The following year he wrote that people were still feeding corn to their animals instead of eating it themselves. Nearly two decades later the future President George Washington remarked that the availability of wetland forage and cornstalks was limiting the number of cattle raised in the new country, attributing this to the fact that 'very few persons have attended to growing grasses, and connecting cattle with their crops'.[32] Closing the nutrient cycle between crop extraction, livestock consumption, and re-deposition through manure has been a focus of many agricultural histories, but as logical as the process seems, north-eastern manuring practices were inconsistent in the Colonial era and early Republic.[33] Eliot wrote in

[30] Carman *et al.*, *Essays*, p. 27; *New England Farmer* IV (5 May 1826), p. 325; J. Munsell (ed.), 'State of the claim of the Corporation of Albany to the lands in Tryon County, called lower Mohawk Castle or Tiononderoga, Oct. 5, 1779', *Collections on the history of Albany,* I, (1865), p. 300.

[31] Carman *et al.*, *Essays*, p. 27.

[32] U. P. Hedrick, *A history of agriculture in the state of New York* (1933), p. 74.

[33] Donahue, *Great meadow;* S. Stoll, *Larding the lean earth: Soil and society in nineteenth-century America* (2002).

1748 that dung 'cannot be had for Love nor Money' but noted that other manures were available (such as clay, sand, and creek mud).[34] Dung from eastern New York farms was dumped into the Hudson River into the late eighteenth century, as witnessed by a visitor in the 1760s and another in the 1780s; one described the difference between Dutch and English farming in the Mid-Hudson Valley in this way:

> [The Dutch raise] large crops of wheat, plowing sometimes 200 acres, using no manure, which, until of late they rode out to the river, in the winter, so that it might go off in the spring, with the ice. The quantity of land plowed, makes up for the present poverty of the soil, which, however, after frequent plowing, becomes incapable of producing more. This obliges them to move, and they not being compelled to raise their own bread must sell. Often the purchaser is a New England man, who being used to employ every known art to make his native, barren soil produce a good subsistence, generally gets rich, lives well, and even his hogs have more pleasure in the appetite than the former Dutch family on the same farm.[35]

Another contemporary also reported that manure was not used in New York in the 1780s, saying 'Manure is rarely made use of; but what little is collected is given to the maize, which requires every support that can be bestowed on it'. The editor of *The Cultivator* wrote in 1834 that crop rotation and manuring had only recently become widely accepted, the tradition being to acquire a new field when the old one wore out.[36] In contrast, wetlands seemed inexhaustible due to deposition of new soils with daily tides or annual spring freshets. The amount of accumulated organic matter was believed to be sufficient for long-term use or as manure itself.[37] Although today it seems obvious that livestock fed on natural hay would essentially transfer nutrients from wetlands to uplands in their dung, the clearest statement in the agricultural press connecting the two came as late as 1831 when a Bostonian wrote to the *New England Farmer* that

> When salt marsh or fresh meadow is attached to a farm, it enriches the farm; these want no manure and they help to manure the upland. If there are the same number of acres of marsh that there are of upland, more than double the quantity of stock can be kept, which will more than double the manure, all of which will be for the benefit of the upland.[38]

Improvers like Eliot did not typically specify an increase in manure as a positive side effect of wetland reclamation, but did advocate increasing their capacity to produce forage crops. In particular, Eliot suggested that 'clearing and dreining swamps, cran-berry and bog Meadows'

[34] Carman *et al.*, *Essays*, p. 17; a comprehensive list can be found throughout Russell, *Long, deep furrow*.

[35] Coventry, *Memoirs of an emigrant*, p. 123; A. M. Grant, *Memoirs of an American lady with sketches of manners and scenery in America, as they existed previous to the Revolution* (1836), p. 105.

[36] J. Buel, 'On improved farming', *The Cultivator* 1, Apr. 1834, p. 20; J. Buel, *The Cultivator* 2, Oct. 1835, p. 116.

[37] J. Buel, 'Miscellaneous Manures', *The Cultivator* 1, Nov. 1834, p. 139; J. Buel, 'Peat earth and peat ashes', *The Cultivator* 4, Dec. 1837, pp. 157–8; S. W. Johnson, *Peat and its uses: as fertilizer and fuel* (1866); H. Murphy (trans., ed.), *Journal of a voyage to New York and a tour in several of the American Colonies in 1679–1680, by Jaspar Dankers and Peter Sluyter of Wiewerd in Friesland* (1867), p. 315; *New England Farmer* 4, 5 May 1826; 5, 26 Jan. 1827; 9, 28 Jan. 1831; 4 Feb. 1831; 16 Mar. 1831; 'The draining of marshes'; *The Plough Boy* 2, 2 Dec. 1820, pp. 210–13; 'An address', 3 (8 Mar. 1822), pp. 321–3.

[38] Donahue, *Great Meadow*; *New England Farmer* 9, 28 Jan. 1831, p. 220.

would provide a lasting solution to the scarcity of hay.[39] Widespread acknowledgement of a need to increase forage *and* manure production would not come until well into the nineteenth century. As late as 1835 a geologist from just north of Albany, New York wrote to *The Cultivator* to express his frustration with the slow pace of meadow improvement, saying:

> Perhaps no kind of land has been more eagerly sought for, or more highly prized as an appendage to the farm, by the most of our farmers, than what is usually termed 'natural meadow,' and yet probably no part of the farm is so unprofitable. The object is to secure a crop of hay, which it seldom fails to produce; but, it should be remembered, that the quantity is always much less than what might be produced from the same quantity of land by cultivation; its quality is vastly inferior, and the land is totally lost to the production of any other crop. I have frequently counted ten and twelve different species of grass within the compass of few rods square, and no more than one or two of them that has ever been noticed as furnishing food suitable for the sustenance of stock, to say nothing of the great variety of ferns, rushes and mosses growing upon the same spot, which every farmer would be pleased to have annihilated. Every farmer should calculate upon the cultivation of his grass, as he does upon that of his grain; he will then be sure always to have a supply, that of a quality agreeable to his choice, while the system, if properly pursued, will have the effect to increase the quantity and quality of all his other crops to a degree, that those who are not acquainted with the acts, can hardly believe. The question has often been asked, What shall we do with the field? it is too wet to plough. The answer is, drain it. I have seldom seen a field of this description but what might be drained for a sum considerably less that what the first crop would amount to, and the effects of draining, if properly executed, is permanent.[40]

By the time that column was written, journals had been advocating new wetland management practices and crops for over a decade; again, however, adoption was slow.

III

Nineteenth-century wetland management involved colonial-era techniques but also drew from contemporary European examples. The agricultural press reported on methods ranging from simple ditching to complex sequences of improvement: in 1823, for example, the editor of the *New England Farmer* recommended drainage of a shrubby wetland followed first by burning and then by winter flooding.[41] At their most basic, however, the options for wetland reclamation were burning, irrigation, ditching and draining, and diking. A simultaneous improvement was the cultivation of imported forage plants, usually from western Eurasia.

(a) Burning

Paring and burning were common in Scotland and Ireland by the 1830s and not uncommon on American uplands. The surface sod was shaved away, burned, and ashes spread on the ground as fertilizer. This method was also recommended for wetlands, including by the *Plough*

[39] Carman *et al.*, *Essays*, p. 41.

[40] Steele, 'Pine Plains', *The Cultivator* 2, Nov. 1835, p. 142.

[41] *New England Farmer* 2, 9 Aug. 1823, p. 2.

Boy in 1819, which described the practice and noted its popularity in Ireland and Holland. Taking cues from Jared Eliot and a later improver Samuel Deane, the *New England Farmer* also recommended burning drained wetlands to encourage the growth of grass, particularly if the ground was mossy. Paring and burning of peat meadows supposedly resulted in good hay crops because ashes were a fertilizer, though the *Plough Boy* reported that the amount of ashes did not replace the organic matter lost. Nevertheless, at a later date that journal still recommended burning wetlands after drainage. *The Cultivator* also recommended burning 'bushes and bogs' to fertilize the soil and noted that grasses would appear 'spontaneously' after doing so. The *New England Farmer* reported that fire was used in at least one New England diked marsh to eliminate weeds before planting grass.[42]

(b) Irrigation

Both wetlands and uplands were irrigated, a process inspired by the idea that water was a natural manure. The *Agricultural Museum* ran an article in 1811 outlining methods of irrigating meadows to promote soil moisture, fertilization, and 'the growth of grass by its warmth'. Eight years later John Armstrong's *Treatise on agriculture* described methods of temporary and permanent irrigation (where water was pooled behind a dam to control release) and total submersion (where the reservoir was maintained until decomposition occurred). Journal contributors continued to differ on methods and offered advice either for allowing water to sit on one area at a time or simply allowing it to 'pass over, and not remain on' the land. All agreed that the water speed must be slow to prevent erosion.[43] Frederick Butler's *Farmer's manual* recommended irrigation with dammed streams as well as running the 'wash' from highways onto adjacent mowing grounds. Trenches could be dug throughout sloping fields to allow water to run over them and the method was cheap and profitable: 'No manuring will give such profits upon mowing grounds as irrigation, and the expense, generally, may be considered cheaper than plaster'. Animals were to be kept off these 'watered meadows'.[44]

Over the following decades irrigation was recommended by the wider agricultural press. To protect and produce grass the *New England Farmer* and *The Cultivator* recommended that water sit on fields during winter and then flow over them before they were dressed with ashes or lime. Water was still thought to contain 'manure' and irrigation was a cheaper and easier way to lay it on a meadow than carting and spreading solid material. The goal was to 'make use of water as a carrier, to convey certain substances to the soil, which may have a tendency to enrich it'. Naturally flooded swales benefited from this process and farmers were given instructions to try it with upland fields, particularly in spring by using runoff from muddy streams or roads. Clayey and calcareous soils required less watering, as did northerly areas,

[42] 'Ashes for Manure', *The Plough Boy* 3, 16 Mar. 1822, p. 331; *The Cultivator* 1, Sept. 1834, pp. 106–7; H. Davy, 'Original formation of soils', *The Plough Boy* 1, 26 Feb. 1820, p. 308; *New England Farmer* 2, 16 Aug. 1823; *New England Farmer* 5, 2 Feb. 1827, p. 28; *New England Farmer* 9, 4 Feb. 1831, p. 29; *The Plough Boy* 1, 30 Oct. 1819, pp. 172–3; *The Plough Boy* 4, 10 Sept 1822, p. 120.

[43] 'Irrigation, &c.', *The Agricultural Museum* 2, July 1811, pp. 1–6; *New England Farmer* 2, 16 Aug. 1823, p. 3; 29 Nov. 1823, p. 129; 3 Apr. 1824, p. 36.

[44] F. Butler, *The Farmer's manual; being a plain practical treatise on the art of husbandry, designed to promote an acquaintance with the modern improvements in agriculture, together with remarks on gardening, and a treatise on the management of bees* (1819), p. 51.

and muddy water was particularly valued as natural fertilizer. Channels leading from ponds and windmills drawing on ground water could also be used.[45]

The *Plough Boy* recommended irrigating meadows in May. Stephen van Rensselaer, an improver in New York's Hudson Valley, advocated flooding meadows for three or four weeks twice a year: once in October and again in the spring. In 1822 another eastern New Yorker wrote to the *Catskill Recorder* that irrigation was commonly used in Europe and elsewhere to stabilize moisture conditions and should be used in the Hudson Valley because precipitation had recently been unpredictable. He noted that flooded meadows along the Connecticut River produced three cuttings per year, flooding swamps eliminated 'bogs and bushes', and winter inundation protected grass from frost. The highest yield reported for an irrigated meadow reported by the *New England Farmer* was two to three tons of native hay on a winter-flooded meadow.[46]

Systems of comparable 'water meadows' had covered over 100,000 acres in England by the nineteenth century, but fell out of favour as a result of agricultural recession and cheaper alternatives.[47] In North America the popularity of irrigation simultaneously declined, but for other reasons. In 1836, for example, *The Cultivator* reported that it was no longer a frequent topic for publication because it was not recommended for the north-eastern climate, was too expensive, produced 'coarse and innutricious herbage' that included rushes and other hydrophytes, and caused disease in both humans and livestock. In contrast to Peter Kalm's admiration of Pennsylvania's irrigated meadows a century before, the journal now reported that 'watered meadows' near Philadelphia produced less hay per acre than new upland meadows managed in the alternating system. The journal concluded that removal of water was far more important than its addition.[48]

(c) Drainage

In 1791 the vice-president of New York's Society for the Promotion of Agriculture, Arts, and Manufactures wrote that he had seen grass, turnips, and other vegetables growing in drained wetlands, but that same year the president explained that drainage was not pursued in America owing to the abundance of cheap land and lack of capital.[49] In 1822 when the editor of *The Cultivator* addressed the Albany County Agricultural Society he noted that a 'point of primary importance in good farming, but in which our county is defective, is the draining of wet and marshy grounds'. He believed such lands were useless and unhealthy and farmers should spend a few days after the annual harvest to ditching and removing brush. The editor of the

[45] *The Cultivator* 1, Mar. 1834, p. 1; *New England Farmer* 1, 9 Nov. 1822, p. 15; 2, 22 Nov 1823; *New England Farmer* 2, 3 Apr. 1824, p. 286; *New England Farmer* 3, 14 Jan. 1825, p. 25, 29 Apr. 1825, p. 40, 20 May 1825, p. 43; J. Pierce, 'On irrigation', *The Plough Boy* 4, 6 Aug. 1822, pp. 76–7.

[46] *New England Farmer* 9, 28 Jan. 1831, p. 219; Pierce, 'On irrigation'; *The Plough Boy,* 4, 20 May 1823, pp. 333–4.

[47] English Heritage, *Introduction to heritage assets: water meadows* (2013), p. 3.

[48] Benson (ed.), *Peter Kalm's Travels*; J. Buel, 'Irrigation', *The Cultivator* 2, Jan. 1836, p. 166; 'Irrigation', *The Cultivator* 3, Apr. 1836, pp. 17–18.

[49] E. L'Hommedieu, 'Communications made to the Society, relative to manures', *Trans. of the Society, instituted in the state of New-York, for the promotion of agriculture, arts, and manufactures*, pt I (1792), pp. 63–76; R. Livingston, 'Address to the Society, in consequence of their request, during the absence of Mr. Justice Hobart, who had been appointed to deliver the annual oration', ibid., pp. 47–63.

New England Farmer likewise wrote in 1823 that drainage was 'an operation of great importance in agriculture, though comparatively speaking, it has not so strong claims to attention in the United States, where labor is dear, and land is cheap'. Moreover, until the benefits of drainage were better known, farmers didn't want to stop working their other lands to improve wet areas. A decade later *The Cultivator* published another speech that again declared drainage to be 'a branch of labor which has had a very limited practice among us'. At the same time, that journal's editor commented that drainage (along with paring and burning) had become common in both Scotland and Ireland.[50]

Despite the reluctance of farmers to undertake drainage projects, journals continued to make recommendations on the proper way to drain. The editor of the *New England Farmer* wrote that the soil should first be evaluated: if clayey it would make a good soil after topping with black soil or mud, but if gravelly or sandy the surface layer must be very deep. Mossy 'swamps' might be damaged by too much drainage so the water level should be maintained three feet or less from surface and periodically flooded. To drain a wetland, an outlet should first be created, enlarged, or cleared before the basin was ditched around its circumference to intercept runoff. If no surface outlet is available a deep, stone-filled hole could be made to accept ditch effluent.[51] Ditches, also called drains in New England, could be dug with ox-drawn scrapers or shovels although by 1834 a special spade was developed for digging by hand; a suggestion was also made in *The Cultivator* that money be raised to fund a premium to whoever invented the best 'drain-plough'.[52]

Ditches were of two types: open or surface drains were better in fields with standing water, and closed or underdrains were suited to fields with lower water tables. Open ditches were also recommended by *The Cultivator* for use in 'bogs or moss'. According to the *New England Farmer* and *The Cultivator* their surface width should generally be three times that of the base. *The Cultivator* recommended main drains between six and twenty feet wide at the surface tapered down to between two and eight feet fed by secondary drains not less than four feet wide. Another suggestion called for drains three feet wide at the top, eight to twenty inches at the bottom, and two feet deep. The ditch should be angled so water flowed fast enough to prevent stagnation but not enough to cause erosion. Ordinary farmers could design these systems successfully because the primary strategy was simply to discover the water source and intercept it (Figure 2). A variation on the open ditch was the creation of 'water furrows' or 'furrow-drains,' which were shallow troughs ploughed into fields to collect water. 'Cross-drains' or 'water gaas' were created by digging a main ditch fed by perpendicular drains.[53]

According to Samuel Deane and repeated in the *New England Farmer*, closed ditches were more often used in Europe at the time because they didn't waste soil, there was no need for cleaning, and ploughs and vehicles could travel over them. Contributors to *The Cultivator*

[50] *The Cultivator* 1, Mar. 1834, p. 1; Sept. 1834, pp. 106–07; Jan. 1835, p. 11; 'An Address', *The Plough Boy* 3, 16 Mar. 1822, pp. 332–3; *New England Farmer* 2, 9 Aug. 1823, pp. 9–10.

[51] *New England Farmer* 2, 9 Aug. 1823, p. 9; 17 Jan 1824, p. 25.

[52] *New England Farmer* 2, 9 Aug 1823; *The Cultivator* 1, Mar. 1834, p. 1; May 1834, p. 3.

[53] 'On under-ground draining', *The Cultivator* 1, Jan 1835, p. 11; J. Buel, *The Cultivator* 2, Mar. 1835, pp. 1–3; D. Low, 'Draining', Mar 1835, pp. 8–10; Apr. 1835, pp. 26–8; G. Stephens, 'Draining', *The Cultivator* 4, Dec. 1837, pp. 167–70; Jan. 1838, pp. 186–8.

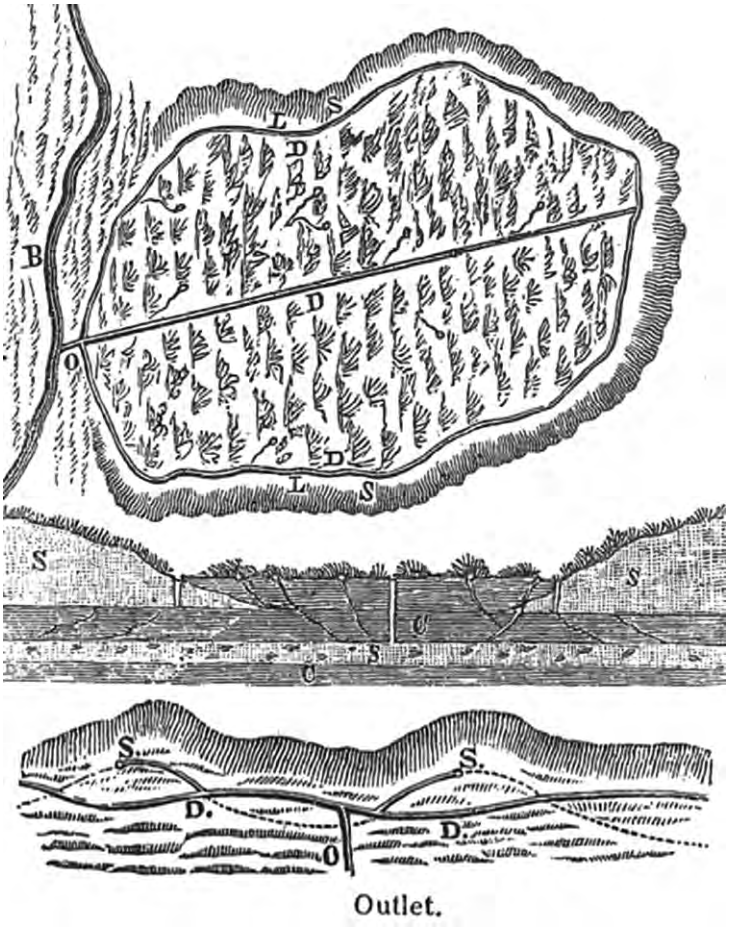


FIGURE 2. Three views of the drainage plans; B is a sand ridge; O is outlet; S is sand; D is drain; C is clay; L is unknown (illustrated in *The Cultivator* 4, Dec. 1837, p. 167).

added that they were cheaper in the long run, were not unsightly, and did not cave in. These were usually two and a half to three feet wide at top, half a foot at bottom, and three feet deep according to the *New England Farmer*; *The Cultivator* published recommendations of four to five feet deep. Some suggested dimensions from New York farmers included drains fourteen inches wide and two feet deep; three feet wide at top, less than one foot wide at the bottom, and three feet deep; and two feet wide and three and a half feet deep. Small stones or bundles of long sticks should line the bottom length-wise and the entire ditch covered with straw, leaves, twigs, and topped with soil (Figure 3 illustrates possible types of drains and fillings). They could also be topped with flat stones or turf. The soil removed while excavating ditches should be spread on the surface to make it level and act as a manure, and if the hardpan was reached during excavation it should be broken through and also spread on top.[54]

[54] J. Buel, *The Cultivator* 2, Mar. 1835, pp. 1–3; D. Low, 'Draining', *The Cultivator* 2, Apr. 1835; L. Chandler, 'Systematic Farming – under draining – ruta baga', 3, Jan 1837, pp. 153–4; J. Ryder, 'Under-Drains – Wheat – Clover', *The Cultivator* 1, Jun. 1835, p. 56; G. Willet, 'Letter to the editor', *The Cultivator*, Sept. 1834, p. 110; G. Stephens, 'Draining', *The Cultivator* 4, Jan. 1838, pp. 186–8; *New England Farmer* 2, 9 Aug. 1823; *The Cultivator* 1, Mar. 1834; May 1834; Sept. 1834, pp. 106–07, 110.

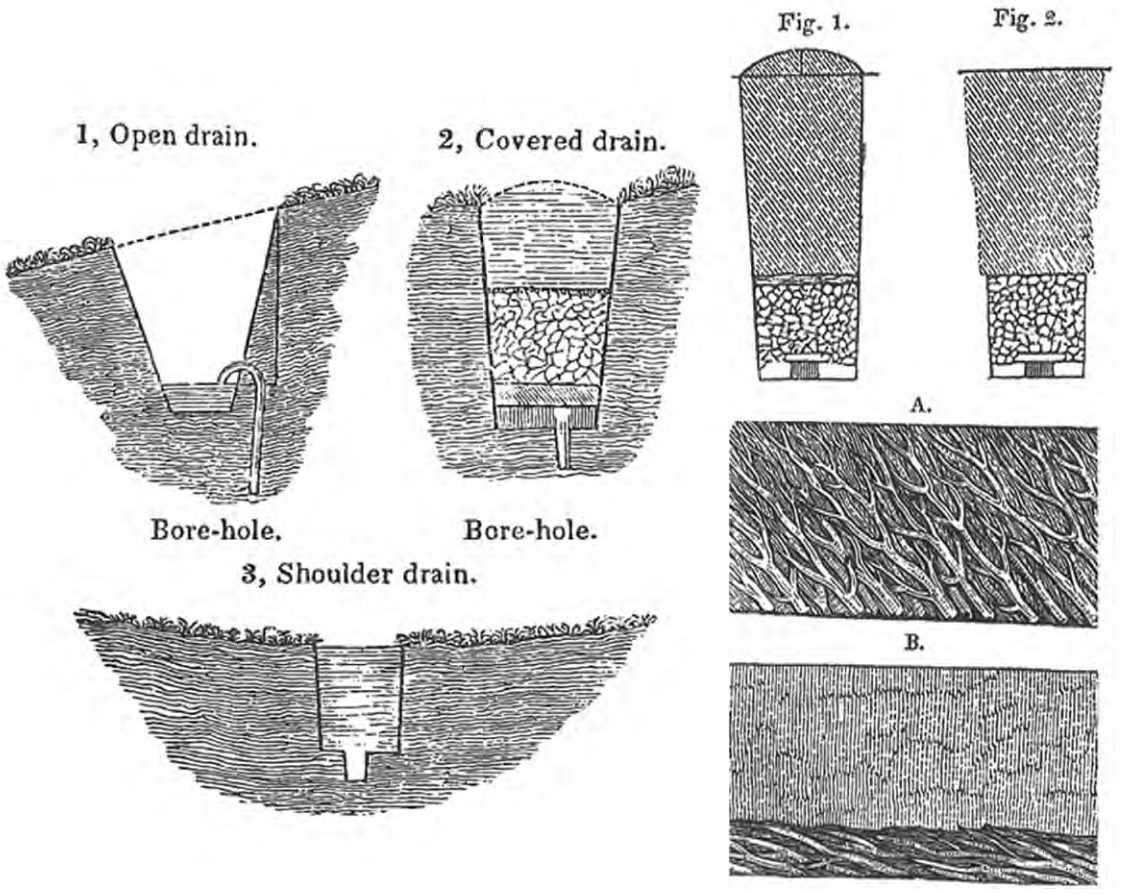


FIGURE 3. Three types of field drains: 1) open with borehole, 2) covered with borehole, and 3) shoulder (illustrated in *The Cultivator,* 4, Dec. 1837, p. 167).
Field drain backfilled with stone and soil: Fig. 1) before and Fig. 2) after soil compression.
Orientation of sticks or straw in a drain where stone is unavailable: A) top-down view of the fill orientation and B) side-view with soil placed on top
(illustration from *The Cultivator* 2, Apr. 1835, pp. 26, 28).

The *New England Farmer* advocated ploughing drained wetlands in spring before planting with fallow crops like potatoes and turnips. 'Bogging' was the act of turning over peat with a plough or hoe after drainage; a bogged wetland was then typically 'rolled' for compaction, covered with loam and compost, then sown with grass seed. Gravel or sand was added to some drained tidal and palustrine wetlands to make them firmer and discourage native vegetation, though results were mixed and the cost could be prohibitive. *The Cultivator* recommended adding manure, sand, or lime to wetlands to help the peat decompose. Also following Samuel Deane, the *New England Farmer* recommended letting wetland vegetation and peat rot after drainage, either by allowing the site to lie fallow during the summer after drainage or flooding throughout the winter and emptied in spring. *The Cultivator* recommended drainage in order to decompose peat so that crops could access the released material. One man from Plymouth

County, Massachusetts had success growing potatoes, corn, oats, and grass on a wetland he had modified by creating 30-feet-wide beds, separated by ditches, with the excavated soil used to dome the beds to prevent water accumulation.[55] Tidal wetlands were also made more productive by ditching to straighten creeks and drain ponds because it allowed upland grasses to become established.[56]

It wasn't until tiling was developed in England in the early nineteenth century, and popularized in western New York in the 1830s, that North American drainage efforts moved beyond simple ditching. The editor of *The Cultivator* was inspired by Scottish estates that had installed subsurface drains and in 1835 the journal ran an article by an Edinburgh specialist in underdraining who said the process required professional consultation because of soil variation. He said drains filled with stones or other debris ('rubble drains') inhibited drainage and the depth should be limited to an inch lining the bottom; ideally, flat stones or tiles should be used to line the ditch. In 1834 a resident of Ballston, New York wrote to *The Cultivator* saying that he had installed stone-lined underdrains. Tiles were introduced to North America that year by a Geneva, New York farmer and were first advertised in *The Cultivator* in 1837. Albany-manufactured tiles were one foot long, four inches square, and cost $15 per thousand. Mechanized ditch digging was similarly pioneered by a farmer from Canandaigua, New York in 1854 but it would take until the 1860s for increasing demand for agricultural products, mechanized ditching machines, and mass-production of clay tiles to make this mode of sub-surface drainage financially feasible for most American farmers.[57]

Some journals touted the benefit of drainage to public health but the primary goal was to increase access to arable land; by 1840 it was called the 'mother of all other improvements in land' and there were at least four books published by north-easterners on the subject between 1860 and 1900.[58]

(d) Diking

Nineteenth-century north-eastern diking varied little from the colonial-era techniques adopted directly from England, France, and the Netherlands, with the exception of a few design modifications in New England. The agricultural press published rationales for and against this type of reclamation, but the general recommendation was to adopt the practice. In 1820 an article in the *Plough Boy* advocated draining and diking 'salt marshes, pacosons, and swamps' because it would eliminate their 'noxious exhalations' and open their 'inexhaustible' soils for

[55] H. Davy, 'Original Formation of Soils', *The Plough Boy* 1, 26 Feb. 1820, p. 308; *The Cultivator* 1, Sept. 1834, pp. 97–9; *The Cultivator* 1, Sept. 1834, pp. 106–7; *New England Farmer,* 2, 16 Aug. 1823; 17 Jan. 1824; 5, 2 Feb. 1827; 9, 4 Feb. 1831, pp. 225–7.

[56] *New England Farmer* 5, 26 Jan. 1827; 9, 28 Jan. 1831.

[57] J. Buel, 'Draining tile', *The Cultivator* 4, Dec. 1837, p. 159; *The Cultivator* 1, Mar. 1834, p. 5; 'On underground draining', *The Cultivator,* Jan. 1835, p. 171; H. W. Delavan, in *The Cultivator* 1, Mar. 1834, pp. 8–9; Prince, *Wetlands*; Whitney, *From wilderness to fruited plain*.

[58] J. Buel, 'Draining', *The Cultivator* 3, Sept. 1836, p. 92; W. I. Chamberlain, *Tile drainage, or, why, where, when, and how to drain land with tiles: a practical book for practical farmers* (1891); H. F. French, *Farm drainage: the principles, processes, and effects of draining land with stones, wood, plows, and open ditches, and especially with tiles* (1860); M. Miles, *Land draining: a handbook for farmers on the principles and practice of farm draining* (1892); G. Stephens, 'Draining', *The Cultivator* 4, Nov. 1837, p. 151; G. E. Waring, *Draining for profit and draining for health* (1867).

cultivation.[59] The author referenced British and Dutch marshes reclaimed in this way. Three years later the editor of the *New England Farmer* wrote that:

> The practicality and economy of embanking and draining lands which are usually over flowed by tide water has been evinced by many successful experiments. Holland consists mostly of land reclaimed from the sea; and in England, many hundreds of thousands of acres have been acquired by means of embanking. There is no doubt but valuable tracts might in the same manner be reclaimed along the sea coast of Massachusetts and other maritime parts of the United States. In the Southern states draining and embanking have been successfully undertaken; and the Messrs. Swartwout's and their associates of New York, have distinguished themselves by a similar enterprise in the vicinity of that city.[60]

The Swartwout brothers purchased tidal wetlands between the Passaic and Hackensack rivers in New Jersey in 1813 and began diking soon thereafter. In 1819 they asked New York City for financing to finish the project and the following year the editor of the *Plough Boy* reported that the New Jersey Salt Marsh Company had been incorporated by the state legislature to reclaim and cultivate the marshes in Bergen County. The Swartwouts were members and by the end of the decade they had diked 2000 acres with a five-feet-tall embankment 5½ miles long and sixteen feet wide at the base. By 1883, however, these marshes were once again producing salt hay and the failure was apparent almost immediately after reclamation. In 1827 the *New England Farmer* reported that the land only produced good crops of grain and 'English hay' for one or two years after reclamation before:

> the soil becomes loose and light, so that it scarcely produces weeds to conceal its barren surface. Public opinion is here certainly strong against the feasibility of rendering such marshes either fit for cultivation or valuable for grass.[61]

Shrinkage of the peat was the likely cause of the Swartwout failure because dried and mineralized peats and mucks have a lower volume than their original waterlogged and un-decomposed state, making crop maintenance difficult on the compact, organic-depleted soil. Some tidal marsh surfaces subsided to below sea level once diked, leading to problems with flooding; this continues to be a problem for marsh restoration, which can require the addition of fill to bring diked marsh surfaces back to sea level.

Articles were published in the *New England Farmer* during the 1820s and 1830s highlighting other drawbacks inherent in maintaining agricultural salt marshes, including the distance between marshes and their owners, the cost and time involved in harvesting and boating, the vagaries of sea and sun, the low price of salt hay, and the reduced milk production of cows fed on it. Still, submissions in favour of diking listed the increased reliability and value of produce even if the meadows were left in grass; in particular, using improved marshes to fatten beef cattle could make New England more self-sufficient.[62]

[59] 'The draining of marshes', *The Plough Boy* 2, 2 Dec. 1820, pp. 210–13.

[60] *New England Farmer* 1, 1 Mar. 1823, p. 243.

[61] 'City and Suburban News', *New York Times,* 6 Aug. 1883; J. Welles, 'Reclaimed Marshes No. II', *New England Farmer* 5, 2 Feb. 1827, pp. 217–18.

[62] *New England Farmer* 4, 5 May 1826, p. 325; 2 May 1827; 9, 9 Feb. 1831.

Dike dimensions depended on marsh orientation and sediment type but the *New England Farmer* recommended berms at least two feet higher than the high-tide level constructed of turf, with a 'backcut' ditch running along the landward side and faced with stone or planks on the seaward side. The dike should otherwise be pinned and sown with grass or surfaced with brush, gravel, small stones, broken brick, etc. Sluices should be like the *aboideaux* of French settlers in the Canadian Maritime Provinces (Acadia) – designed to exclude seawater but allow the exit of freshwater – but the design often differed. 'Tide trunks', for example, were a new invention in 1820 and recommended for use in tidal marshes from the Chesapeake to New England over the following decades; these gates were made of long, wooden boxes with a floating plug.[63]

Because the success of a diked meadow is based on the integrity of adjacent dikes, in some instances joint stock companies were incorporated by the State of Massachusetts to organize dike construction and maintenance, employing the pooled funds of neighbouring landowners. Stakeholders owned as much stock as their lots had value and the assumption was that all lots would ultimately be uniform following completion of the project. Such cooperation theoretically cut costs because mowing and grazing could be done by fewer people but with the same, or greater, output. For example, at Dartmouth and Westport, Massachusetts, marshes were divided into stake-marked lots of one to twenty acres in 1826; all owners agreed on a harvest time so that everyone was cutting the grass simultaneously. Diked marshes in the Delaware River and tributaries were also managed cooperatively. Generally, however, the small size of so many private holdings in north-eastern tidal marshes made cooperative maintenance difficult or even impossible.[64]

Only one diking-related article was published in *The Cultivator* between 1834 and 1840: a letter to the editor by a resident of Nova Scotia who inquired about the best ways to ditch, manure, and cultivate a 400-acre marsh. The new editor responded by saying he 'had no experience in the reclamation of salt marshes' and solicited input from readers. The editor's inability to provide advice is not surprising, considering that aside from the Swartwout's failed attempt, diking had never been an improvement of consequence in New Netherland or New York. It does not appear to have been common anywhere in the North East outside of Acadia or the banks of the Delaware River, and an 1885 coastal survey remarked that tidal marsh reclamation was too maintenance-intensive and costly in a country that was still opening new, cheap lands for settlement.[65]

[63] *New England Farmer* 1, 1 Mar. 1823; 2, 6 Mar 1824; 10 July 1824; 'Draining of Marshes', *The Plough Boy,* 2, 2 Dec. 1820, pp. 210–13.

[64] D. M. Nesbit, *Tide Marshes of the United States* (Department of Agriculture, Miscellaneous Special Report 7, 1885); *New England Farmer* 4, 23 June 1826; K. R. Sebold, *Marsh to farm: the landscape transformation of coastal New Jersey* (1992).

[65] S. G. Fairbanks, 'Letter from Nova Scotia', *The Cultivator* 7, Nov. 1840, p. 178; Nesbit, *Tide marshes*; Teale, 'Agricultural wetland use and management'.

IV

The practice of intentionally sowing grasses and legumes for hay and pasture was not firmly and widely established across Europe at the time of North American colonization, though it was present. Instructions to sow 'hay dust or seeds' circulated in England by 1610 and seeds of several new legume species were available in London by the 1680s, including many generally called 'clover' (such as crimson, red, and white clover as well as hop trefoil [*Trifolium incarnatum*, *T. pratense*, *T. repens*, and *T. campestre*]). Other legumes included lucerne (or alfalfa, *Medicago sativa*), hopclover (or black medic, *M. lupulina*), sweet clovers (*Melilotus* spp.), sainfoin (*Onobrychis viciifolia*), and bird's foot trefoil (*Lotus corniculatus*).[66] Clovers were known in Germany from an early date whilst Dutch farmers may have been the first to follow regular crop rotations that included the legume; France's agricultural revolution was relatively late and clover was not widely planted until after 1700 even in northern areas.[67] Grasses like ryegrass (*Lolium perenne*), timothy (*Phleum pratense*), and cocksfoot (or orchard grass, *Dactylis glomerata*) were also cultivated in England by the mid-eighteenth century.[68]

The widespread adoption of forage plants in North America lagged behind Europe by perhaps a century, but as farmers sought more abundant and reliable sources of hay and pasture, the same species of grass and legumes were introduced and established.[69] With the improvement of wetlands 'meadow' gradually came to refer to both wetland and upland hayland. Meadows were divided according to vegetation, being 'either natural or artificial: the former, containing only plants of spontaneous growth; the latter, those selected, sown and cultivated by man'.[70] Likewise, introduced forage species were commonly termed 'artificial grasses'.

In 1749 Peter Kalm had remarked that 'foresighted farmers have procured seeds of perennial grasses from England and other European states, and sowed them in their meadows, where they seem to thrive exceedingly well'. However, in 1820 the *Plough Boy* reported that 'grass and root crops … are just beginning to become the subject of conversation' and with regard to grass culture 'It is in this branch of husbandry more than in any other, that our present practice is unskillful and defective'.[71] The slowness of the process was in part due to seed supply, which began as individual efforts like those of Jared Eliot to acquire and test new plants. Editorial offices of journals gradually became distribution centres for exotic seeds collected and sent from around the world.[72] Seeds, and sometimes cuttings, were given to American farmers willing and able to experiment with their cultivation and report back to

[66] Lane, 'Development of pastures and meadows'.

[67] P. M. Jones, 'Agricultural modernization and the French Revolution', *J. Historical Geography* 16 (1990), pp. 38–50; Lane, 'Development of pastures and meadows'; A. C. Zeven, 'Four hundred years of cultivation of Dutch white clover landraces', *Euphytica* 54 (1991), pp. 93–9.

[68] A. R. Beddows, 'A history of the introduction of timothy and cocksfoot into alternative husbandry in Britain, I, The year 1763 and its significance', *Grass and Forage Science* 23 (1968), pp. 317–21; II, 'The impact of timothy on ley farming', ibid., 24 (1969), pp. 40–3.

[69] H. Kerr, 'Introduction of forage plants into antebellum United States', *Agricultural Hist.* 38 (1964), pp. 87–95.

[70] Armstrong, *Treatise on agriculture*, p. 284.

[71] Benson (ed.), *Peter Kalm's Travels*, pp. 180–1; 'Superior Live Stock', *The Plough Boy* I, 13 May 1820, p. 399.

[72] Demaree, 'Farm journals', pp. 56–7.

the office with methods and results. A letter to the editor of the *American Farmer* (reprinted in the *Plough Boy*) expressed approval of the journal's format and mission to provide native seeds to 'our distant neighbors' and:

> collect, preserve and diffuse useful information: to bring into general notice and use the best agricultural implements and machinery; and to introduce valuable seeds and plants not hitherto cultivated among us, and the best kinds of those that have been.[73]

Forage species were not only transferred from Europe but from elsewhere in North America. In 1835, for example, *The Cultivator* reported that grasses from the American Midwest would probably prove useful and seeds had been obtained from Illinois.[74]

European species were increasingly introduced and established in Pennsylvania and the North East after 1750 but 'English grasses' were rare south of Virginia at that time.[75] The introduction record is less clear in former French territories though some species were present by 1820.[76] The *Plough Boy* reported that only four species were cultivated from seed in the United States in 1822: red clover, white clover, timothy, and redtop (or one of many other names, *Agrostis* spp.). In 1835 *The Cultivator* reported that the 'most respectable seed shops' had added just three additional species: lucerne/alfalfa, cocksfoot/orchard grass, and tall oat grass (*Arrhenatherum elatius*). Two years later the editor of *The Cultivator* told a farmer that he didn't know where many seeds could be obtained, but that lucerne at least could be bought in Albany and others could be purchased in New York City.[77] By the end of the nineteenth century, however, approximately 70 exotic legumes and grasses were mentioned in the agricultural press as possible forage species for North America, of which perhaps 15 grasses and six legumes were the earliest to be established successfully in the North East (Table 1). The vast majority of grasses were perennial, upland, cool-season grasses; legumes were a mix of upland annuals and perennials.[78]

Clover was perhaps the most important crop, being known throughout the North East in the seventeenth century. It was present in Massachusetts as early as 1650 when William Pynchon sold 'Flanders grass seed', but it may have been known even earlier in New Netherland owing to the Dutch settlers there. In 1634, for example, the colony's director requested clover seed directly from the Netherlands.[79] Clover was ultimately paired with another early introduction – timothy – and the combination was the most common for hay and pasture by the 1820s. By

[73] 'From the American Farmer', *The Plough Boy* 38, 19 Feb. 1820, p. 301.

[74] 'Remarks of the Conductor', *The Cultivator* 2, Aug. 1835, p. 88.

[75] Carman *et al.*, *Essays*.

[76] Carman *et al.*, *Essays*; Young, *The letters of Agricola*.

[77] 'Remarks of the Conductor', *The Cultivator* 2, Aug. 1835, p. 88; J. Finch, 'Meadow and pasture grasses', *The Cultivator* 4, May 1837, p. 51; 'Grasses', *The Plough Boy* 3, 25 May 1822, p. 410.

[78] For a complete list with descriptions, see Appendix C in Teale, 'Informing environmental history'; United States Department of Agriculture Natural Resources Conservation Service, *The PLANTS Database*, available online at plants.usda.gov; R. W. Lichvar, D. L. Banks, W. N. Kirchner, and N. C. Melvin, 'The national wetland plant list: 2016 wetland ratings', *Phytoneuron* 30 (2016), pp. 1–17.

[79] Though, ironically, the person he requested seed from procured his own supply from Italy because seed was hard to come by that year; Carman *et al.*, *Essays*; A. J. F. van Laer (trans., ed.), *Van Rensselaer Bowier manuscripts* (1908), pp. 283–4; Zeven, 'Four hundred years'.

TABLE 1. List of legumes and grasses introduced and established prior to 1840 in the north-eastern United States and Canada.

Legumes		
Medicago lupulina L.	Wolf clover, black medick, black medic, hop clover, hop medic, nonesuch, yellow trefoil	Eurasia; northern Africa
Medicago sativa L.	Chili clover, alfalfa, lucerne, lucern	Eurasia; Middle East
Onobrychis spp. Mill.	Lupinella, St Foin, sainfoin, sanfoin	Eurasia; Middle East
Trifolium aureum Pollich	Hop clover, palmate hop clover, golden clover	Eurasia
Trifolium pratense L.	Red clover	Eurasia; northern Africa
Trifolium repens L.	White clover, Dutch clover, ladino clover, white Dutch clover, creeping clover	Europe
Grasses		
Agrostis capillaris L.	Herd's grass, redtop, colonial bentgrass, white-top, foul/fowl meadow grass, duck grass, swamp wire grass, Rhode Island bent, fine bent, browntop, Waipu bent, English bent, furzetop, Prince Edward Island bent, dew grass, Astoria bent, spire grass?, burden grass?, Burden's grass?, blue bent?	Europe
Agrostis gigantea Roth	Herd's grass, redtop, fiorin grass, foul/fowl meadow grass, black bent, water bentgrass, creeping bent, carpet bent, seaside bent, whitetop, English bent, southern bent, marsh bent, couch grass, Rhode Island grass, marsh bent grass, redtop	Eurasia
Alopecurus pratensis L.	Meadow foxtail, foxtail	Europe; Britain
Anthoxanthum odoratum L.	Sweet vernal grass, sweet-scented vernal grass	Eurasia
Dactylis glomerata L.	Orchard grass, cocksfoot, swamp cock's foot, rough cock's foot?	Europe Britain
Festuca ovina L.	Sheep fescue	Europe; Britain
Glyceria fluitans (L.) R. Br.	Floating fescue grass, water mannagrass	Eurasia
Glyceria maxima (Hartm.) Holmb.	Reed meadow grass, water meadow grass, reed mannagrass, reed sweet grass	Eurasia
Holcus lanatus L.	Velvet grass, meadow soft grass, woolly soft grass, Yorkshire white, Salem grass, white timothy, velvet lawn grass, velvet mesquite grass, Yorkshire fog, feather grass, white cap	Europe
Lolium perenne L.	Ray grass, rye grass, perennial ryegrass, Italian rye grass, darnel, Italian lolch, Pacy's grass?	Europe; Britain
Phleum pratense L.	Timothy, herd/Herd's grass, meadow cat's tail, catstail	Europe; Britain
Poa annua L.	Speargrass	Europe
Poa compressa L.	Wire grass, blue grass, Canada bluegrass, flat-stalked meadow grass, Dutch grass?, couch grass?	Europe
Poa palustris L.	Fowl meadow-grass, fowl bluegrass, fowl meadow grass, false red top, duck grass, swamp wire grass	Eurasia
Poa pratensis L.	Fescue grass, green grass, spear grass, Kentucky bluegrass, smooth stalked meadow grass, great meadow grass, June grass, English grass, redtop	Eurasia; Britain

Note: Current scientific names are taken from the United States Department of Agriculture; common names from the agricultural press.

then timothy was the 'chief constituent … of "English grass"' in the United States and the most common hay species in the North East.[80]

The results of grass and legume cultivation were promising, though journals did not report many direct, specific comparisons with natural wetland hay. To attempt this would be difficult in any case, however, because of the diversity of species as well as the different types of wetlands themselves. The hay output of two Massachusetts tidal marshes did triple after reclamation (following diking: one ton of salt hay per acre to three of upland hay; following drainage: thirty-three tons per fifty acres to one hundred tons for the same area).[81] Values for palustrine meadows were less dramatic but those with native hay tended to produce two to three tons per acre and those with upland hay produced around four.[82] Irrigated meadows produced less than cultivated uplands but probably more than unmanaged wetlands.[83]

V

North-eastern farmers did not immediately and consistently devalue wetlands after the turn of the nineteenth century despite the availability of reclamation advice, introduction of artificial grasses, and the characterization of wetland forage as 'bad hay'.[84] In spite of the promotion of artificial grasses by the emerging agricultural press, contributors still referred to 'meadow hay' and 'natural meadows' in 1835. The diversity of plants in these meadows, so reviled by *The Cultivator* that year, was still valued by some farmers twenty years later. Thoreau himself opined in 1858 that, owing to the diversity of wetland plants, 'If meadow-hay is of less worth in the market, it is more interesting to the poet'. Even as new fodder crops were adopted, including root vegetables and early types of silage, some farmers mixed chopped straw and 'coarse marsh or meadow hay' with grain.[85]

Grass yields on wet soils were known to exceed those of dry soils so many wetlands continued to produce hay even after the species composition changed from natural to artificial.[86] Timothy grass was found in a New Hampshire wetland and *The Cultivator* reported on another grass discovered in that state with great promise as hay and pasture in 'wet boggy grounds' (ribbon grass, *Phalaris caroliniana*, native to the southern states). This grass was later described to have provided two cuttings of hay from a bog in Connecticut and made that wetland firm enough for pasture.[87] The commonly cultivated 'fowl meadow grass' (referencing one or more species of *Agrostis* or *Poa*) was traditionally claimed to have

[80] Beddows, 'History of the introduction of timothy and cocksfoot'; S. Deane, *The New England farmer; or georgical dictionary. Containing a compendious account of the ways and methods in which the important art of husbandry, in all its various branches, is, or may be, practised, to the greatest advantage, in this country* (third edn, 1822).

[81] Deane, *New England farmer*; *New England Farmer* 9, 28 Jan. 1831, p. 220.

[82] *The Cultivator* 1, Mar. 1834, p. 6; Oct. 1834; *New England Farmer* 2, 16 Aug. 1823, pp. 17–8; 17 Jan. 1824, p. 197; 6 Mar. 1824, pp. 252–3.

[83] *The Cultivator* 3, Apr. 1836, pp. 17–18; Jun 1836, pp. 49–50; *New England Farmer* 9, 28 Jan. 1831, p. 219.

[84] Carman *et al., Essays*, p. 8.

[85] L. F. Allen, 'Farm buildings and the consumption of fodder', *The Cultivator* 2, Jan. 1836, pp. 166–9; Foster, *Thoreau's Country*, p. 55; Steele, 'Pine Plains'.

[86] *New England Farmer* 1, 14 Dec. 1822; 2, 27 Dec. 1823.

[87] A. Harris, *The Cultivator* 1, Oct 1834; T. Pickering 'Letter to the editor', *The Plough Boy,* 1, 26 Feb. 1820; *The Cultivator* 1, Aug. 1834, p. 81.

been brought to meadows on the Neponset River at Dedham, Massachusetts by a flock of wild birds and to meadows at Hartford, Connecticut by floods.[88] In 1836 *The Cultivator* published a list of artificial grasses that included the wetland obligate floating fescue grass (or water mannagrass, *Glyceria fluitans*) and water meadow grass (or reed meadow grass, *G. maxima*). These were only sporadically present in America at that time, but recommended for cultivation in wet soils; *G. fluitans* has since become problematic in some wetlands as an invasive weed.[89]

Some salt marshes continued to be used for hay into the late nineteenth and twentieth centuries. A resident of New Bedford, Massachusetts commented in 1823 that many farmers kept their marshes in a natural state because they believed they should have 'a little salt hay'.[90] Sixty years later, one engineer lamented the failure of New Englanders to dike their salt marshes but he also acknowledged that at least for older, established families in Norfolk County, Massachusetts, 'salt haying is a feature of their life. They would neither sell the marsh at any price nor reclaim it'.[91] The same held true for some freshwater marshes, such as those along the Sudbury River in Massachusetts where there was 'no pause between the English [upland] and meadow haying' in the 1850s.[92]

The value of un-reclaimed tidal marshes was frequently stated in agricultural journals and included reader-submitted accounts of the labour and cost of diking, and the time that elapsed before results were shown. Furthermore, in some areas, salt marshes were more valuable than uplands and they were still in demand in the 1830s because they could produce almost as much hay as uplands, particularly in times of drought. Their productivity had already been greatly improved by some draining, they did not require manuring or much fencing, and other products were available like seaweed, muck, and peat. Some farmers believed cows fed salt hay produce better-flavoured milk.[93] A man from Plymouth, Massachusetts added that the majority of livestock at nearby Duxbury over-wintered on salt hay and more than half the cash earned by farmers there came from salt hay. It was easier to transport and store than upland or fresh meadow hay because it could be left on marshes for up to a week after harvest. Salt marshes were also less affected by extremes in temperature or precipitation and the hay crop was more uniform.

Although some wetlands retained their identity as hayfields and pastures, and others were valued for their rich soils, wetland improvement and the introduction of European forage species ultimately reorganized the north-eastern landscape and economy. By 1790 the price of upland hay on Staten Island was double the price per hundredweight of salt hay (8*s*. against 4*s*.). Between 1810 and 1831 the value of 'salt meadow hay' in a town just south of Boston fell more than 50 per cent, 'owing principally to the better cultivation of the uplands'. Likewise, a resident of Babylon, New York noted that although some Long Island marshes continued to be hayed in 1882, their value had decreased owing to greater 'attention to the growing of

[88] Carman *et al*., *Essays*; Russell, *Long, deep furrow*; 'On Grasses, No. II', *New England Farmer* IV, 9 June 1826, pp. 361–2.

[89] J. Buel, 'An essay on grasses', *The Cultivator* 3, May 1836, pp. 34–6.

[90] *New England Farmer* 4, 5 May 1826, p. 325.

[91] Nesbit, *Tide marshes*, p. 124.

[92] Foster, *Thoreau's country*, p. 53.

[93] *New England Farmer* 4, 5 May 1826; 5, 26 Jan. 1827; 9, 28 Jan 1831; 9, 4 Feb 1831, 16 Mar 1831.

domestic grasses' and the price of salt hay in some areas was dependent on the output of upland hay.[94]

Close study of the scant pre-1800 agricultural literature, and the abundant publications of the North East-focused agricultural press to 1840, shows that much of the shift in wetland valuation came not from worry over disease but from the inability of wetlands to supply farmers with enough hay and pasture to support the transition to a new farming economy based on livestock. Even when the forage demand became undeniable, many farmers disagreed with expert opinion on the value and best use of their wetlands. The process was slow and not geographically uniform due to farmers' exposure to new ideas, their willingness and ability to accept them, and the type of wetlands owned. Ultimately, however, approximately 67 per cent of wetland acres across New York and New England were lost between the 1780s and 1980s.[95] Fortunately, what remains is now valued for provision of ecosystem services such as wildlife habitat, water filtration, nutrient sequestration, and buffers against storm surge, among other positive attributes like aesthetics.[96] Perhaps greater awareness of their historical importance will inspire additional efforts to protect and restore wetlands that undoubtedly influenced today's landscape through lingering settlement patterns and roadways.

[94] Richard Mather Bayles, *History of Richmond County (Staten Island), New York from its discovery to the present* (1887); Samuel Deane, *History of Scituate, Massachusetts: from its first settlement to 1831* (1831); J. B. Cooper, in *History of Suffolk County, New York, with Illustrations, Portraits, & Sketches of Prominent Families and Individuals* (1882), p. 83.

[95] Thomas E. Dahl, *Wetlands losses in the United States, 1780's to 1980's* (1990).

[96] Ralph Tiner, *Wetlands of the United States: Current status and recent trends* (1984).

Subletting in eighteenth-century England: A new methodological approach*

by Joshua Rhodes

Abstract

Subletting continues to be overlooked in macro-economic narratives of agrarian change in early modern England. This article outlines a new methodology to reconstruct and map subletting practices. The approach is demonstrated using two eighteenth-century case-study parishes but can be more widely applied. It outlines the proportion of sublet land in each parish and establishes subtenants' socio-economic status. Measured by length of occupancy, subleases are shown to offer subtenants similar levels of tenurial security to those enjoyed by owner-occupying manorial tenants. Manorial documents are shown to inaccurately reflect landholding patterns at the level of occupation because they conceal subtenant-driven engrossment and a substantial subletting market. Finally, the article explores the implications of this for existing methods of calculating early modern farm sizes, and questions the accuracy of existing farm size data.

Despite the considerable body of scholarship on the history of English agriculture, relatively little is known about the identities of those who cultivated land in pre-nineteenth-century England. Early modern sources that recorded various forms of landownership are abundant but they are usually silent on the occupiers of land. One of the most frequently used sources for reconstructing early modern landholding has been manorial surveys, which recorded tenants with whom manors had a direct relationship, i.e. tenants who paid rent to the lord or lady of the manor.[1] However, many direct manorial tenants did not cultivate their land and instead leased their holdings to others. Because historians view this relationship from the perspective of the manor, we refer to it as subtenancy, as these occupiers were the lowest tier in a structure that consisted of manorial lord, tenant, and subtenant.

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[1] E.g. M. Spufford, *Contrasting communities: English villagers in the sixteenth and seventeenth centuries* (1974); R. C. Allen, *Enclosure and the yeoman: the agricultural development of the south Midlands, 1450–1850* (1992); J. Broad, 'The fate of the Midland yeoman: tenants, copyholders, and freeholders as farmers in north Buckinghamshire, 1620–1800', *Continuity and Change* 14 (1999), pp. 325–47; J. Whittle, *The development of agrarian capitalism: land and labour in Norfolk, 1440–1580* (2000); H. R. French and R. W. Hoyle, *The character of English rural society: Earls Colne, 1550–1750* (2007).

Agricultural historians have long known that the tenants enumerated in manorial surveys were often not the actual occupiers of the land and that patterns of cultivation differed significantly 'on the ground' to the picture painted by manorial documents.[2] Subletting could occur on freehold and leasehold land, but most evidence of subtenancy has been drawn from land held by copyhold or beneficial leasehold, since tenants who held under these tenures were most commonly recorded in the records of manorial administration.[3] Estimates of the proportion of copyhold and beneficial leasehold land under subtenancy, based on scattered case-study evidence from across England, covering the sixteenth to eighteenth centuries, range from around 50 per cent to over 80 per cent of land.[4] Not only was a high proportion of copyhold and beneficial leasehold land sublet in the early modern period, Turner and Beckett have shown that these forms of tenure survived well into the nineteenth century, suggesting that subletting remained important for longer than has previously been assumed.[5]

It is hard to overstate the potential of subletting to disrupt established narratives of change in agriculture and rural society in early modern England that are predicated largely on evidence drawn from manorial sources. Subtenancy has loomed particularly large in debates about changes to the size of early modern farms. Historians' calculations of farm sizes have normally been based on the size of tenants' holdings recorded in manorial documents. These estimates of farm size would be unreliable if it were found that manorial documents did not accurately reflect the distribution of holdings as they were cultivated. The reliability of farm size data is of considerable importance because the size of farms has been a staple proxy measure of the development of agrarian capitalism in England. Although no consensus exists on what constitutes a large or small farm, 'large' farms have been taken to indicate the emergence of the conditions of capitalist agriculture as they employed wage labour, in contrast to 'small' farms that relied on family labour and were therefore indicative of peasant farming. A substantial body of literature has charted the rise of agrarian capitalism along these lines, although no key period of change has been identified since engrossment has been

[2] W. J. Corbett, 'Elizabethan village surveys', *Trans. of the Royal Historical Society* 11 (1897), p. 78; R. H. Tawney, *The agrarian problem in the sixteenth century* (1912), pp. 80–1; Eric Kerridge, *Agrarian problems in the sixteenth century and after* (1969), pp. 48–9; C. J. Harrison, 'Elizabethan village surveys: A comment', *AgHR* 27 (1979), pp. 82–9; Peter Finch, 'Land holding and sub-letting: a Surrey manor in 1613', *The Local Historian* 18 (1987), pp. 16–18; J. Whittle and M. Yates, '"Pays réel or pays légal"? Contrasting patterns of land tenure and social structure in eastern Norfolk and western Berkshire, 1450–1600', *AgHR* 48 (2000), pp. 1–26; French and Hoyle, *Earls Colne,* ch. 8; Stephen Hipkin, 'The structure of landownership and land occupation in the Romney Marsh region, 1646–1834', *AgHR* 51 (2003), pp. 69–94; id., 'Tenant farming and short-term leasing on Romney Marsh, 1587–1705', *EcHR*, 53 (2000), pp. 646–76; I. Whyte, 'Owners and occupiers: subtenancy and subtenants in Watermillock, Cumberland, *c.*1760–*c.*1840: a case study', *Northern Hist.* 50 (2013), pp. 77–92.

[3] For further discussion of the complex system of estates and tenures, see M. Overton, *Agricultural revolution in England: The transformation of the agrarian economy, 1500–1850* (1996), pp. 30–5.

[4] Harrison, 'Elizabethan village surveys', p. 86; French and Hoyle, *Earls Colne,* p. 254; Whyte, 'Owners and occupiers', p. 84; Finch, 'Land holding', p. 18; Hipkin, 'Tenant farming', p. 658.

[5] J. V. Beckett and M. E. Turner, 'Freehold from copyhold and leasehold. Tenurial transition in England between the 16th and 19th centuries', in Bas J. P. van Bavel and Peter Hoppenbrouwers (eds), *Landholding and land transfer in the North Sea area (late Middle Ages–19th century)*, pp. 282–92.

observed across the early modern period.[6] In part this is because a farm that was viable in one century appears small in the next, but new long-run estimates of agricultural output indicate that the search for a key turning point in England's agricultural development has been wrong-headed since output only grew incrementally across the early modern period.[7] The clear-cut distinctions that render 'small' synonymous with 'peasant', and likewise 'large' with 'capitalist', have been challenged, and work by Leigh Shaw-Taylor has shifted the focus away from farm sizes entirely.[8] Nonetheless, the search for accurate farm size data remains an important but elusive goal, since while land area alone rarely tells the whole story, we cannot undertake more sophisticated analyses on early modern farming without basic but accurate acreage data. Quantifying and accounting for the role of subtenancy is an important step towards more accurate farm size data.

Work that has explicitly examined the occupiers of land in early modern England has broadly followed one of two approaches. The first has been to employ probate inventories to reconstruct patterns of cultivation and crop usage.[9] However, this approach only captures the dynamics of a farm at a particular moment in time, at the end of a cultivator's life, and does not allow us to reconstruct all farms in a particular area. The second approach has focused on the activities of tenant farmers on large estates. Estate records have facilitated detailed reconstruction of the terms under which these farmers held land, examining the role of leases in offering tenants security of tenure, and considering risk management in farming.[10] Historians have also used farmers' diaries and accounts but these typically tell us only about the landholding practices of wealthier individuals.[11]

Despite its importance, recovering subtenancy has proved to be difficult. The three main limitations of existing studies that attempt to recover evidence of subletting are that they have not produced comparable data, have relied on snapshot evidence, and have not situated subletting within a spatial context. Largely, this is because little or no direct documentary evidence of subletting survives, so systematically reconstructing patterns of subtenancy has proved challenging. Only a few manorial surveys recorded subtenants because when commissioning a survey, manorial lords were primarily concerned with recording direct tenants who owed them rent and services, rather than subtenants who paid their rent to direct tenants.[12] One such exception is the field book C. J. Harrison used to reconstruct subletting patterns

[6] For a comprehensive review of the literature, see L. Shaw-Taylor, 'The rise of agrarian capitalism and the decline of family farming in England', *EcHR* 65 (2012), pp. 26–60.

[7] Broad, 'Fate of the Midland yeoman'; Stephen Broadberry, Bruce M. S. Campbell, Alexander Klein, Mark Overton and Bas van Leeuwen, *British economic growth, 1270–1870* (2015), p. 129.

[8] M. Winstanley, 'Industrialization and the small farm: family and household economy in nineteenth-century Lancashire', *Past and Present* 152 (1996), pp. 157–95; Shaw-Taylor, 'Agrarian capitalism'; P. Croot, *The world of the small farmer: tenure, profit and politics in the early modern Somerset Levels* (2017), pp. 8–15.

[9] B. M. S. Campbell and M. Overton, 'A new perspective on medieval and early modern agriculture: six centuries of Norfolk farming, *c.*1250–*c.*1850', *Past and Present* 141 (1993), pp. 38–105.

[10] D. R. Stead, 'The mobility of English tenant farmers, *c.*1700–1850', *AgHR* 51 (2003), pp. 184–5; Stead, 'Risk and risk management in English agriculture, *c.*1750–1850', *EcHR* 57 (2004), pp. 334–61.

[11] With the notable exception of Richard Latham's account book, many of the examples in the most recent work have been drawn from wealthier individuals, see R. W. Hoyle (ed.), *The farmer in England, 1650–1980* (2013).

[12] Kerridge, *Agrarian problems*, p. 48.

in his classic study of mid-sixteenth-century Cannock in Staffordshire.[13] Other evidence has been left when manorial lords attempted either to discourage subletting through regular presentments or to raise revenue by requiring tenants to pay fines to obtain licences to let their property. Several historians have reconstructed subletting from these licences-to-let but such licences only leave us with a partial picture of a parish or manor's formal subletting activity.[14] Enrolment of licenses relied on the diligence of manor officials and their ability to enforce fines. Furthermore, licences were typically only required on leases longer than a year, and in order to avoid these fines, manorial tenants often notionally took the property in hand for a day each year despite subletting for several years at a time.[15]

Beyond the manor, taxes levied on or which recorded the occupiers of land have produced records that have opened up fruitful areas of enquiry. Steven Hipkin has used scot books, the records of rates levied on the occupants of Romney Marsh, to reconstruct patterns of landownership and occupation in considerable detail.[16] However, these types of records were specific to marshland regions, making wider comparisons difficult, as comparable records were not produced across England. Ian Whyte has used Land Tax assessments to examine subletting in late eighteenth- and early nineteenth-century Cumberland.[17] Although Land Tax assessments were produced nationally, they are primarily of use for recovering post-1780 subtenancy because it is only from this date that they consistently record owners and occupiers.[18] More promising sources have been poor rates and tithe accounts, which were produced nationally and together cover much of the early modern period. Peter Finch used a 'ratement' to examine early seventeenth-century subletting in Surrey, but it appears that this only survives for 1613 and was possibly not collected in other years.[19] Although he was not concerned with reconstructing subletting, Joseph Barker has used these taxation records to circumvent the problems presented by manorial documents in order to produce more accurate estimates of farm size.[20] Henry French and Richard Hoyle have compared poor rates with manorial documents in the most detailed reconstruction of eighteenth-century subtenancy.[21]

These diverse approaches largely rely on exceptional records, which has meant that most reconstructions of subtenancy can only be made for the particular place and year for which a unique source has survived. French and Hoyle's method represents the closest attempt to situate subletting within manorial tenants' and subtenants' lives, but their methodology did not yield quantitative longitudinal data on ownership and occupation. Finally, owing to the difficulties of recovering subtenancy from the historical record, historians have not brought

[13] Harrison, 'Elizabethan village surveys', pp. 82–9.

[14] J. Gayton, 'Tenants, tenures and transfers: the landholding experience of rural customary tenants in some Hampshire downland manors, 1645–1705' (unpublished PhD thesis, University of Exeter, 2013), pp. 173–81; J. Healey, 'Land, population and famine in the English uplands: a Westmorland case study, *c.*1370–1650', *AgHR* 59 (2011), pp. 172–4; id., 'The landholding structure of a northern manor: Troutbeck, *c.*1250–1800', *Local Population Stud.*, 90 (2013), pp. 42–7.

[15] Kerridge, *Agrarian Problems*, pp. 50–2.

[16] Hipkin, 'Landownership', pp. 69–94.

[17] Whyte, 'Owners and occupiers', pp. 77–92.

[18] On extracting more from Land Tax assessments, see Richard W. Hoyle, 'Who owned Earls Colne in 1798 … or how to squeeze more from the Land Tax', *The Local Historian*, 41 (2011), pp. 267–77.

[19] Finch, 'Land holding', pp. 16–18.

[20] J. Barker, 'The emergence of agrarian capitalism in early modern England: a reconsideration of farm sizes' (unpublished PhD thesis, University of Cambridge, 2013), pp. 29–45.

[21] French and Hoyle, *Earls Colne*, pp. 251–92.

the conceptual and technological insights of the spatial turn to bear on their analysis of subletting.

This article addresses these methodological limitations and reasserts subletting as a practice that was fundamentally important to early modern English agriculture and agrarian society. Section I presents a new methodology to reconstruct and map subletting practices in unprecedented detail for two case-study parishes over the course of the eighteenth century. This dataset allows many of the prevailing assumptions about subtenancy to be interrogated. Section II demonstrates that subletting was not a fringe practice by showing that subtenants were, in many cases, among the wealthier inhabitants of these parishes. Section III examines the subleasing market, firstly by assessing the security of tenure that subleases offered, and secondly by calculating the volume of land transactions taking place on the subtenancy market. Section IV considers the spatial dynamics of subletting and examines how subtenants used subleases to engross and consolidate their holdings. Section V constructs farm size data that allows for subletting and compares these figures with farm sizes derived from manorial documents to demonstrate that manorial documents systematically under-record the size of farms. Finally, section VI draws together the conclusions and implications of these findings, and outlines an agenda for further research.

I

A methodology has been developed which draws upon but substantially refines and extends French and Hoyle's method of cross-referencing poor rates with manorial documents to reconstruct subletting activity. As records of a tax on occupiers of land, where they survive, poor rates provide longitudinal data on land occupation.[22] Manorial documents offer similar levels of coverage for direct manorial tenants. By comparing these two sources we can establish which manorial tenants cultivated their land and which sublet their property. A key innovation in this methodology is to create the links between owners and occupiers at the level of individual fields, so that ownership and occupation data in the databases are linked to geo-referenced shapefiles. This allows, for the first time, the spatial dynamics of subletting to be reconstructed and analysed. Two case-study parishes have been chosen for the quality of their records in facilitating such a detailed reconstruction of subletting: Earls Colne in Essex, for the period 1722–1806, and Puddletown in Dorset, for 1719 to 1792.

This new methodology for recovering subletting practices can be demonstrated with a brief, worked example from Puddletown parish. In *c.*1725, a survey of Puddletown manor recorded its tenants who held copyhold for lives or lifeleasehold land. The survey noted the name of each property, its tenant, the lives named on either the lease or copy, and a range of other details about the landholding. Importantly, one of these additional details was the property's poor rate assessment.[23] For example, Elizabeth Nightingale owned 'Nightingales' tenement that was

[22] For basis of rate as levy on occupiers see R. H. Tawney and E. Power (eds), *Tudor economic documents: being select documents illustrating the economic and social history of Tudor England* (3 vols, 1924), II, pp. 346–54; R. Burn, *Justice of the peace and parish officer* (seventh edn, 3 vols, 1762), III, pp. 123–4.

[23] Dorset History Centre (hereafter DHC), D-PUD/E/1/1/5.

rated at 2*s.* 4*d.* in the poor rates. Each property and its ratepayer can be identified in the poor rates between 1719 and 1792, using the property name and its poor rate rating recorded in the manorial survey.[24] As the poor rate for 'Nightingales' tenement in 1725 was levied on Mary Garland, we can infer that Elizabeth Nightingale was subletting her land to Mary Garland in 1725. The properties listed in the *c.*1725 survey have been linked to other manorial documents, including a further survey produced in 1792.[25] By this time, 'Nightingales' was called 'late clapcots' and it was owned by John Corbin. The 1792 poor rate for 'late clapcots' was levied on Robert Alner, once again signifying that the property was being sublet.

The compilers of the 1792 survey detailed the fields that made up each property and listed these along with reference numbers under each property's heading. 'Nightingales/late clapcots' comprised field numbers 59, 289, 290, 300, 352, and 564. The original 1792 map does not appear to have survived but fortunately the mid-nineteenth-century tithe survey employs the same field numbering system, so that properties in the late eighteenth-century survey can be linked to the tithe map.[26] The tithe map has been digitized, geo-referenced, and each field has been linked to data on ownership and occupation drawn from the manorial surveys and poor rates.[27] Therefore, although no inherent link exists between the poor rates and geo-referenced maps, this process links them through their common connections in the manorial surveys. This allows patterns of ownership and occupation to be reconstructed at the level of individual fields. This process has been repeated for each owner, occupier, and property between 1725 and 1792 at Puddletown, and a similar process has been undertaken at Earls Colne for the period 1722–1806.[28] Owing to limitations of the Puddletown sources, while occupiers and their holdings can be reconstructed annually between 1719 and 1792, at present ownership data is only available for 1725, 1775, and 1792. By comparison, data on occupiers and owners is available for every year at Earls Colne between 1722 and 1806. Probate documents, parish registers, and a range of other supplementary sources have been drawn upon to identify owners and occupiers' ages, occupations, wealth, family members, and other landholdings.

Earls Colne scarcely needs an introduction to early modern historians. The collation and digitization of many of its records by a team led by Alan Macfarlane in the 1970s–80s has facilitated considerable interest and research into its history.[29] Earls Colne lies in north Essex

[24] DHC, PE-PUD/OV/1/1, 1/2, 1/3, 1/4.

[25] DHC, D-PUD/E/1/1/8, 1/9, 1/10.

[26] DHC, T-PUD.

[27] For methodology on geo-referencing historical maps, see A. W. Pearson, 'Digitizing and analyzing historical maps to provide new perspectives on the development of the agricultural landscape of England and Wales', *e-Perimetron* 1 (2006), pp. 178–93.

[28] The subtenancy databases form the core source material on which this article draws its evidence. To limit repeat references, all evidence should be assumed to have been drawn from the following documentary sources unless otherwise indicated. Puddletown: DHC, D-PUD/E/1/1/5, 1/6, 1/7, 1/8, 1/9, 1/10, PUD/E/1/2/8, PE-PUD/OV/1/1, 1/2, 1/3, 1/4, T-PUD. Earls Colne: Essex RO (hereafter ERO), D/DPr 26*, 27*, 28*, 29*, 30*, DPr 84*, 85*, 86*, D/DPr 92, 93, 95, 96, D/DPr 612, 613, D/P 209/11/3, D/P 209/8*, D/DSm P1*, D/DPr118* (references marked with an asterisk are available at linux02.lib.cam.ac.uk/earlscolne/).

[29] A small sample of the Earls Colne scholarship: A. Macfarlane, *The family life of Ralph Josselin, A seventeenth-century clergyman: An essay in historical anthropology* (1977); R. von Friedeburg, 'Reformation of Manners and the social composition of offenders in an East Anglian cloth village: Earls Colne, Essex, 1531–1642', *J. British Studies*, 29 (1990), pp. 347–85; G. Sreenivasan, 'The land-family bond at Earls Colne

about nine miles west of Colchester and in the eighteenth century comprised two manors, Earls Colne and Colne Priory. The parish covered slightly under 3000 acres and had been enclosed since before the late sixteenth century.[30] In the early to mid-eighteenth century, around 30 per cent of people in Earls Colne worked in the agricultural sector and a similar proportion worked in retail and crafts.[31] Mixed farming was practised at Earls Colne and hops were an important cash crop for its farmers.[32] Puddletown (a village, despite its name) is situated five miles north-east of Dorchester in Dorset. It is much larger than Earls Colne, comprising almost 8000 acres. No common fields remained in the eighteenth century but it had a large heath in the south-west of the parish, as well as extensive water meadows, rights to which were apportioned among the copyhold and lifeleasehold tenants.[33] Puddletown was the site of two manors: Waterston, which lay in the north-western tip of the parish, and Puddletown manor, which covered the remainder and majority of the parish. The early eighteenth-century occupational structure was similar to Earls Colne with, again, a third of its inhabitants directly employed in agriculture, who primarily practised sheep-corn husbandry.[34] Tenants at Earls Colne and Puddletown appear to have enjoyed relative freedom to sublet. The Puddletown manorial customs stipulated that tenants could sublet their properties without requiring a licence from the lord.[35] Although there were 13 licences-to-let granted by the manors at Earls Colne between 1730 and 1763, this number is so dwarfed by the actual instances of subletting that the manorial courts were clearly no barrier to subletting.

This study is limited to copyhold and beneficial leasehold land in each parish because manorial documents reliably recorded conveyances of these properties. Freehold land was also sublet but conveyances of it were not recorded in a single place. The accurate reconstruction of freehold ownership is therefore difficult, if not often impossible. For this reason the tenancy of freehold land is beyond the scope of this study.[36] Land held under copyhold for lives or leasehold for lives in Puddletown manor comprised about 22 per cent of land in the parish, while slightly over 36 per cent of land in Earls Colne was held under copyhold of inheritance.[37] These are small proportions of the total land in each parish and we have to assume that they are representative of landholding on these tenures more broadly.

When calculating subtenancy rates, a distinction has been made between land cultivated by the owner ('owner-occupied'), a relative ('cultivated by relative'), and an individual to whom no familial connection to the owner can be established ('sublet'). The owner-occupier category

Note 29 *continued*
(Essex), 1550–1650', *Past and Present* 131 (1991), pp. 3–37; French and Hoyle, *Earls Colne*; D. MacKinnon, *Earls Colne's early modern landscapes* (2014). The quality of Puddletown records has similarly attracted scholars' attention, e.g. S. R. Ottaway, *The decline of life: Old age in eighteenth-century England* (2004).

[30] French and Hoyle, *Earls Colne*, p. 181.

[31] Ibid., p. 60.

[32] Ibid., p. 53.

[33] C. L. Sinclair Williams (ed.), *Puddletown, house, street and family: An account of the inhabitants of Piddletown Parish, 1724, Dorsetshire* (Dorset Record Soc., 11, 1988), p. 10; DHC, D-PUD/E/1/1/10.

[34] Sinclair Williams, *Puddletown,* pp. 10, 83.

[35] DHC, PE-PUD/RE/1/5.

[36] It is envisaged that further research on the subletting of non-customary land will be carried out.

[37] French and Hoyle, *Earls Colne*, p. 100; DHC, D-PUD/E/1/1/9. The detail needed to link manorial documents, poor rates, and geo-referenced maps means that not all the copyhold or beneficial leasehold land in both parish has been successfully linked. The problem largely affects Puddletown, with the 1725 and 1775 owner and occupier links on substantially less land than were possible for 1792.

TABLE 1. Patterns of land occupancy in Earls Colne and Puddletown, 1722–1806

Year(s)	*Owner-occupied*		*Cultivated by relative*		*Mixed*		*Sublet*		*Cultivated by relative and sublet*		*Total acres*
	%	*acres*	*%*	*acres*	*%*	*acres*	*%*	*acres*	*%*	*acres*	
Earls Colne											
1722–29	31.5	317.3	17.3	174.3	0.0	0.0	51.2	514.7	68.5	689.0	1006.2
1730–39	47.7	486.9	14.9	152.5	0.0	0.0	37.4	382.1	52.3	534.7	1021.6
1740–49	52.6	539.1	9.6	98.0	0.2	7.3	37.6	384.9	47.2	482.9	1029.3
1750–59	46.9	480.6	16.9	173.4	0.0	0.0	36.1	370.2	53.1	543.6	1024.2
1760–69	48.7	498.7	2.6	38.7	0.0	0.0	48.7	498.4	51.3	537.1	1035.8
1770–79	48.0	491.5	10.7	109.5	0.0	0.0	41.3	423.2	52.0	532.7	1024.2
1780–89	47.4	485.1	10.4	106.3	1.5	15.4	40.8	417.4	51.1	523.7	1024.2
1790–99	63.2	647.7	2.9	29.6	0.2	15.4	33.7	345.4	36.6	375.0	1038.1
1800–06	56.0	572.3	16.6	168.9	0.0	0.0	27.4	279.6	44.0	448.6	1020.8
Puddletown											
1725	81.3	978.5	1.6	19.4	0.0	0.0	17.1	205.9	18.7	225.3	1203.8
1775	85.5	1006.6	1.4	17.0	0.0	0.0	13.0	153.5	14.5	170.5	1177.1
1792	45.8	847.7	9.3	171.5	0.0	0.0	44.9	830.2	54.2	1001.7	1849.4

Note: The total acreage for Puddletown in 1792 is more than the total area of copyhold and beneficial leasehold land (*c.*1700 acres) because the fields in one farm that contains intermixed leasehold and freehold land are not identified as such, so the figure here includes some freehold land.
Source: Subtenancy databases, see n. 28.

comprises three situations: where the owner and occupier was the same person; when a parent occupied land owned by their child who was under the age of 21; and where the owner and occupier were husband and wife. The category of 'cultivated by relative' captures a wider range of circumstances, such as when owner and occupier were siblings or cousins. Also included are instances in which adult offspring occupied land owned by their parents. In many cases, the owners and occupiers that populate the 'relative' category did not share a surname, and connections have instead been established through parish registers and wills. This category therefore captures a much broader range of kin than any category of subletting between relatives that only links by surname. Therefore, many of those recorded here as 'relative' may have been classed as 'subtenant' in other studies.[38] The category of subtenant refers to all other cases where none of these connections could be established.

Table 1 summarizes the amount of land that lay in these categories in Earls Colne and Puddletown. For ease of representation, the Earls Colne data are given as decadal averages. The proportion of land in the 'sublet' category represents a lower bound estimate of the proportion of land in subtenancy and the land in the 'cultivated by relative and sublet' category is an upper bound estimate. These lower and upper bound estimates are premised on the fact

[38] Hipkin, 'Tenant farming', p. 658. Finch, 'Land holding', p. 16; Whyte, 'Owners and occupiers', p. 85.

that the 'cultivated by relative' category captures a range of subletting contexts which lie on a spectrum between 'pure' owner-occupation and subletting for a market rent. A substantial amount of land at Earls Colne was sublet and the decline after 1790 can be accounted for by one large farm moving into owner-occupation, rather than an indication of a more general decline in subletting. Subletting at Puddletown became more prevalent towards the end of the eighteenth century, although the data probably overestimate the disparity between the early and late eighteenth century as the figures for 1725 and 1775 underestimate subletting owing to difficulties linking certain farms in these years. Overall, therefore around fifty per cent of land was frequently sublet in these two contrasting parishes, which suggests that subletting was not a marginal practice. These findings are broadly in line with previous estimates in the literature. The next section considers the relative socio-economic standing of subtenants in relation to other parishioners and ratepayers to further demonstrate that subletting was not a marginal practice.

II

Subtenants have often been characterized in the literature as poor and marginal, or at best inferior to owner-occupiers, and historians have tended to draw sharp distinctions between the socio-economic position of subtenants and manorial tenants.[39] While this view has predominated in scholarship in largely pre-seventeenth-century contexts, the position of subtenants in the seventeenth and eighteenth centuries remains contested. French and Hoyle identified subtenants among the ranks of parish officeholders in early eighteenth-century Earls Colne, and Juliet Gayton has found subtenants residing in substantial houses in seventeenth-century Hampshire.[40] However, Angus Winchester emphasized subtenants' lack of security and lesser wealth, and while acknowledging that subtenants were not a homogenous group, Ian Whyte concluded that they were less secure and more transient than their landlords.[41] Undoubtedly there were many who endured a precarious existence as subtenants across the early modern period but it should not be assumed that those largely absent from (typically manorial) documents lived a marginal existence. Indeed, that subtenants were assessed for parish poor rates is at odds with this view since ratepayers were expected to *provide* relief to the poor. On this premise, the relative position of subtenants compared to other parish inhabitants can be ascertained in two ways. Firstly, we can determine the proportion of parish inhabitants who were ratepayers, and therefore the extent to which ratepaying subtenants were among the wealthier inhabitants of a parish. Secondly, we can rank ratepayers' assessments to situate subtenants on a spectrum of ratepayers.

Using poor rates to calculate the relative socio-economic position of subtenants compared to other parish inhabitants has some limitations. As a tax on (occupied) landed wealth, poor rates only present one picture of the wealth of a village's inhabitants. A tax on goods or

[39] For instance, Healey, 'Troutbeck', pp. 30, 47; 'Land, population and famine', p. 174.

[40] French and Hoyle, *Earls Colne,* pp. 75–76; Gayton, 'Tenants', p. 186.

[41] A. J. L. Winchester, 'Regional identity in the Lake Counties: Land tenure and the Cumbrian landscape', *Northern Hist.*, 42 (2005), p. 42; Whyte, 'Owners and occupiers', p. 91.

TABLE 2. Proportion of households in Earls Colne and Puddletown who paid poor rates.

	Year	*Ratepayers* *N*	*Households* *N*	*Households paying poor rates* *%*
Puddletown	1724	71	159	45
	1769	41	163	25
	1801	36	188	19
Earls Colne	1723	80	180	44
	1778	78	206	38
	1801	76	211	36

Note: The figures for Puddletown households in 1724 and 1769 are the number of houses. The number of households would have been higher, as some houses contained multiple families. For example, in 1801 there were 151 houses occupied by 188 families. The figures presented here for 1724 and 1769 therefore slightly overstate the proportion of families who paid poor rates.
Source: DHC, PE-PUD/OV/1/1, PE-PUD/OV/1/2, PE-PUD/OV/1/3, PE-PUD/OV/1/4, PE-PUD/OV/1/5; C. L. Sinclair Williams (ed.), *Puddletown, house, street and family: an account of the inhabitants of Piddletown Parish, 1724, Dorsetshire* (Dorset Rec. Soc., 11, 1988) pp. 19, 77–81; ERO, D/P 209/11/3, D/P 209/8; BPP, VI, Census of Great Britain 1801, Census Abstracts of the Answers and Returns: Enumeration, pp. 84, 107.

income would produce a different list of taxpayers.[42] Also, many people neither paid rates nor received poor relief, so non-ratepayers were not universally poor.[43] Nevertheless ratepayers were probably better off than most and since rates were often based on the value of properties, they also provide a good guide to the relative (real) wealth of ratepayers. A particular strength of poor rates is that they provide evidence of ratepayers' wealth over many years, so changes in assessments brought about by increases in the size of farms are captured. To account for these annual fluctuations, we need to calculate a lifetime average assessment for each ratepayer that consists of an average of a ratepayer's average annual contribution to the poor rate. For example, Paul Anthony's land was rated at 5*s.* in the 1721 Puddletown rates. The total rating of all property assessed in the poor rate in 1721 was £26 13*s.* 11½*d.*, so Anthony's assessment represented about 0.94 per cent of the rate that year. As he altered the size of his farm, Anthony's assessment fluctuated between 0.94 and 2.53 per cent of the total annual rate. Over his lifetime, he was assessed on average 1.44 per cent of the total rate annually between 1721 and 1746.[44]

Table 2 shows the proportion of families who paid poor rates in Earls Colne and Puddletown between 1723 and 1801. Less than half of all households paid poor rates in both parishes in the early eighteenth century, and this declined to between a third and a fifth of households by the turn of the nineteenth century. Ratepayers who leased some land as subtenants were therefore among a decreasing minority of households on whom poor rates were levied, indicating their

[42] French and Hoyle, *Earls Colne*, p. 72.

[43] S. Hindle, *On the parish? The micro-politics of poor relief in rural England, c.1550–1750* (2004), pp. 374–78; S. Williams, *Poverty, gender and life-cycle under the English poor law, 1760–1834* (2011), pp. 71–3.

[44] For a similar application of this measure, see French, *The middle sort of people in provincial England, 1600–1750* (2008), pp. 118–19.

TABLE 3. Percentile distribution of average proportion of annual rate assessment

Percentile	*Lifetime average % of poor rate assessment*			
	Earls Colne		*Puddletown*	
	All ratepayers	*Ratepaying subtenants*	*All ratepayers*	*Ratepaying subtenants*
10th	0.10	0.28	0.09	0.10
20th	0.14	0.66	0.11	0.19
30th	0.18	0.87	0.19	0.28
40th	0.26	1.19	0.28	0.56
50th	0.36	1.52	0.44	1.38
60th	0.52	1.99	0.66	1.54
70th	0.87	2.85	1.14	1.73
80th	1.52	3.57	2.10	2.34
90th	3.28	5.55	4.31	7.96

Source: See Table 1.

elevated socio-economic position within the parish. Not only were they among an increasingly narrow group of ratepayers, subtenants were substantial ratepayers. Table 3 outlines the proportion of the rate paid by various percentiles of ratepayers and subtenants. It shows that 50 per cent of all Earls Colne ratepayers paid more than 0.36 per cent of the annual poor rate, while 50 per cent paid less. In contrast, and demonstrating their skew towards the top-end of ratepayers, 50 per cent of subtenants' assessments were more than 1.52 per cent of the rate. The same pattern is observed at Puddletown, where half of all ratepayers paid more than 0.44 per cent of the rate, while half of all ratepaying subtenants paid more than three times this at 1.38 per cent. Individuals who were among the wealthiest parishioners leased land as subtenants in addition to those from more modest backgrounds.

So far, these figures have not distinguished different scales of subletting. The category of ratepaying subtenant comprised two extremes, ranging from individuals who leased all their land as subtenants to those who owned most of their holding but who leased a small amount of land from another tenant. This is an important distinction because the relative position of these two types of subtenants indicates the degree to which subtenancy determined socio-economic status. It is possible to make this distinction at Puddletown. Table 4 compares the average poor rate assessments of different groups of ratepayers according to whether they sublet or owned all or some of their land. Overall, ratepayers taxed entirely on land they rented as subtenants had higher assessments in two of the three observation years than ratepayers who either solely occupied their own land, occupied their own land and farmed a relative's, or only occupied a relative's property. Those who leased all or part of their holding as subtenants were the largest ratepayers.

Subtenancy of the kind revealed by poor rates should be distinguished from subletting that allowed poor people to supplement their household income by having a bit of land. Subletting may have provided poor people with access to land, and may have fulfilled the function of

TABLE 4. Average proportion of annual rate assessment grouped by different types of subletting status

Subletting Status	*Lifetime average % of rate assessment*		
	1725	*1775*	*1792*
Owner-occupier	0.90	0.95	0.51
Subtenant	0.25	1.48	1.27
Relative	0.10	0.20	1.48
Owner-occupier and relative	–	–	0.41
Owner-occupier and subtenant	1.25	3.36	4.14
Owner-occupier, relative, and subtenant	–	–	1.81
Subtenant and relative	–	–	1.54

Source: See Table 1.

commons in parishes that lacked common land and rights.[45] But the type of people who paid poor rates on sublet land engaged in a different type of subletting activity, and it was not used as a means of keeping their head above water. Among the subtenants studied here, there were those who leased land to increase the size of their cultivable holdings, and so we find yeomen, farmers, husbandmen, and gardeners among the occupations of subtenants. There were also farmers of large properties who were styled gentleman in both parishes who were engaged in subtenancy. Tradespeople such as blacksmiths, brewers, butchers, clothiers, and millers also held subleases of land as an adjunct to their trade.[46] Some may have used this land to keep a horse to transport their goods, while others may have engaged in the kind of vertical integration identified in the scholarship.[47]

Sublet land may have been put to many uses but one of the advantages it afforded subtenants was that it enabled them to acquire fields near or adjacent to their existing holdings. This allowed those who were primarily farmers to produce consolidated holdings that were more efficient to farm, while for tradespeople it was of course beneficial to have access to land near to their homes, inns, or mills. Before reconstructing these processes of consolidation and engrossment in section IV, the next section examines the market for subleases and the security of tenure they offered.

[45] L. Shaw-Taylor, 'Access to land by labourers and tradesmen in eighteenth-century England', in van Bavel and Hoppenbrouwers (eds), *Landholding*, pp. 265–81.

[46] DHC, L/A 4/1/1, Ad/D/I/1728/23, Ad/Dt/W/1812/28, Ad/Dt/W/1802/44, D-PUD/E/1/3/1/2/10, ERO, D/ACL 1737/7, D/ACW 32/2/37, D/DPr/25, D/DPr 95 (p. 131), D/ACW 40/4/4, D/ACW 34/6/35, D/ABL 1730/40, D/DPr 93 (pp. 241–2), and TNA, PROB 11/1010/24.

[47] French and Hoyle, *Earls Colne*, p. 261.

III

Security of tenure is often seen as an important means of incentivizing tenant farmers to make improvements and investments to their land. Consequently, the length of leases and the duration that tenants occupied farms have both been important measures of tenurial security. While Susanna Wade Martins and Tom Williamson downplayed the role of agricultural leases in driving the adoption of new farming methods in the eighteenth century, they acknowledged that the length of leases might have encouraged greater investment from tenants.[48] David Stead examined the question in relation to the mobility of tenant farmers on eighteenth- and nineteenth-century large estates. Stead demonstrated that tenurial mobility was relatively low because many tenants remained on farms for terms longer than the durations of individual leases.[49] The practice of renewing leases has recently been shown to have considerably extended the length of time tenants remained on farms under yearly leases in the late nineteenth century.[50]

In contrast, eighteenth-century subtenants have been cast as a highly mobile group, sacrificing long-term security in favour of short-term leases, which enabled them to take advantage of prevailing economic conditions. French and Hoyle have argued that 'subtenants had no long-term plans for the land' making short-term subleases particularly attractive.[51] Similarly, Whyte has shown that subtenants were more mobile than their landlords, citing subtenants' shorter length of occupancy (10.5 years) than customary tenants' time as owners (17.5 years).[52] Although farm occupancy reflects patterns of mobility because cultivating a holding requires an individual to be present, landownership was not contingent upon residency. Furthermore, periods of owner-occupation may have ceased without a change in ownership, as owners could lease their land to a subtenant. Consequently, the length of time that a manorial tenant owned land did not necessarily equate to the length of time they cultivated the holding. We therefore need a more direct comparison of the occupancy durations of subtenants and owner-occupying manorial tenants in order to fully assess relative levels of tenurial security and mobility, and to produce data comparable to that for large estate farms.

Leases arranged between manorial tenants and subtenants have generally not survived, and in many cases, were perhaps verbal agreements made year-by-year. The only surviving sublease for Earls Colne or Puddletown is a 14-year lease signed in 1773 between John Lay and Dennis Walford for 100 acres of land, 50 acres of which lay in Earls Colne.[53] Other evidence of subleases can be gleaned from the licences that some manorial tenants obtained from the Earls Colne manor courts to sublet their properties. In the eighteenth century, the courts granted licences-to-let to 13 tenants, ranging in duration from six to 21 years. Why some tenants obtained licences to sublet their properties when the majority appear to have not is unclear, and in any case, the durations should be viewed with caution. The court granted licences 'for

[48] S. Wade Martins and T. Williamson, 'The development of the lease and its role in agricultural improvement in East Anglia, 1660–1870', *AgHR* 46 (1998), pp. 127–41.

[49] Stead, 'Mobility', pp. 184–5.

[50] S. Garrido, 'Fixed-rent contracts and investment incentives. A comparative analysis of English tenant right', *Explorations in Economic Hist*, 48 (2011), pp. 74–5.

[51] French and Hoyle, *Earls Colne*, p. 282.

[52] Whyte, 'Owners and occupiers', p. 88.

[53] ERO, D/DAt 45.

any term of years not exceeding' a stated number of years therefore there is no guarantee the number of years for which a tenant sought a licence corresponded to the length of time they sublet their property to individual subtenants.

Despite the absence of documentary evidence of subleases, the new methodology presented in this article makes it possible to measure how long the leases between manorial tenants and subtenants at Earls Colne continued by analysing the duration of their relationship on particular parcels of land. The length of these relationships provides an estimate for the length of the subleases which are now lost to us. The actual lengths of occupancy may have varied by as much as six months from the figures presented here because data on changes in occupancy are drawn from poor rate assessment books. Poor rates were generally only collected twice a year, and changes in occupancy might have occurred several months before the next rate was recorded and collected. This margin of error does not significantly alter the mean or median duration, so the durations here should be considered accurate reflections of the length of occupancy, and therefore of the length of tenant-subtenant relationships. Occupiers whose periods of occupation crossed the start and end points of the database in 1722 or 1806 have been discounted to prevent durations from being artificially truncated. Leases held only by individual cultivators are distinguished here from leases held by successive members of the same family. Where a property was sublet first to a man, and after his death subsequently sublet to his widow or son, the durations of all subsequent subleases of that property held by relatives have been totalled to calculate the length of a 'family' lease. For example, Samuel Smith held a sublease on 22.5 acres from William Sewell for twelve and a half years which his wife, Mary Smith, continued to sublet for a year and a half after his decease. The total length of the sublease was therefore about 14 years. Individual and family leases are differentiated in this way to assess the continuity that subleases afforded occupiers and their families. In line with the distinction set out earlier in this article, the length of tenant-subtenant relationships has been calculated separately for subtenants who were unrelated to their tenant landlord and those with whom they had a familial connection.

In addition to reconstructing the length of tenant-subtenant relationships, the length of time for which owner-occupying manorial tenants cultivated their holdings has been calculated. By comparing the length of time land was cultivated by subtenants and owner-occupiers, we can assess the relative levels of tenurial security that each form of tenure offered. In total this approach yields 233 'length of occupancy' observations on 47 pieces of land. Previous studies that have examined occupiers' durations on farms have limited their analysis to farms that did not undergo substantial boundary changes.[54] Applying this criteria to copyhold land at Earls Colne would limit the analysis to a handful of owner-occupied farms, as subletting changed the size and boundaries of farms. Therefore, durations have been calculated on individual fields. Fields cultivated by an occupier for the same duration have been aggregated, to reflect the fact that these were acquired together as a cultivable holding. The durations therefore relate to holdings varying in size from individual fields of less than an acre (often rented and added to larger holdings) to complete farms of over 180 acres. The mean occupancy durations were however the same across the sample of holdings despite the disparity in acreage. Of the 233

[54] Stead, 'Mobility', p. 183.

TABLE 5. Duration of 'individual' and 'family' occupancy on copyhold land in Earls Colne, 1722–1806 (years)

	Subleases		*Leases to relative*		*Owner-occupation*	
	Individual	*Family*	*Individual*	*Family*	*Individual*	*Family*
Mean	8.6	19.3	8.9	19.7	8.9	25.2
Median	5.5	18.6	4.4	19.7	5.4	24.1
Minimum	0.5	2.2	1.5	19.7	0.5	5.1
Maximum	41.2	42.5	32.6	19.7	47.0	78.8
Sample (number of observations)	97	44	13	2	40	37

Source: See Table 1.

observations, 150 were the durations of individual occupiers and the remaining 83 were the durations of members of 35 families.

Table 5 compares the different lengths of occupancy of subleases, leases to relatives, and periods of owner-occupation. The number of individual and family lengths of occupancy were broadly similar for owner-occupiers, while for subtenants there were many more individual leases than ones which were successively held by members of the same family. As might be expected, owner-occupation therefore offered greater scope for continuity of occupation between family members. The length of time that family members cultivated their own land was longer on average than subtenants but the differences should not be overstated. The longest owner-occupied family duration of 78.8 years is an outlier, the next longest was 50 years, much closer to the maximum 'family' sublease of 42.5 years. While owner-occupiers were more likely to pass their holding on to a relative than subtenants, there was not a huge disparity in the length of time that these families cultivated holdings. Turning to individuals, there was even less difference in the security offered by subleases and owner-occupation. In fact, the median individual sublease of 5.5 years was marginally longer than the median length of time that an owner-occupier cultivated a holding. The minimum and maximum durations were also similar. Cultivators under both systems therefore held land for similar lengths of time and if there were differences in tenurial security offered by owner-occupation and subletting, these were not reflected in the length of time that occupiers actually spent on individual holdings.

How did subleases compare with leases granted to tenant farmers of large estates? The average lengths of subleases at Earls Colne were much shorter than the length of leases on Stead's sample of large rack-rent estate farms in southern England between the seventeenth and nineteenth centuries.[55] The median 'individual' occupancy duration in Stead's sample was 14.9 years, almost three times longer than Earls Colne subleases (5.5 years). However, while the average sublease was much shorter, there was greater scope for long-term tenant-subtenant relationships. The longest length of occupancy by one individual in Stead's sample was 25 years, whereas nine subtenants at Earls Colne leased land for more than 25 years. There was also a similar degree of continuity among families in both samples, as the median

[55] Ibid., p. 184.

family sublease was 18.6 years, which compares favourably with a median period of 19.3 years in Stead's sample. While individual subtenants had shorter relationships with their landlords than large-scale tenant farmers did, subtenants' occupancy durations closely mirrored those of owner-occupying manorial tenants. Finally, the longevity of subtenants' relationships with particular landlords and the succession of family members subletting from the same manorial tenant, fits the pattern of renewing leases found elsewhere in England and Europe in the early modern period.[56]

While the average lengths of subtenants' relationships with their manorial-tenant landlords were similar to owner-occupying manorial tenants' length of occupancy, there were many more subleases (155) than instances of owner-occupation (74). The high frequency of short-term subleases and that subletting could decouple periods of owner-occupation from overall durations of property ownership meant that land experienced a change of occupier more frequently than a change of owner. Indeed, the average length of time that each property had a single occupier was 10.85 years, while the average property experienced a change of owner every 16.63 years. The amount of land that changed hands between occupiers was therefore greater than the volume of formal transfers of property ownership in the manor courts. The greater turnover on lease markets than sales markets resulting from short-term leases has been identified across early modern continental Europe.[57] However, the turnovers of lease and sale markets have not been compared in an English context.

The volume of land transactions passing through the manorial courts and through the hands of occupiers can be directly compared at Earls Colne. To calculate the volume of land transactions, the number of transactions each year have been identified, the land conveyed in all these transactions totalled, and expressed as a percentage of the total area of the manor or manors under investigation. For example, if there were 10 transactions in 1750, each conveying a property of 10 acres, the volume conveyed would be 100 acres. If the total area of the manor were 1000 acres, then the volume conveyed in these 10 transactions would represent 10 per cent of the total area. If the same property was conveyed more than once, its acreage is counted separately for each transaction, so that a 10-acre property sold to one individual and then inherited by another in 1750 would contribute 20 acres to the volume of land conveyed in 1750.

Figure 1 compares the proportion of land in Earls Colne that was bought or inherited through the manorial court (ownership market) and land passing through occupiers' hands (occupation market) each decade. If all land were owner-occupied, the volume conveyed through both markets would be equal. There was, however, a clear discrepancy between the volume of ownership transactions and the volume of occupancy transactions. In each decade, more land was conveyed through the hands of occupiers than owners, with the surplus being the area of land transferred on the subtenancy market. There was therefore considerably more activity at the level of farm occupancy in each decade, except for the 1760s, and subletting accounted for this increased volume of transactions. In some decades, such as the 1720s, 1770s,

[56] Bas J. P. van Bavel and Peter Hoppenbrouwers, 'Landholding and land transfer in the North Sea area (late Middle Ages–19th century)', in Bavel and Hoppenbrouwers (eds), *Landholding*, pp. 31–2.

[57] Ibid., pp. 30–2.

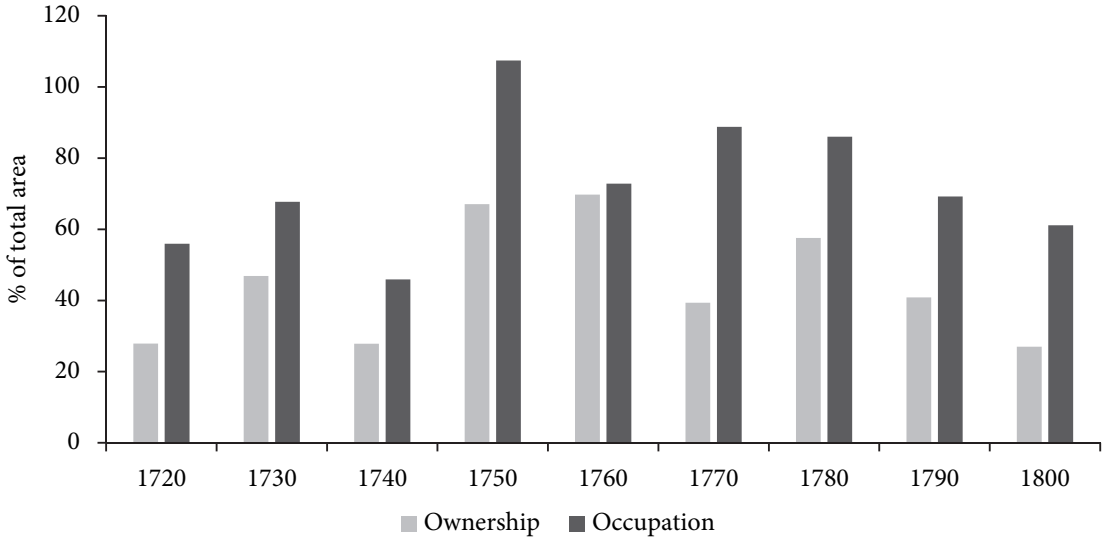


FIGURE 1. Volume of the ownership and occupancy transactions in land markets at Earls Colne, 1722–1806

Source: See Table 1.

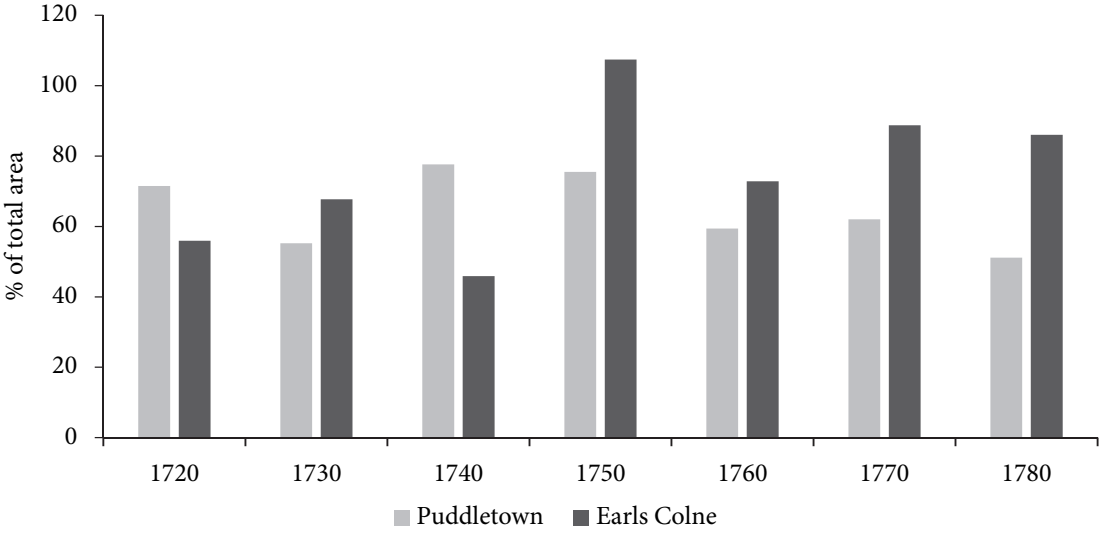


FIGURE 2. Volume of occupancy transactions in land markets at Earls Colne and Puddletown, 1720–1789

Source: See Table 1.

and 1800s, more land was exchanged on the subtenancy market than through the manor court, demonstrating the extent to which manorial documents conceal landholding activity. Figure 2 compares the turnover of land in the occupancy markets at Puddletown and Earls Colne in the 1720s to 1780s. In five out of seven decades, a greater proportion of the total area passed through occupiers' hands at Earls Colne than at Puddletown. Earls Colne had a

more active subletting market in small parcels of land than Puddletown, which amounted to a higher volume of land being transferred since these parcels are counted each time they were exchanged. The higher proportion of land passing through the occupancy market at Earls Colne was due to the higher incidence of subletting at Earls Colne.

To some extent, subtenancy may have contributed to the sluggishness of the manorial land market as subletting allowed manorial tenants to cease cultivating their land while retaining the asset. Indeed, two-thirds of manorial land transfers at Earls Colne between 1550 and 1750 were to inheriting family members.[58] Subletting may have encouraged families to retain ownership of properties that they no longer cultivated but it also offered occupiers faster access to land with lower transaction costs that circumvented the manorial sales market.

An increasingly important factor determining the supply of sublet land and nature of tenant-subtenant relationships over the course of the eighteenth century was the rise in absentee manorial tenants. French and Hoyle have argued that subletting at Earls Colne cannot be separated from residency, as between 1722 and 1750 the copyholders who never subleased their land were resident in or near Earls Colne. While non-resident manorial tenants were undoubtedly a crucial factor in driving subletting rates, the relationship between residency and subletting is complex. Absentee *inheritors* need to be distinguished from absentee *purchasers* as the latter actively sought property to sublet while the former arranged subleases as a matter of convenience. Distinctions also need to be drawn between resident and non-resident manorial tenants who were subletting. At Puddletown, for example, there was a marked shift in the eighteenth century from co-resident subletting to non-resident subletting. This transition brought with it a change in the character and scale of subletting activity. In 1725 in Puddletown, for manorial tenants who we have residency data for, residents outnumbered non-residents three-to-one as subletters of property, but fifty years later only one resident was subletting. In 1725, non-residents accounted for slightly under 50 per cent of sublet land, rising to 98 per cent in 1775. The honorific 'Mr' proliferated among non-resident subletters in 1775, suggesting a shift in the socio-economic profile of subletting owners in the intervening years.

The subletting stories of Mary Clerk and William Sparks are characteristic of this trend. Mary Clerk had occupied her 16-acre holding before she sublet it to John Harris in 1725, suggesting that she did not purchase the property with the intention to sublet it. Living next door to each other, it is reasonable to assume that when she sublet the property to Harris and his wife, she did so as their neighbour and the lease was a development of an existing relationship. In contrast, when the maltster William Sparks purchased a 19-acre holding in 1771 and subsequently other properties in Puddletown totalling 45 acres, he already owned several properties in Devon and Dorset. He owned a house in Crediton, Devon that he let to one John Davy, and he also owned a series of properties that were conveniently situated in Dorchester where he lived, and in nearby parishes such as Abbotsbury.[59] It is unlikely that William had an existing personal relationship with any of his subtenants given his dispersed properties, so that he interacted with his three subtenants at Puddletown principally in the capacity as landlord. In this respect, subletting by absentee manorial tenants may have been qualitatively different from co-resident subletting.

[58] French and Hoyle, *Earls Colne*, p. 190.

[59] DHC, AD/DT/W/1788.

IV

Historians have frequently found evidence to suggest that subletting was used to consolidate holdings but they have lacked the necessary spatial context to reconstruct or study this form of rationalization systematically. Most evidence of subtenant-driven amalgamation has been found in studies of the sixteenth century. R. H. Tawney hypothesized that tenants sublet some of their own land while simultaneously renting others' land, thereby retaining the same acreage but in a different and presumably more desirable configuration.[60] Similarly, Joan Thirsk noted that tenants in the Lincolnshire fens granted one another leases to make farming the small strips of land more efficient, and Patricia Croot has identified similar practices in sixteenth-century Somerset.[61] Hipkin has identified occupiers leasing land from multiple landowners in the seventeenth and eighteenth centuries, arguing that the impetus to create large farms lay with occupiers rather than proprietors.[62] And recently, Ronan O'Donell has emphasized the role of tenants in creating ring-fenced farms in eighteenth- and nineteenth-century Northumberland.[63]

The spatial dynamics of subletting can be reconstructed using the Earls Colne and Puddletown subtenancy databases because they contain data on owners and occupiers of individual fields, which are linked to geo-referenced maps. Mapping occupiers' holdings demonstrates that occupiers engrossed their holdings by leasing fields which were adjacent or near to their existing holdings. Engrossment and consolidation were undertaken by small- and large-scale cultivators and by those who were also manorial tenants or who only held land as subtenants.

A common strategy employed by occupiers throughout the eighteenth century in both parishes was to rent land from several manorial tenants to produce a consolidated farm. In some cases, these occupiers did not own any land themselves but produced their holdings entirely by leasing land from other manorial tenants. For example, in 1729 James Vince rented land from three different tenants to produce his holding at Earls Colne (Map 1). John Walford achieved a similar effect by renting from Robert Harris and Henry Adams in Earls Colne in 1770 (Map 2), as did William Crabb junior who rented land from John Harvy and Grace Pattrick at Earls Colne in 1759 (Map 3). This approach to consolidation was not limited to those who were exclusively subtenants; it was also used by manorial tenants to acquire fields next to land that they already owned. In late eighteenth-century Puddletown, Joseph Nightingale supplemented his own land with his brother's and mother's holdings that lay adjacent (Map 4), and Thomas Hailes rented fields adjacent to his own field at Earls Colne in 1778 (Map 5). Some were among the most substantial manorial tenants. In the early eighteenth century, John Harrington rented two fields in the middle of his 161-acre holding to complete a block of land in the north east of the parish (Map 6).[64] Similarly, in

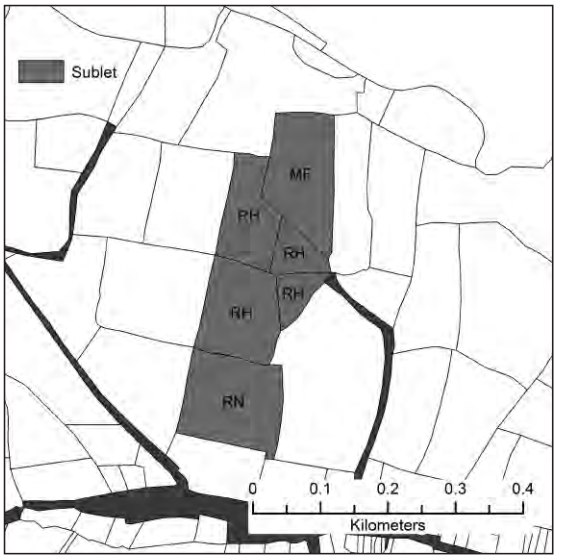
[60] Tawney, *Agrarian problem*, p. 165.

[61] Joan Thirsk, *English peasant farming: The agrarian history of Lincolnshire from Tudor to recent times* (1957), p. 14; Croot, *World of the small farmer*, p. 114.

[62] Hipkin, 'Landownership', pp. 93–4.

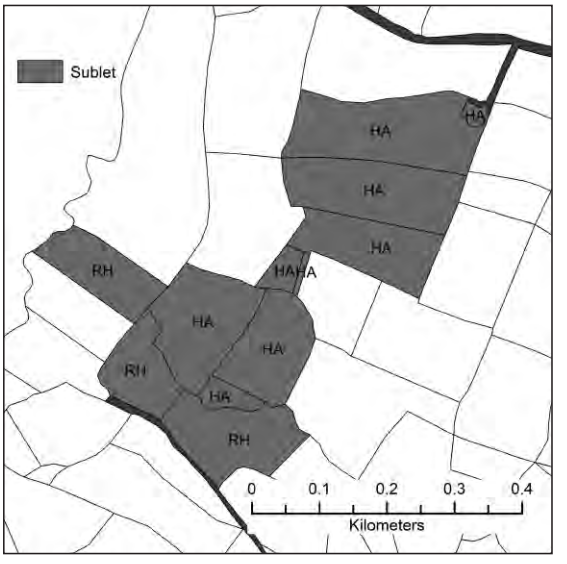
[63] R. O'Donnell, 'The creation of ring-fence farms: some observations from eighteenth- and nineteenth-century Northumberland', *AgHR* 63 (2015), pp. 39–59.

[64] French and Hoyle, *Earls Colne,* p. 280.

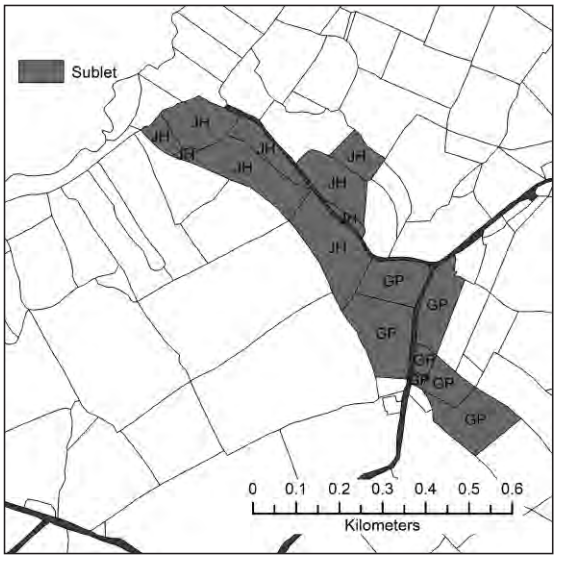


MAP 1. James Vince's holding at Earls Colne, Essex in 1729

Note to all maps: Each map documents subtenants' holdings and indicates fields they owned, sublet, or held from a relative. Fields are labelled with the initials of their owner and the subtenancy status is indicated by the shade of the field.
Source to all maps: See Table 1.



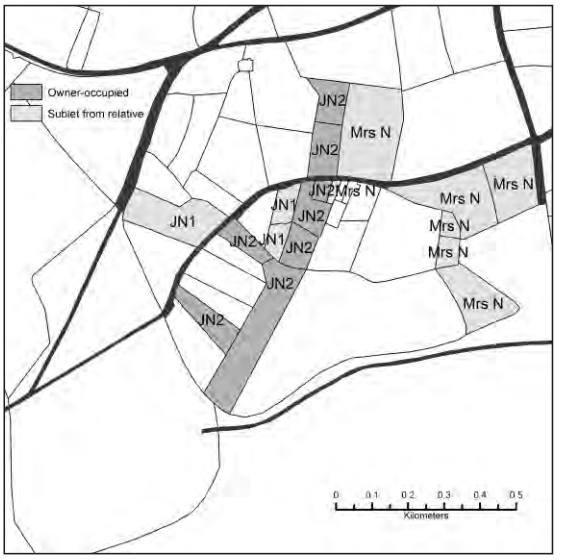
MAP 2. John Walford's holding at Earls Colne, Essex in 1770



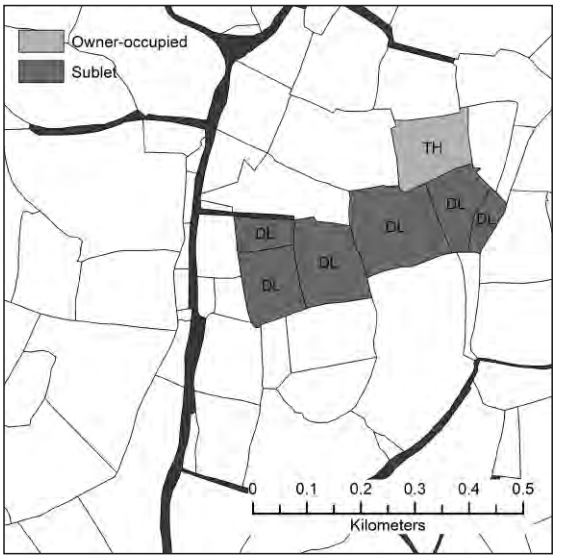
MAP 3. William Crabb's holding at Earls Colne, Essex in 1759

1788, Oliver Johnson added to his *c.*350-acre property in Earls Colne, by renting fields from Mary Bott (Map 7), and ten years later Johnson rented further adjacent fields to his holding from Sarah Solly.

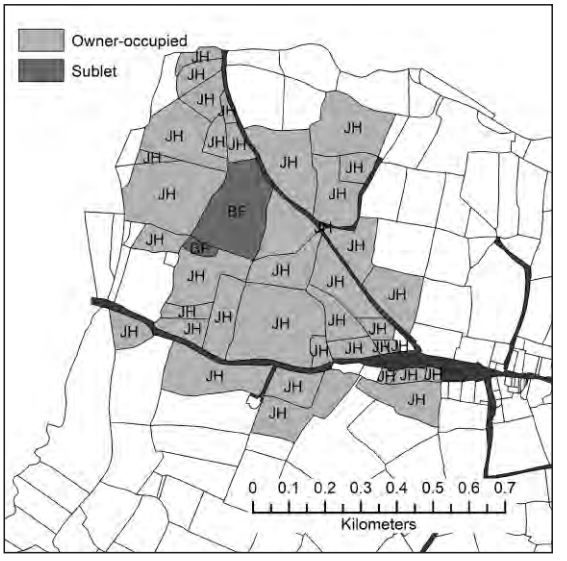
Although not everyone achieved fully consolidated holdings, the location of existing holdings clearly influenced which fields cultivators rented. Map 8 shows John Paskall's farm at Earls Colne, which he had largely consolidated as a block except for the small fields to the east. At Puddletown, Thomas Rawlins acquired a sublease of land that lay adjacent to his own land so that his rented fields were less scattered than his manorial property (Map 9), as did



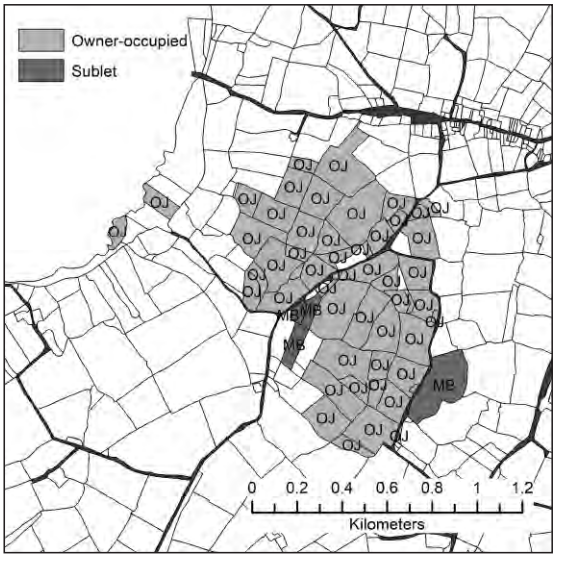
MAP 4. Joseph Nightingale's holding in Puddletown, Dorset in 1792



MAP 5. Thomas Hailes' holding in Earls Colne, Essex in 1778

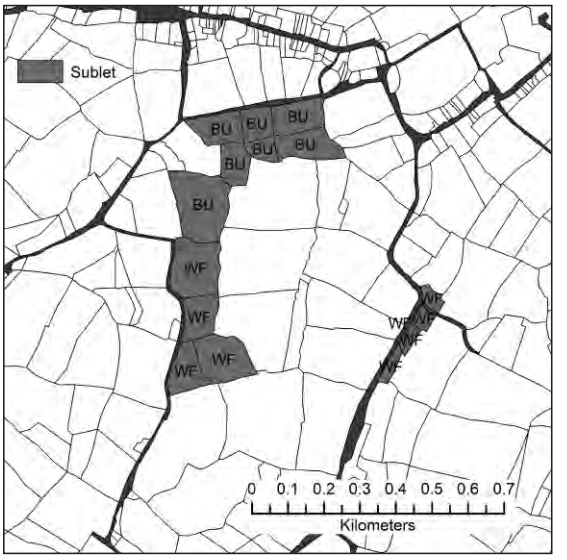


MAP 6. John Harrington's holding in Earls Colne, Essex in 1729

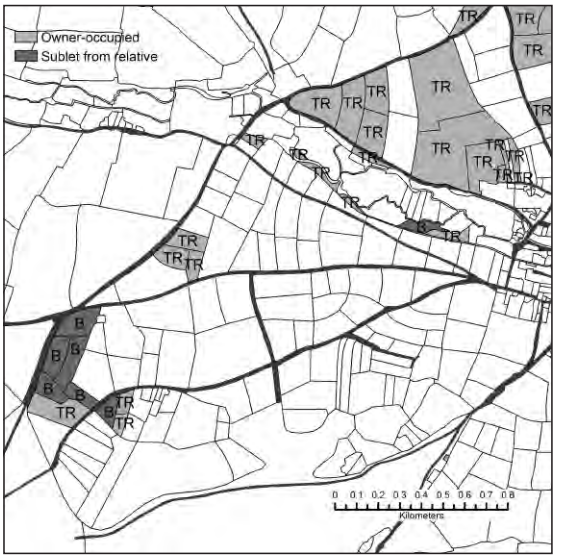


MAP 7. Oliver Johnson's holding in Earls Colne, Essex in 1788

Robert Alner (Map 10). Given the large size of Puddletown parish, that Rawlins' and Alner's lands were no more than 1–2 kilometers apart was a measure of success. William Hill was marginally more successful in this endeavour, since he subleased several adjacent fields from two different manorial tenants, and rented land from a third tenant which was located only a short distance away (Map 11).



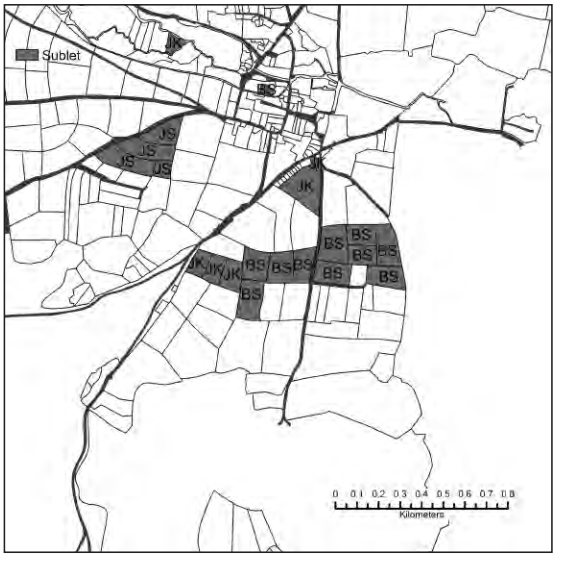
MAP 8. John Paskall's holding at Earls Colne, Essex in 1786



MAP 9. Thomas Rawlins' holding in Puddletown, Dorset in 1775

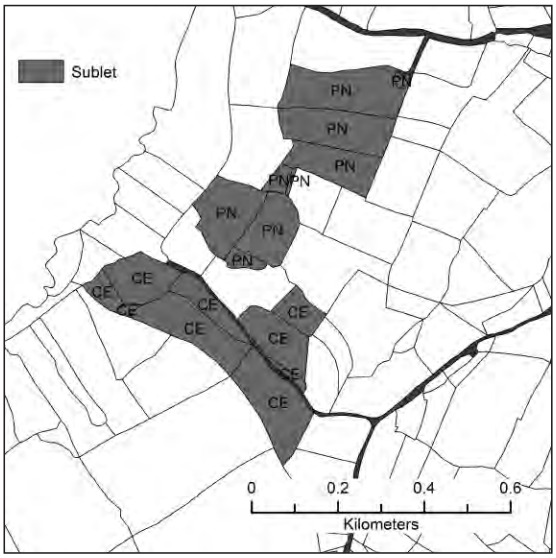


MAP 10. Robert Alner's holding in Puddletown, Dorset in 1775

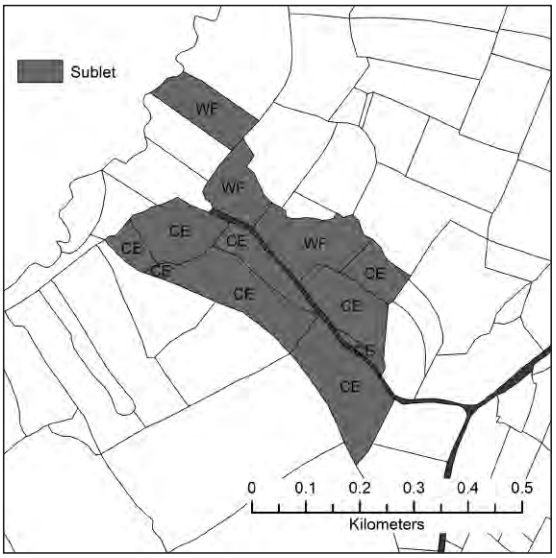


MAP 11. William Hill's holding in Puddletown, Dorset in 1792

Generally, these configurations were the product of cultivators' attempts to exchange holdings over time to produce the desired configuration. James Walford, who cultivated land at Earls Colne in the 1780s, changed the composition of his holding, which resulted in greater consolidation between 1783 and 1785 (Maps 12 and 13). Walford's reconfiguration in 1785 mirrored what another subtenant, Samuel Parkinson, had achieved forty years earlier



MAP 12. James Walford's holding in Earls Colne, Essex in 1783



MAP 13. James Walford's holding in Earls Colne, Essex in 1785

with the same fields. James Vince's holding in 1729 (Map 1) was the product of a series of subleases acquired in the 1720s. He began renting Matthew Fletcher's field sometime before 1722, and subsequently took on the lease of Robert Harris's land in 1726, before adding Matthew Newman's three years later.

That occupiers engrossed their farms through subletting has significant implications for our understanding of agrarian change because it highlights the partial picture obtained by accounts that focus solely on the activities of manorial tenants. Reconstructing subtenants' holdings demonstrates that cultivators combined several manorial properties to consolidate and enlarge their farms. Some were more successful than others in this endeavour. By situating subletting within a spatial context we can observe the underlying rational in many subtenants' acquisitions of fields. This has important implications for existing methods of calculating farm size, which are discussed in the next section.

V

Sections III and IV demonstrate that manorial documents do not accurately reflect landholding patterns at the level of cultivation because they conceal engrossment and leasing on the subtenancy market. Reconstructing the size of farms from manorial documents means we observe landholding from the perspective of the manor. For example, a manorial survey might have recorded two tenants each holding 10 acres of land. Using the manorial document alone would lead us to calculate the mean size of farms at 10 acres. In reality, we have not calculated the mean size of farms, but the mean size of properties on this manor, since as the previous section has shown, there is no guarantee that the configuration of holdings recorded in manorial documents bore any relation to their configuration as working farms. Hereafter, I

refer to figures calculated using this method as the 'size of properties' or simply 'property size'. Using records levied on the occupiers of land, such as poor rates, might reveal that these two 10-acre holdings were leased by a subtenant who had combined them to form a single 20-acre holding. From this perspective, we would calculate the mean size of farms to be 20 acres. I refer to this process as calculating the average size of farms because the calculation is based on the size of a holding as it was cultivated. In this example, the average size of properties is therefore 10 acres, while the average size of farms is 20 acres.

The only direct comparison of property and farm size remains Harrison's study of sixteenth-century Cannock. In his analysis of seventeenth- and eighteenth-century agriculture, Robert Allen used Harrison's data to argue that subletting did not distort the size of farms recorded in manorial documents. Allen calculated that if the smallest holdings of under 10 acres are excluded, the average farm was 51 acres in 1554 compared to the average property which was 56 acres in 1554.[65] Harrison found that there were more occupiers than manorial tenants, which resulted in the subdivision of many manorial properties, and there is some evidence to suggest that Cannock was not typical in this regard. Juliet Gayton has identified the reverse trend, engrossment at the level of farm occupation, in seventeenth-century Hampshire. Hipkin has also identified a number of cases in which occupiers held leases from multiple owners in seventeenth- and eighteenth-century Romney Marsh. In the eighteenth century, farms in the Dorset and Somerset parishes of Englishcombe, Huntspill, and Trent were between around 30 to 45 per cent larger than properties.[66]

We can directly compare the size of manorial tenants' holdings (properties) and occupiers' holdings (farms) because both are needed to reconstruct subletting activity. Properties and farms that were smaller than 10 acres have been excluded from the analysis because Allen argued that the principal discrepancy in the averages at Cannock occurred on farms and properties smaller than 10 acres. The average size of farms and properties have been compared for both Earls Colne and Puddletown, the results of which are set out in Table 6.

Two important findings emerge. Firstly, the average size of farms and properties differed considerably. While the averages converged in some years such as in 1725 at Puddletown, there were significant discrepancies between the averages in many years. For example, in the 1750s, farms were on average slightly more than 24 per cent larger than properties at Earls Colne, while at Puddletown, farms were almost 40 per cent larger in 1792. These are significant margins of error between the size of farms as calculated using manorial documents and poor rates. If these error margins are applied to Allen's work, which locates the decline of yeomen between the seventeenth and eighteenth centuries, the proposed disappearance of this class of farmer over this period is not supported by the data.[67]

The second important finding is that in each decade farms were larger than properties. This is to be expected, because as Section IV shows, occupiers engrossed their holdings by subleasing properties from several different owners. Table 6 captures the result of this process and shows that manorial documents systematically underestimate the size of farms. We can interrogate the relationship between farm size and property size further by comparing annual

[65] Allen, *Enclosure*, pp. 75–6, n. 26.

[66] Somerset Heritage Centre (hereafter SHC), D\P\hun/20/1/6, DD\X\JONES/1, and T\PH\dcl/10–11.

[67] Allen, *Enclosure*, pp. 56–106.

TABLE 6. Average size of properties and farms in Earls Colne and Puddletown, 1722–1806

Year(s)	*Farm (acres)*	*Property (acres)*	*Difference (%)*
Earls Colne			
1722–29	39.91	35.79	10.32
1730–39	39.54	36.27	8.28
1740–49	43.65	36.67	15.99
1750–59	50.85	38.56	24.16
1760–69	46.15	42.03	8.94
1770–79	46.28	42.93	7.23
1780–89	49.31	42.38	14.05
1790–99	54.25	43.46	19.89
1800–06	52.13	43.02	17.48
Puddletown			
1725	39.55	37.97	4.01
1775	68.51	55.46	19.05
1792	100.61	62.00	38.38

Source: See Table 1.

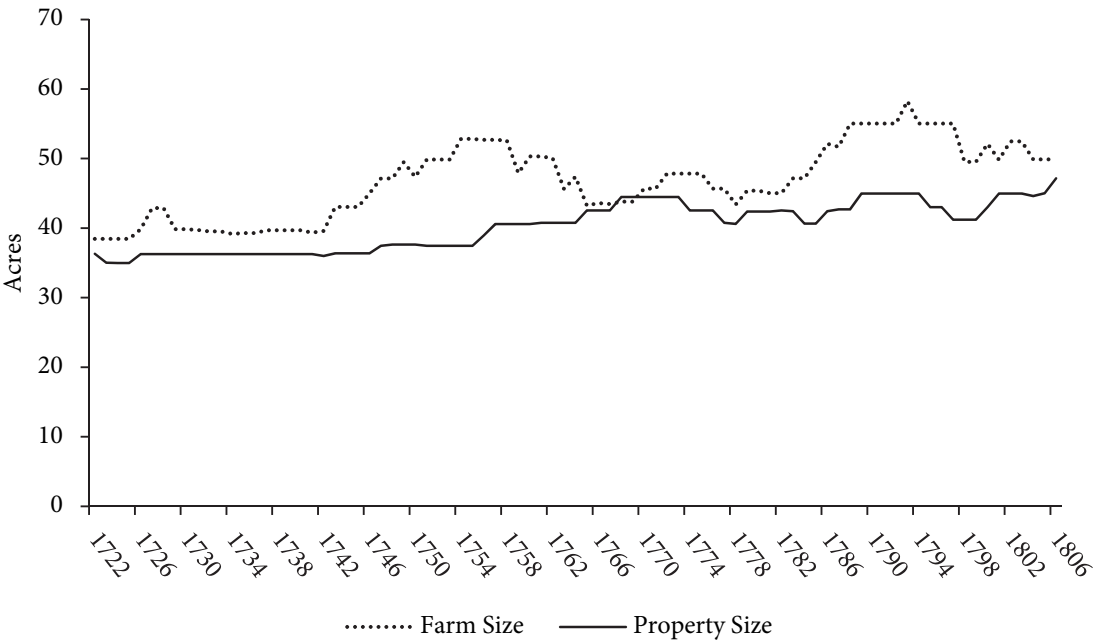


FIGURE 3. Yearly average farm and property size at Earls Colne, 1722–1806

Source: See Table 1.

average farm size and property size between 1722 and 1806 at Earls Colne (Figure 3). Only in 1768 and 1769 was the average property larger than the average farm. In all other years across the period, the average farm size was larger than the average size of properties. Furthermore, the manorial averages conceal substantial fluctuations, which the new farm size data capture. The discrepancy between farm sizes and estimates drawn from manorial records is likely to be even larger when cross-parish occupancy is taken into account, as manorial documents also only recorded land within the jurisdiction of the manor. While poor rates are also liable to distortion caused by cross-parish farm occupancy (and future work needs to reconstruct subletting across adjacent parishes), manorial documents doubly underestimate the size of farms.

Manorial documents therefore conceal important trends in the size of farms that require further investigation. Furthermore, reconstructing the size of farms longitudinally is also crucial for identifying and understanding fluctuations in farm size. Work to date has focused on snapshot evidence of farm size, and this approach shows that this misses the ebb and flow we observe in the size of farms at Earls Colne in the eighteenth century.

VI

This study outlines a new methodology to reconstruct the activities of subtenants, which continue to be overlooked in macro-economic narratives of agrarian change in early modern England. It is possible to reconstruct eighteenth-century subletting in considerable detail and to map subtenants' holdings: where appropriate sources survive, this methodology can be applied across the early modern period. The socio-economic base of subtenants was broader than has hitherto been assumed and subletting was a strategy that many cultivators employed to consolidate and engross their holdings. Manorial documents conceal an active market for subleases, which must be uncovered to achieve a fuller understanding of early modern agriculture and farming practices. Subleases were often short but there was no disparity in the length of time that subtenants and owner-occupying manorial tenants stayed on particular holdings. Although owner-occupying farmers could cease farming and retain their asset, which certainly afforded them tenurial security that subtenants did not enjoy, in practice this does not seem to have resulted in an overall discrepancy in continuity of occupation. Finally, manorial documents reflect patterns of ownership rather than occupation and, because occupiers engrossed their holdings, lead us to underestimate the size of farms. Furthermore, manorial documents have concealed short-term fluctuations that are captured by longitudinal farm size data, raising the tantalizing prospect that short-term changes in farm size may reflect occupiers' family life cycles and agricultural prices.

Pig clubs and backyard chickens: the significance of household producers in Britain in the Second World War

by Paul Brassley

Abstract

This article attempts to evaluate the significance of pig and poultry production on holdings of less than one acre in the UK during the Second World War. Since most of these holdings were owned or managed by people who did not identify themselves as farmers, they are termed 'household' producers, and many of them were found in urban areas. The article examines the reasons why such producers were encouraged to engage in pig and poultry production, and the difficulties they encountered in doing so. It concludes that, from a low base, their output increased rapidly, so that by the end of the war it accounted for a significant proportion of national egg and pig-meat supplies. The article also briefly examines some of the myths that subsequently developed around this form of production.

In the last year of the Second World War, roughly 10 per cent of the United Kingdom's pig-meat output, and 40 per cent of all the eggs, were produced on holdings of less than one acre, and a significant proportion of these were in towns.[1] In 1944 a Ministry of Agriculture official claimed that ten per cent of home-produced food was grown in gardens and allotments, and a survey in that year revealed that 12 per cent of urban houses were keeping productive livestock of one kind or another.[2] This study investigates the extent and significance of these activities, and examines the concomitant policy issues: how they were promoted or encouraged, problems of feedstuff supplies and animal diseases, and the planning, health and amenity problems that arose from the rapid expansion of urban livestock husbandry under the guidance and control of government departments with conflicting opinions and objectives.

[1] K. A. H. Murray, *Agriculture* (1955), p. 247.

[2] R. H. Best and J. T. Ward, *The garden controversy* (Wye College, Department of Agricultural Economics, Studies in Rural Land Use, 2, 1956), p. 5 quoting Hansard, 15 Mar. 1944; G. Thomas, *Domestic food production: an enquiry carried out for the Ministry of Agriculture and Fisheries in September 1944* (Wartime Social Survey, new ser. 54, May 1945, London School of Economics, UK Government Collection, 13539/19–30).

I

In 1939 the UK was a food-importing economy. In his official history of wartime agriculture, Sir Keith Murray estimated that 70 per cent of food supplies, measured in terms of value, came from overseas in the years just before the war. The import proportion varied from one food to another: whereas all of the liquid milk was home-produced, imports accounted for half of the meat, 84 per cent of the sugar, oils, and fats, 88 per cent of the wheat and flour, and 91 per cent of the butter. In addition, about a quarter of domestic livestock production was dependent on the 8.7 million tons of animal feedstuffs imported annually. In the event of war it was thought that food imports as a whole could be cut by a quarter, in which case the relative cost, in terms of shipping space, would become a crucial consideration. In 1940 John (later Lord) Boyd Orr, the Scottish nutrition expert, calculated that a ton of wheat required 50 cubic feet of shipping space, and a ton of butter 55 cubic feet. The wheat produced 56 kilocalories (kcals) of energy per cubic foot, and the butter 143 kcals. On the other hand, a ton of bacon would require 110 cubic feet of shipping space and produce only 39 kcals per cubic foot, and a ton of eggs in shell would take up 120 cubic feet and produce only 12 kcals per cubic foot.[3] Obviously bacon and eggs were sources of protein rather than energy, but the calculation gave some idea of the relative costs. It was not a new problem. The U-boat campaign in the First World War had also produced food shortages, and there was corresponding official concern in the 1930s that any new war would have a similar impact.[4] The policy response was threefold: food rationing to reduce demand, extensive government control and support of agriculture and horticulture to increase home-produced supplies, and encouragement of household food production, the 'Dig for Victory' campaign.

The story of wartime food production and consumption in the UK has frequently been told, and recent work has added a European dimension.[5] Similarly the response of the agricultural industry to the onset of war was celebrated in a Ministry of Information publication in 1945, and analysed in Murray's official history and in several subsequent historical works, of which Short's are the most recent.[6] The principal features of the story are thus well known. The wartime diet was nutritionally adequate, relatively high in energy and fibre and low in fat,

[3] Murray, *Agriculture,* pp. 39 and 45. A significant proportion of pre-war egg supplies were imported from the Netherlands and Denmark and were therefore no longer available after 1940; see Janet W. Strang, 'Farm poultry keeping: a flock for every farm', *Agriculture* 47 (1940–41), pp. 21–4.

[4] A. F. Wilt, *Food for War: agriculture and rearmament in Britain before the Second World War* (2001).

[5] R. J. Hammond, *Food,* I, *the growth of policy* (1951); A. Calder, *The People's War: Britain, 1939–1945* (1992); I. Zweiniger-Bargielowska, *Austerity in Britain: rationing, controls, and consumption* (2000); Wilt, *Food for war*; F. Trentmann and F. Just, *Food and conflict in Europe in the age of the two world wars* (2006); L. Collingham, *The taste of war: World War Two and the battle for food* (2011); I. Zweiniger-Bargielowska, R. Duffet and A. Drouard (eds), *Food and war in twentieth-century Europe* (2011); P. Brassley, Y. Segers and L. Van Molle (eds), *War, agriculture, and food: rural Europe from the 1930s to the 1950s* (2012); there are also several recent popular accounts such as Jane Fearnley-Whittingstall, *The Ministry of Food: thrifty wartime ways to feed your family today* (2010); D. Smith, *The spade as mighty as the sword: the story of the Dig for Victory campaign* (2011); W. Sitwell, *Eggs or anarchy* (2016).

[6] Ministry of Information, *Land at war* (1945); Murray, *Agriculture*; B. Short, C. Watkins and J. Martin (eds), *The front line of freedom: British farming in the Second World War* (2007); B. Short, *The battle of the fields: rural community and authority in Britain during the Second World War* (2014).

and according to Calder gave nearly a pound of meat per person per week.[7] Food imports were cut from 20.7 million tons in the first year of the war to 11.6 million tons in the final year, so the shortfall had to be met by home production.[8] The overall home-produced output only increased a little – by about 8 per cent in volume terms – and much of the adjustment to wartime conditions involved concentrating on the production of cereals and potatoes and correspondingly reducing the output of animal products, with the exception of milk.[9] The arable acreage increased by more than 50 per cent, the output of cereals and potatoes doubled and vegetable production nearly doubled. Milk production was maintained at roughly pre-war levels (which were sufficient to maintain only the liquid market) and beef and sheep-meat output declined only a little.[10] The principal change was in the intensive livestock, pigs and poultry.

There are two different ways of feeding pigs and poultry. One is to use them as scavengers, leaving them to find their own living around the farmyard or garden, or feeding them on household food waste. This method can support only a few animals per farm or household, but it was the traditional means of keeping pigs and chickens.[11] The alternative was to keep greater numbers of animals in specialist units fed on specifically formulated cereal and protein rations. This is the way they are kept commercially today, and it was one of the expanding features of inter-war agriculture.[12] For wartime policymakers, the problem with this latter approach was that it used a high proportion of raw materials, often imported, that could equally well be eaten by people. As Sir Thomas Middleton argued after the First World War, 'It is better to keep five men alive on barley meal, than one comfortably nourished on pork'.[13] In consequence, official policy restricted the supply of rationed foodstuffs to large-scale pig and poultry producers, and so by 1943 pig-meat production was down to one third of its pre-war level. Much of what remained was processed as bacon, and pork had virtually disappeared from the market. Similarly the output of eggs in the same year was down to 38.5 per cent of its pre-war level, and poultry meat, which in any case had formed only about 6 per cent of pre-war meat supplies, was down to about 60 per cent of its pre-war output.[14] At the same time, it was recognized that common household practices also produced vegetable peelings, plate waste and leftovers that might not be suitable as human food but could be used to form at least a part of the diet of intensive livestock: 'Any development in poultry keeping to be encouraged under existing conditions should, therefore, be mainly in two directions – the keeping of a small number of birds by householders and cottagers to utilize kitchen and garden scraps, and

[7] Calder, *People's war*, p. 380.

[8] Murray, *Agriculture*, p. 152.

[9] P. Brassley, 'Wartime productivity and innovation, 1939–45', in Short *et al* (eds), *Front line of freedom*, pp. 36–54.

[10] Murray, *Agriculture,* pp. 373–5.

[11] P. Brassley, 'Animal Nutrition', in E. J. T. Collins (ed.) *The agrarian history of England and Wales*, VII, *1850–1914* (2 vols, 2000), I, p. 577.

[12] P. Brassley, 'British farming between the wars', in P. Brassley, J. Burchardt and L. Thompson (eds), *The English countryside between the Wars: regeneration or decline?* (2006), p. 194; A. Woods, 'Rethinking the history of modern agriculture: British pig production, *c.*1910–65', *Twentieth-Century British History* 23 (2012), pp. 165–91.

[13] W. A. Stewart, 'Pig keeping in war time', *Agriculture* 46 (1939–40), p. 627. Middleton was the author of *Food Production in War* (1923), the official history of agriculture in the First World War, when he had been in charge of the Food Production Department of the Board of Agriculture.

[14] Murray, *Agriculture*, pp. 373–5.

larger numbers on general farms, where poultry can be kept on free range and can forage for much of their food'.[15] A wartime survey found that '20 per cent [by weight] of all the vegetables brought into the house became wastage in the form of peelings, outer leaves, and stalks before the vegetables were cooked'.[16] Thus a return to treating pigs and poultry as scavengers, kept in small numbers close to where the waste was produced, made sense in wartime conditions, as James Scott Watson, professor of agriculture at Oxford, argued in an article in the Ministry of Agriculture's journal in 1940.[17]

But the problem facing wartime policymakers was not simply one of nutrition. Food also affected morale and relationships with authority. The Ministry of Information's Home Intelligence report for 24 July 1940 found that the scarcity of eggs was the chief topic of discussion in the markets of the poorer districts of London, and a few days later the shortage of eggs was said to be 'causing annoyance' in Nottingham. In September 1940 there was 'grumbling at the shortage of eggs in Nottinghamshire and Leicestershire, and annoyance at official announcements that eggs are plentiful'.[18] The introduction of egg rationing in mid-1941 created adverse comment in the press, which was answered by a series of explanatory radio broadcasts in early 1942.[19] As the Wartime Social Survey revealed in 1942, the foods that people considered essential were those items of their traditional diet that they missed most.[20] Similarly, those who wrote the official guide to feeding soldiers clearly felt that military morale would best be maintained by a diet founded on traditional British cooking, nutritional science and food shortages notwithstanding, and their opposite numbers in the Air Ministry also provided bomber crews with real eggs and bacon before or after their missions.[21] Consequently, when the Dig for Victory campaign began, the production of pigs and poultry outside the farm, in gardens and allotments, was a significant part of it.[22] Hitherto, however, historians have concentrated on the story of wartime food production on the farm. Despite Murray's reminder that the story would be 'incomplete' if it said nothing about backyard and garden food production, subsequent historians have given little prominence to it. Calder covers it in a paragraph, and a recent history of wartime agriculture does not mention it at all.[23] Some of those backyards and gardens containing pigs and chickens were found in towns and suburbs.

[15] Janet W. Strang, 'Poultry keeping in war time', *Agriculture* 46 (1939–40), pp. 660–3.

[16] G. Wagner, *Vegetable consumption in four selected towns: a survey made for the Ministry of Food* (Wartime social survey, new ser. 56, Oct. 1945, London School of Economics, UK Government Collection, 13539/19–30).

[17] J. A. Scott Watson, 'Nineteenth-century pig keeping', *Agriculture* 47 (1940–41), pp. 15–21

[18] P. Addison and J. A. Crang, *Listening to Britain: Home Intelligence reports on Britain's finest hour – May to September 1940* (2010), pp. 265, 275, 439. See also Vere Hodgson, *Few eggs and no oranges: a diary showing how unimportant people in London and Birmingham lived through the war years, 1940–1945* (1976).

[19] R. Farmer, *The food companions: cinema and consumption in wartime Britain, 1939–45* (2011), pp. 26–9.

[20] Calder, *People's War,* p. 383. See also S. O. Rose, *Which People's War? National identity and citizenship in wartime Britain, 1939–1945* (2003), p. 207.

[21] The War Office, *Manual of military cooking and dietary. Part I – General* (1940). I am most grateful to Derek Shepherd for the loan of this book.

[22] Wilt, *Food for war,* p. 189.

[23] Murray, *Agriculture*, p. 245; Calder, *People's war*, p. 430; Short *et al.* (eds), *Front line of freedom*. Recent popular histories of Dig for Victory (see n. 5) either cover pigs and poultry in a few unreferenced pages, or omit them entirely, and a recent academic article (F. Ginn, 'Dig for Victory! New histories of wartime gardening in Britain', *J. Historical Geography* 38 (2012), pp. 294–305) is entirely about vegetable production except for a single sentence on chickens.

There was nothing new about livestock in towns. In the eighteenth century Whitbread's brewery in London kept large herds of pigs fed on brewery waste, and before the development of the railway milk trade in the late nineteenth century there were many town dairies.[24] But as cities grew larger, and noise, smells, and manure came to be seen more as civic nuisances and sources of disease than an ordinary part of life, the likelihood of finding non-companion animals in urban areas decreased. Wartime production of animal food in towns and cities therefore required some changes in the natural assumptions and expectations of town dwellers and those who administered their lives. The remainder of this article therefore deals with three questions: how was backyard pig and poultry production in cities, towns, and suburbs encouraged and promoted in wartime; how significant was it; and what were the problems associated with it?

II

Before the outbreak of the war there was a presumption against the keeping of domestic livestock in towns, especially on housing estates directly controlled by local authorities. In January 1936, for example, Mr W. F. Holmes, president of the National Pigeon Association, wrote to the Ministry of Health asking for help in persuading local councils to rescind their prohibition on the keeping of pigeons: 'there are cases where the breeding and exhibition of pigeons have been the lifelong hobby of men now forced to leave their old homes and to live on housing estates, and the enforced termination of their hobby has caused them acute distress'. Despite subsequent correspondence, the Ministry consistently took the line that it was all a matter for local councils.[25] In May 1939 the National Poultry Council (NPC) was receiving complaints that poultry keeping was being banned on council housing estates. Since the keeping of cockerels in urban areas was strongly discouraged for nuisance reasons – urban householders were thought to be less tolerant of their dawn crowings than country people – urban poultry keepers had to buy in their laying fowls rather than breeding them themselves. This formed an important market for the poultry industry. In June 1939 the Secretary of the NPC wrote to the Secretary of the Housing Management Sub-Committee of the Central Housing Advisory Committee to point out that restrictions on poultry keeping affected 'up to 150 thousand householders, that is, counting only those on estates (about 40 per cent of the total) where poultry keeping is prohibited. Since these would normally purchase annually … about two million half-grown chicks or pullets', his members were naturally concerned.[26] Over the next couple of months a correspondence with several local authorities developed concerning the desirability or otherwise of allowing domestic poultry in towns, and in particular on local authority housing estates. The Medical Officer of Health of Cardiff City Council, for example,

[24] J. Thirsk, *Food in early modern England: phases, fads, and fashions, 1500–1760* (2007), p. 242; P. J. Atkins, 'The intra-urban milk supply of London, circa 1790–1914', *Trans. Institute of British Geographers* new ser. 2 (1977), pp. 383–99.

[25] TNA, HLG 52/1298, letter from W. F. Holmes, 8 Jan. 1936.

[26] TNA, HLG 37/19, letters from the Secretary of the National Poultry Council to the Secretary of the Central Housing Advisory Committee, Ministry of Health (15 May 1939), and to the Secretary of the Housing Management Sub-Committee of the Central Housing Advisory Committee, Ministry of Health (7 June 1939).

pointed out that his authority laid down strict regulations on poultry housing, with only one per cent of their 6750 council tenants keeping pigeons or poultry, and his was a typical example.[27] Pig keeping in urban areas was rarer still. Pre-war controls on urban livestock were produced by a combination of national and local Acts and bylaws, building covenants, tenancy agreements (which were usually most strict when the landlord was a public authority), and town and country planning. Section 92 of the Public Health Act, 1936, ruled that an animal should not be kept 'in such a place or manner as to be prejudicial to health or a nuisance', and model bylaws were issued by the Ministry of Health specifying the distance from a dwelling house at which a pigsty could be located. By 1939 one hundred local authorities had adopted these model bylaws, and the distances imposed varied from 15 to 100 feet. Similarly, the Medical Officer of Health for Manchester prescribed minimum standards for poultry housing.[28] There is a clear impression that urban livestock were officially discouraged.

As Wilt has so effectively demonstrated, central government planning for ensuring food supplies in the event of war began well before the outbreak of hostilities, with the Food Supply in Time of War Sub-Committee of the Committee for Imperial Defence meeting for the first time in May 1936.[29] For the agricultural industry, a grant of £2 per acre to encourage the ploughing up of permanent grassland was announced in May 1939 as part of a wider campaign to encourage food production in the UK.[30] The corresponding measure for the ordinary householder, again announced before the actual outbreak of war, this time in August 1939, was the Dig for Victory campaign. The Minister of Agriculture, Sir Reginald Dorman-Smith, called for 'not only the big man with the plough, but also the little man with the spade to get busy this autumn'. The image of a single boot on a spade became one of the best-known images of the war, being used on both the campaign poster and a MAF leaflet cover (Figure 1). The aim was to provide half a million more allotments, mainly in urban areas, and encourage the production not only of vegetables but also of small livestock, such as poultry and rabbits, on them. 'Let "Dig for Victory" be the motto of everyone with a garden and of every able-bodied man and woman capable of digging an allotment in their spare time' said the Minister.[31] Clearly, the implications of these official exhortations were at variance with pre-war legislation and practice on keeping livestock in towns.

The conflict between pre-war practice and wartime requirements was simply resolved by the passage of emergency legislation. The Cultivation of Land (Allotments) Orders of 1939 and 1941 permitted local authorities to take possession of unoccupied land suitable for use as allotments, and Defence Regulation (DR) 62A allowed them to set aside restrictive agreements on parks and open spaces for the same purpose. Most significantly for the purposes of the present discussion, DR 62B made it lawful 'notwithstanding restrictions in leases or tenancy agreements, … to keep pigs, hens or rabbits for the war period'. It also legalized the keeping of bees, pigs and poultry on local authority allotments, a practice previously forbidden.[32] The

[27] TNA, HLG 37/19, letter from J. Greenwood Wilson, the Medical Officer of Health, Cardiff City Council, to Mr W. H. Howes, secretary of the sub-committee on house management of the Central Housing Advisory Committee, Ministry of Health, 21 July 1939.

[28] TNA, HLG 71/621, Planning control over the keeping of pigs and poultry in towns.

[29] Wilt, *Food for War*, pp. 59–60.

[30] Murray, *Agriculture*, p. 57.

[31] Wilt, *Food for War*, p. 189.

[32] TNA, HLG 71/621.

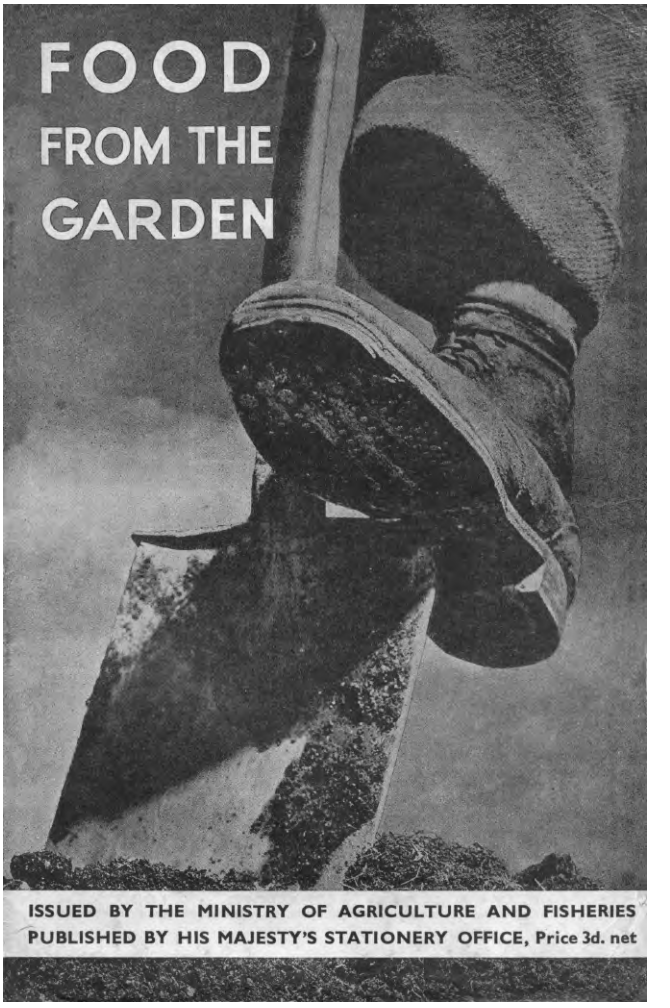


FIGURE 1. Cover of MAF 'Growmore' Bulletin No. 1, *Food from the Garden* (1941).

Photo: Library of Rural and Agricultural Literature (LIBRAL), www.libral.org.uk.

legislation was reinforced by intensive propaganda and the efforts of several semi-official organizations. There were posters, leaflets, Dig for Victory Weeks, radio talks, demonstration plots, and shows.[33] In 1941 Penguin Books published a handbook, ostensibly on the use of waste food for feeding chickens and rabbits; in fact it was a reasonably comprehensive guide to all aspects of backyard poultry and rabbit production.[34] From the spring of 1942 the Ministry of Information regularly released a series of short *Food Flash* films, several of which were concerned with household poultry production.[35]

The National Allotments Society turned over its whole organization to supporting the Dig for Victory campaign, and received an Exchequer grant to cover the extra expenses involved in doing so. The Small Pig Keepers' Council (SPKC) was also formed early in the war under the

[33] Murray, *Agriculture,* p. 246.

[34] C. Goodchild and A. Thompson, *Keeping poultry and rabbits on scraps* (1941). Penguin published a facsimile edition in 2008.

[35] Farmer, *Food companions*, pp. 37, 230–6.

auspices of the Ministry of Agriculture. Its objectives included encouragement of pig keeping 'by all persons who are not engaged in the production of pigs as a means of livelihood'; encouragement of the use of edible waste for pig food; supervising and assisting in the management of pig clubs and advising their members on pig husbandry; and arranging for the provision of feedstuffs. In March 1940 the Domestic Food Producers' Council was established to cover all aspects of home food production, and from it, in September 1940, evolved the Domestic Poultry Keepers' Council (DPKC), with the aim of 'securing the effective use of household and garden waste and organizing available supplies of purchased feedingstuffs'. A year later, it also took on the role of assisting domestic rabbit keepers.[36] It is interesting to note that, in the month before the DPKC was formed, Mr Franklin, a civil servant in the Ministry of Agriculture and Fisheries, noted that the Poultry Committee of the Domestic Food Producers' Council had recommended that there should be no propaganda for backyard poultry because it was already growing as fast as was consistent with the supply of reliable birds, that backyard poultry units should normally comprise six birds, and in no case more than twelve, and that development should be mainly directed to urban and suburban areas.[37] By the end of 1940, therefore, the pre-war presumption against keeping domestic livestock in towns had been overturned, and arrangements were in place to encourage and organize an urban contribution to the national food supply. But how significant a contribution was it?

III

Two problems arise when discussing the contribution of 'the little man with the spade' (and presumably also the woman, especially if she was carrying a bucket of food scraps to feed the pigs and chickens) to food production in wartime.[38] The first is to assess the contribution of these household producers to total national food production.[39] The second is to estimate the proportion of household production that arose from urban areas. The first of these is more easily assessed and will be discussed first; the second is much more complex.

The secondary literature emphasizes the enthusiasm with which people took up producing their own food in wartime, but there is some evidence that this took time to develop.[40] In December 1939, for example, J. A. Caseby, an Inspector in the Ministry of Agriculture and Fisheries at Lytham St Annes wrote to his colleague Mr Whytehead in London: 'Reports

[36] Ministry of Agriculture and Fisheries, *Committee on the organization of domestic food producers* (1950), pp. 1–3, subsequently referred to as 'Brown Report'. There is a copy in TNA, HLG 101/309.

[37] TNA, MAF 54/94, note by Mr Franklin, 21 Aug. 1940.

[38] A Ministry of Food advertisement encouraging the saving of food waste employed the following verse: 'Because of the pail the scraps were saved / Because of the scraps the pigs were saved / Because of the pigs the rations were saved / Because of the rations the ships were saved / Because of the ships the island was saved / Because of the island the Empire was saved / And all because of the housewife's pail'. Smith, *Spade as mighty as the sword*, p. 179 contains this verse but provides no source for it.

[39] Official wartime publicity generally assumed that women would be responsible for food preparation in the kitchen, as Farmer, *Food companions,* pp. 22–3 demonstrates. However, as Dorman-Smith's reference above to both men and women digging allotments suggests, and the publicity given to the Women's Land Army might also indicate, the gender division in wartime food production was much less clear-cut.

[40] E.g. Calder, *People's War*, p. 430.

in local papers show that Blackpool and Fleetwood Corporation can't give away allotments. People prefer *darts* [emphasis in the original] to hard work. It is a sad business'.[41] Nevertheless, the figures for the war as a whole suggest that such reluctance was soon overcome: from just over 800,000 allotments covering 95,700 acres in 1939 the number increased to 1,451,888 in 1942, occupying 142,808 acres. In March 1944 the Private Secretary to the Ministry of Agriculture said, in response to a Parliamentary Question, that the output of gardens and allotments represented 10 per cent of all home-produced food, and Murray estimates that this land produced between 2.5 and 3 million tons of food. Given that the total output of cereals, potatoes, sugar beet, and vegetables in 1944 was some 24 million tons, these figures would appear to be of the correct order of magnitude.[42]

Household producers also kept pigs and chickens. Some individuals raised pigs, and others joined pig clubs. Those in owners' clubs were allowed to kill two pigs per year for home use, and had no obligation to sell pigs to the Ministry of Food, whereas those in cooperative clubs could also kill two per year per member, but also had to sell at least the same number to the Ministry.[43] Members of clubs, in return for feedstuffs, gave up their right to a bacon ration amounting to 13 lbs per person per year, but their pigs would produce between 300 and 400 lbs of pig meat, equivalent to between 240 and 320 lbs of bacon, assuming all went well and the pigs did not succumb to disease. They had to apply for a licence to slaughter, and the resulting pig meat could be consumed only by the licensee, members of his household, guests sharing meals, and, in the case of farmers, living-in workers.[44] The official attitude to these pigs was that they were to be used for the benefit of those who had put the work into feeding and caring for them. The slaughter regulations (Ministry of Food form F.460, 24 June 1943) stated that 'A licence will not be granted to a person who has bought a pig and simply paid for its keep', and Mr Franklin, a civil servant in MAFF headquarters in London, felt that the regulation was justified, since its 'relaxation would open the way for the well-to-do to keep a pig and engage an odd-job man to look after it'.[45]

The expansion in the number of pig clubs is apparent from Table 1, which also demonstrates that the number of pigs slaughtered on holdings of less than one acre rose as the total number of pigs in the country as a whole was more than halved. It should also be noted that, in addition to the pigs registered with pig clubs, there were also estimated to be about 50 per cent more unregistered domestic pigs.[46] This implies a total of about 210,000 pigs on holdings of less than an acre in 1944, or about 12 per cent of the national pig herd of 1.8 million pigs that year.[47] Murray's data for slaughterings of pigs from these household herds, quoted in Table 1, suggest that their contribution to the total rose from nearly nine per cent in 1940–41 to about 15 per cent in 1944, partly due to an increase in the household herd but more to a decrease in the total

[41] TNA, MAF 54/91, letter from J. A. Caseby, 4 Dec. 1939.

[42] Best and Ward, *Garden controversy*, p. 5, quoting Hansard 15 Mar. 1944; Murray, *Agriculture,* pp. 247 and 375.

[43] TNA, MAF 126/2, Small Pig Keepers' Council, *Annual Report*, year ending 31 Mar. 1945.

[44] TNA, MAF 126/42, Memo for the Lord President's committee, 28 Aug. 1942.

[45] TNA, MAF 126/42, Pig Keeping Self Suppliers, 1940–44.

[46] Murray, *Agriculture*, p. 247.

[47] Ministry of Agriculture, Fisheries and Food [MAFF], *A century of agricultural statistics: Great Britain, 1866–1966* (1968), pp. 126–7.

TABLE 1. Household pig production

	Number of pig clubs	*Number of pigs in pig clubs ('000)*	*Number of pigs slaughtered on holdings of less than 1 acre ('000)*	*Total pigs slaughtered in Great Britain ('000), excluding those from self-suppliers*
Pre-war	0	0	272	4466
1940–1	735	15.316	260	2558
1944–5	6900	142	323	2152

Source: Murray, *Agriculture*, p. 247; Central Statistical Office, *Fighting with Figures: a statistical digest of the Second World War* (1995), p. 76.

national herd as the trend in decreasing national pig numbers continued. However, a sample survey of 3,614 households spread across 30 towns and eight rural districts in September 1944 estimated that only six per cent of the 1.33 million households that kept livestock actually kept pigs, and that on average they slaughtered 1.5 pigs per year, which implies about 120,000 slaughterings per year in total. The report on the survey admits that its coverage of rural districts was inadequate, and that these were the areas in which pigs were more likely to be kept, so this figure is likely to be an underestimate, but it is enough to cast some doubt on the accuracy of Murray's estimate.[48]

Just as pig keepers could surrender their bacon ration in return for permission to consume their own pigs, backyard poultry keepers could surrender their egg rations in return for 'balancer meal', a ration specially formulated to provide a balanced diet to poultry that would obtain most of their food from kitchen or garden waste.[49] The membership of the DPKC increased from 791,000 in 1940–41 to 1,369,000 in 1945, and whereas there were just over 5 million hens in domestic flocks before the war, the number was over 10 million in 1944–45. Egg production from domestic flocks increased from 650 million pre-war to 970 million in 1944–45, when total national egg production was 2075 million.[50] Across the social spectrum gardens acquired hen runs and poultry houses, although often middle and upper class householders, with their bigger gardens, must have found it easier to find room for them. Diana Cooper, for example, married to Duff Cooper, the Minister of Information in 1940, had a house in Bognor on the Sussex coast where she kept a cow, hens, four goats, and seven pigs, finding that 'the life of an intelligent rustic labourer suits me to perfection'.[51] Likewise Virginia Potter, an American woman married to a Grenadier Guards officer, took a house near Windsor to be near her husband, and wrote to her mother in the USA that now she was settled '… we are going to

[48] Thomas, *Domestic food production*, pp. 3, 7, 12.

[49] Brown Report, p. 23.

[50] Murray, *Agriculture,* pp. 247 and 375. Note that Murray, p. 247, states that egg output from domestic flocks in 1943–44 was 25 per cent of the national total, which appears to be at variance with the figures he gives on the later page. Murray's figures for the size of the domestic hen flock also vary slightly from those given in the Brown Report, p. 23, although this difference is probably a result of slightly different accounting periods.

[51] P. Ziegler, *Diana Cooper* (1983), pp. 235–8; her husband later noted in his diary 'The charm of amateur farming caught many people in wartime and persists in peace. It makes no appeal to me'; J. J. Norwich, *The Duff Cooper Diaries* (2006), p. 462.

breed rabbits, ducks, geese and chickens like mad and DIG DIG DIG for Victory'.[52] The rabbits proved susceptible to disease, but by 1944 she (with the aid of a gardener and a Land Girl) was producing large amounts of garden produce, and enough poultry to be able to sell, over the year, six geese, four sittings of goose eggs, 336 goose eggs, and 250 hen eggs.[53] These women had access to the space, time, money and labour that working class men and women would have found more difficult to acquire. But were they urban producers? Before the war they were both urban residents with cosmopolitan attitudes, and during the war they were living close to urban areas. We should therefore now turn to the question of what proportion of household production came from urban areas.

There is both statistical and anecdotal evidence for wartime urban food production. The initial evidence comes from a sample of 1704 town and country gardens surveyed in 1942. This revealed that before the war 47.5 per cent of the town gardens grew flowers and vegetables, with another 8.5 per cent growing only vegetables. By 1942 the proportion growing vegetables had increased to 80 per cent.[54] A larger survey of 3614 households in 30 towns and eight rural districts in England and Wales was made in 1944. A large majority – 3190 – of these households were in urban areas, and 40 per cent of them were growing fruit and vegetables, while 22 per cent had uncultivated gardens, and 38 per cent had no gardens at all. The proportion of households with cultivated gardens varied from 75 per cent in the south east region to 25 per cent in the north east and only 11 per cent in the north west.[55] The preponderance of terraced housing in northern industrial towns limited the number of gardens found in them. A wartime survey of Middlesborough, for example, found that 62 per cent of houses had no garden, and the figure rose to 98 per cent in the older parts of the city.[56] The proportion of houses with livestock in Thomas's 1944 survey varied significantly between urban and rural areas: 12 per cent of urban households had livestock, compared with 31 per cent in rural areas. As we have seen, only 6 per cent of households with livestock kept pigs, compared with72 per cent with laying hens, 58 per cent with other fowls, 30 per cent with rabbits, and ten per cent with ducks. A few kept geese, goats, bees, or other unspecified livestock. Of the laying hens, 62 per cent were in flocks of less than six birds, and the average number of rabbits, in those households that kept them, was 5.[57] It should also be noted that the under-represented 'rural' areas in this survey meant houses in rural administrative districts, i.e. rural district council areas, and most of these contained small towns. The question therefore arises of where the boundaries can be drawn between the urban and the rural, and indeed of whether they can be sensibly drawn at all.

[52] A. Potter, *Shared histories: transatlantic letters between Virginia Dickinson Reynolds and her daughter, Virginia Potter, 1929–1966* (2006), p. 105.

[53] P. Brassley and A. Potter, 'A view from the top: social elites and food consumption in Britain, 1930s–1940s', in Trentmann and Just (eds), *Food and conflict,* p. 231.

[54] Anon, *'Dig for Victory': an inquiry into the effects of the 'Dig for Victory' campaign made for the Ministry of Agriculture in August and September 1942*, (Wartime Social Survey, new ser. 20, London School of Economics, UK Local Government Collection, 13539/1–18).

[55] Thomas, *Domestic food production*.

[56] D. Chapman, *A social survey of Middlesborough, pt 1, introduction and social data,* (Wartime Social Survey, new ser., 50, Sept. 1945, pp. 29–30, London School of Economics, UK Local Government Collection, 13539/19–30).

[57] Thomas, *Domestic food production*.

The official perception, in some cases at least, seems to have been that animal keeping in towns was a success story. The Scott Committee report suggested 'that provision should be made similarly for town dwellers to keep pigs and poultry and in general to continue the rural occupations which have proved to have social, economic and educational advantages in time of war', although a civil servant in the Ministry of Town and Country Planning, commenting on this paragraph, observed that 'the recommendation … does not make clear why it is thought desirable that townsfolk should be encouraged in pursuits more suitable to the freer spaces of the countryside, pig keeping especially'.[58] There is also a revealing list, from 1939, indicating the range of possible policy conflicts and concerns, of the organizations that should be represented on the Ministry of Agriculture's advisory committee on backyard poultry keeping. Naturally it included various poultry farming organizations, from the National Poultry Council to the Chick Producers' Association and the Federation of Accredited Breeders, and a number of bodies associated with small-scale food production, such as the National Allotment Society and the Women's Farm and Garden Association, but there were also several organizations that indicated the involvement of urban interests, such as Association of Municipal Corporations, the National Union of Townsmen's Guilds, and the Urban District Councils' Association. The Board of Education and the Ministries of Health, Food, Information, Supply and Transport, together with the BBC, were also represented.[59]

Before and during the war there were poultry clubs in London: the Federation of London Poultry Societies had about 200 members, and several affiliated societies, in Walworth, Millwall, Kentish Town, Downham, Deptford, Dagenham and Bethnall Green; in other words, mostly working-class areas.[60] Whether their members were more concerned with show breeds or productive breeds is uncertain. The likelihood is that it was the former before the war and the latter during it. On an estate of 1600 houses at Frecheville in Sheffield there was a Domestic Poultry and Rabbit Club that was formed during the war at the suggestion of a Ministry of Agriculture organizer.[61] The concentration of pig clubs was greatest in the industrial counties, with the West Riding of Yorkshire (596 clubs), Staffordshire (420), Warwickshire (319) and Nottinghamshire (169) having the largest numbers of clubs in 1944. London had five pig owner clubs and 162 cooperative and canteen clubs.[62] Several Divisions of the Metropolitan Police in London started pig clubs in 1940. In L division, at Nine Elms, 80 members of the force were in the pig club, collecting waste food (swill) from local factories, cafes and schools, and the club was still in existence, albeit on a smaller scale, in 1952.[63] Twenty men at the Hyde Park police station joined the pig club, built a sty from timbers out of bombed houses, and collected swill from other police stations and nearby hostels. Westminster City Council collected 35,000 tons

[58] *Report of the Committee on land utilisation in rural areas* (Chairman, Lord Justice Scott) (Cmd 6378, 1942), para. 202 (iv); TNA, HLG 71/621, revised draft of comments on the Scott Committee report, 15 Feb. 1943, p. 1.

[59] TNA, MAF 54/91, organisations to be represented on the advisory committee on backyard poultry keeping, 8 Dec. 1939.

[60] TNA, HLG 101/309 contains a copy of the Federation's *Yearbook* for 1939, from which this information is derived.

[61] TNA, MAF 54/97, letter from W. H. Misfin , 12 May 1945.

[62] TNA, MAF 126/2, Small Pig Keepers' Council, Annual Report 1945.

[63] TNA, MEPO 2/6516, Metropolitan Police Pig Clubs.

of waste food, enough to feed 31,000 pigs from birth to killing weight. The Home Intelligence reports in the summer of 1940 contained information on the success of communal pig buckets in Chelsea and Mayfair, although there were complaints that the residents of Brixton were taking insufficient care to separate food waste from other rubbish. The swimming pool at the Ladies Carlton Club in Pall Mall was converted into a large pigsty, and cows and sheep grazed in the parks. Although national pig numbers more than halved between 1939 and 1943, and poultry numbers almost halved, the number of pigs in Middlesex and London increased by about 50 per cent in the same period, and poultry numbers were maintained.[64] On the roof of New Zealand House the caretaker's son grew wheat to feed chickens, and, according to Ziegler's portrait of wartime London, 'certain suburbs resembled a giant poultry yard, so great was the concentration of White Wyandottes, Black Leghorns and Rhode Island Reds'.[65]

As is sometimes the case, however, with stories of the Second World War, the post-war literature and popular memory preserves the positive. But there is another perspective. In May 1941 the Devon County War Agricultural Executive Committee asked Exeter City Council's Allotments Committee to consider the possibility of starting pigs clubs on the allotments. The committee's immediate reaction was to ask for more details, which were provided the next month by Mr Densham, an officer of the Executive Committee. Individual allotments committees were asked for their views: in July Stoke Hill and St Leonards associations reported that they 'did not desire to take any action in regard to pig keeping', and the St Thomas association had the matter under consideration. In September the city surveyor reported that the cost of a pigsty for six pigs would be £56, with a further £19 to bring water to the site, and the Allotments Committee resolved that further consideration of the matter be deferred until the following spring. No further action was ever taken, and neither did the committee minutes make any mention of poultry or rabbits. The Housing and Public Health committee minutes for Exeter are also silent on the subject of domestic livestock, as is the Totnes Rural District Council minute book.[66] Since it is unlikely that schools and canteens in Exeter and Totnes failed to collect pigswill, the most likely explanation for this apparent lack of interest in pig clubs seems to be that local farmers were near enough to urban sources to collect and use locally produced swill. But it is clear that not all urban residents were clamouring for membership of pig clubs or anxious to produce their own eggs.

IV

One of the possible reasons for lack of enthusiasm was the expense of constructing suitable housing. The estimate above, of a total of £75, was probably for properly built housing using new materials, and it needs to be seen in context. On the one hand, most pig and poultry

[64] Ministry of Agriculture and Fisheries, *Agricultural statistics, England and Wales, 1939–44*, part 1 (1947), p. 65.

[65] P. Ziegler, *London at war* (1995) pp. 257–8; M. Waller, *London 1945: life in the debris of war* (2004), p. 170; Addison and Crang, *Listening to Britain*, pp. 258, 265–6, 277.

[66] Devon Archives and Local Studies, Exeter City Archives, ECA/11/2, Allotments Committee Minutes, 1939–49, pp. 176–80; ECA/22/2, Housing Committee Minutes, 1936–46; ECA/26/3, Public Health Committee Minutes, 1938–44; R9/8/C/37, Totnes RDC Minute Book 1939–42.

houses were probably constructed by non-professionals using whatever materials they could find: a letter from an Urban District Council to the Ministry of Health in 1950 refers to 'all kinds of unsightly sheds and structures in … back gardens'.[67] Conversely, even if this cost estimate is cut by a factor of three or four, it needs to be compared with an average weekly wage for unskilled labour in non-agricultural occupations of about £4 in 1940, and a Ministry of Agriculture inspector in 1939 specifically identified housing costs as a reason for the slow uptake of urban poultry 'for the majority of housing estate tenants, and there is the risk of having to give it up when the war finishes'.[68] There was also the question of expertise. At Exmouth in Devon, Esther Rowley's diary recorded that Saturday 16 May 1942 was an 'Awful day in the fowls world. Amber has squashed all her chicks … I blame myself a bit for not thinking it all out before'.[69]

Although keeping laying hens and fattening pigs does not necessarily require enormous amounts of technical knowledge or experience, urban residents were presumably less likely to have either than people living in rural areas. It was partly to deal with this that the Domestic Pig Keepers' Council employed 11 regional officers, one of whom lived in Cadogan Gardens SW3 and was responsible for London and Middlesex as well as Kent and Surrey. The Domestic Poultry Keepers' Council also had a few paid area organizers and over a thousand voluntary lecturers and local technical advisers. In March 1945, for example, the Upper Norwood Domestic Poultry and Rabbit Club enjoyed a talk, illustrated with coloured lantern slides, by Mr A. Eisen, the Ministry of Agriculture's Area Organizer. Earlier in the war the London Zoo ran courses on keeping poultry in confined spaces and rearing rabbits, bees, pigeons and silkworms.[70]

There were, therefore, some good reasons why people in towns might decide for themselves not to keep domestic livestock. Equally, there were reasons why local and national authorities could also be unenthusiastic: nuisance, feedstuff shortages, and the problem of the black market. Commenting on the Scott Report in 1943, a Ministry of Health civil servant listed the problems that were perceived to result from pigs and poultry in urban areas: 'injury to amenity through the erection of home made chicken houses … probability of smell, particularly, of course, in the case of pig keeping and of noise in the case of poultry … the attraction of vermin. The presence of foodstuffs … attracts mice and rats'.[71] The minute sheet on the front of the relevant file reveals that the word 'hens' was deliberately used in framing DR 62B so as to exclude cockerels from the list of animals that could be kept on housing estates from which domestic livestock had been excluded before the war.[72] Local authorities had been unenthusiastic about urban livestock before the war, and when the conflict was over they returned to the attack. Almost immediately after VE Day Mr W. H. Misfin, the president of the Domestic Poultry and Rabbit Club on the First National Housing Trust's estate at Frecheville in Sheffield

[67] TNA, HLG 52/1298, letter from the Clerk of Sedgley UDC to the Ministry of Health, Birmingham, 15 Mar. 1950.

[68] TNA, MAF 54/91, letter from J. A. Caseby, 4 Dec. 1939. Wages figures are given in Murray, *Agriculture,* p. 83. Agricultural wages were raised to £2 8*s*. in 1940.

[69] J. Folkes (ed.), *Dogs, goats, bulbs and bombs: Esther Rowley's wartime diaries of Exmouth and Exeter* (2010), p. 137.

[70] TNA, MAF 126/2, SPKC Annual Report, 1952; *Brown Report*, p. 24; Waller, *London 1945*, p. 171; Ziegler, *London at war*, p. 44.

[71] TNA, HLG 71/621, revised draft of comments on the Scott Report, 15 Feb. 1943, p. 6.

wrote to Tom Williams, then a junior minister in the Ministry of Agriculture, to enlist his support as a fellow Yorkshire miner. His club had been told that the Trust would withdraw permission to keep poultry 'when the end of the emergency period is reached', and he felt sure that Mr Williams, being a miner himself, would understand their feelings. Williams replied to the effect that no change was contemplated 'while the present difficult food situation continues', which meant at least two or three years.[73] In 1950 the Clerk to Sedgley UDC stated that his council's policy, in the light of continuing food shortages, was to permit a 'reasonable number' of hens to be kept, and not more than one or two pigs, but 'So far as other animals are concerned … the council impose a complete ban … and consequently noisy creatures, such as cocks and cockerels, geese and ganders, ducks and drakes, turkeys etc, are completely banned'.[74] The new post-war prefabricated bungalow ('prefab') estates created particular problems, because the building density was greater than on pre-war council estates. In 1946 the Town Clerk of Yarmouth wrote to the Ministry of Health asking for DR 62B to be amended because his council felt that 700 bungalows on a small area was too dense to allow for domestic livestock. In reply, both the Ministries of Health and Agriculture took the same line: domestic livestock could be prohibited on public health and nuisance grounds, notwithstanding the provisions of DR 62B, and the decision to do so was a matter for the local authorities.[75] This was not enough for some of them. In 1948 the Town Clerk of Grimsby wrote to the Ministry of Health asking for Defence Regulation 62B to be repealed so that his council could close down piggeries whose presence was 'far from desirable' from a planning viewpoint but which were not 'prejudicial to health or a nuisance within the meaning of the Public Health Act 1936'. In the event, DR 62B was not revoked until 1 July 1951.[76]

The foregoing list of problems applied specifically to urban pigs and poultry. There were also additional problems that applied to all small intensive livestock producers, whether they were located in the town or the country. One of these was the black market, which produced a complex mixture of activities and responses.[77] Another was the shortage of feedstuffs, which applied both to urban and rural producers, although it did have one specifically urban dimension in the question of pigswill. Although both urban and rural pig keepers used swill during the war, it seems likely that one of the reasons for promoting urban pigs was that they were closer to plentiful supplies of swill. Feedstuff supply problems increased official interest in swill feeding, and a Pig Experiments Co-ordinating Committee produced a report on it in 1940. They observed that it had hitherto been mainly confined to the neighbourhood of

[72] TNA, MAF 54/97, Removal of restrictions on keeping pigs and poultry, 1939–48.

[73] TNA, MAF 54/97, letters from W. H. Misfin, 12 May and by T. Williams, 28 May 1945.

[74] TNA, HLG 52/1298, letter from the Clerk of Sedgley UDC, 15 Mar. 1950.

[75] TNA, HLG 101/309, letter from Yarmouth Town Clerk 2 Aug. and reply, 26 Aug. 1946; see also MAF 54/97, Removal of restrictions on keeping pigs and poultry, 1939–48.

[76] TNA, HLG 71/621, letter from Grimsby, 23 Nov. 1948; written answers to Parliamentary Questions, 5 May 1952.

[77] In April 1945 Virginia Potter wrote 'I saw goose eggs in Fortnum and Mason's at 3*s*. 9*d*. each!! I sell mine for sixpence each, as am *not* Queen of the Black Market'. Potter (ed.), *Shared histories,* p. 211. The best recent work on the wartime black market is in M. Roodhouse, 'Popular morality and the black market in Britain, 1939–55', in Trentmann and Just, *Food and conflict*, pp. 243–65, and M. Roodhouse, *Black Market Britain, 1939–1955* (2013). Some of the issues that arose were also dealt with in the film, *A private function* (Handmade Films, 1984, dir. Malcolm Mowbray).

towns and large institutions, and felt that more use could be made of swill from smaller urban areas. Subsequent reports identified different qualities of swill, depending upon whether it comprised 'vegetable residues' or 'scraps of bread, meat or pudding', or a mixture of the two.[78] Nevertheless, and unsurprisingly in the face of significant wartime outbreaks of Foot and Mouth Disease (FMD), official attitudes to swill feeding remained ambivalent. On the one hand, it was clearly a way of providing additional food from the waste that was inevitable in preparing vegetables; on the other, since it was almost inevitably contaminated by scraps of meat and bone from meat imported from countries in which FMD was endemic, it was also a potential source of disease. For this reason, the Foot and Mouth Disease (Boiling of Animal Feedstuffs) Order required all swill to be boiled for at least an hour, and suspect imported meat supplies were supplied only to the cities, where the Waste Food Board, established in 1942, ran swill-boiling plants that were reasonably certain to kill the virus. The best known of these was in the Tottenham district of London. This gave its name to 'Tottenham Pudding', swill cooked to the point where it lost much of its moisture and became dry enough to be transported in sacks by rail. It became such a popular feedstuff for pigs and poultry that its price increased and many other towns installed the necessary equipment to process food waste. A contemporary textbook described Tottenham Pudding as 'good food for fattening and breeding pigs provided it did not contain such foreign materials as broken glass, crockery, and pieces of iron and nails'.[79]

V

Household food production (as opposed to farm output) in the Second World War accounted for a relatively small proportion – around ten per cent – of total national food supplies. This was about the same order of magnitude as the contribution of Lend-Lease supplies from the United States, which by 1943–44 contributed ten per cent of the energy and about 17 per cent of the protein and fats.[80] However, as the figures quoted earlier in this article suggest, household producers in Britain, defined as those with holdings of less than an acre in size, were probably responsible for a higher proportion of pig and poultry (and therefore protein and fat) production. Their egg production rose by about 50 per cent, and by 1943–44 formed 25 per cent of national egg supplies. By the following year the proportion was even higher. By 1945 the data in Table 1 above suggest that pigs from holdings of less than an acre accounted for about 15 per cent of the total pigs slaughtered in Great Britain, having contributed no more than five per cent before the war. However, as the discussion of Table 1 reveals, there remain

[78] Anon, 'Pig feeding with swill', *Agriculture* 46 (1939–40), pp. 692–3; V. C. Fishwick, 'Swill as a pig food', *Agriculture* 47 (1940–41), pp. 264–6; J. W. Reid, 'War-time feeding of pigs', *Agriculture* 48 (1941–42), pp. 94–8.

[79] A. Woods, *A manufactured plague: the history of Foot and Mouth Disease in Britain* (2004), p. 87; Anon, 'Pig feeding with swill', p. 693; A. Woods, 'A historical synopsis of farm animal disease and public policy in twentieth-century Britain', *Philosophical Transactions of the Royal Society B*, 366 (2011), pp. 1943–54; E. T. Halnan and F. H. Garner, *The principles and practice of feeding farm animals* (sec. edn, 1944), pp. 329–30.

[80] I. Zweiniger-Bargielowska, 'Fair Shares? The limits of food policy in Britain during the Second World War', in Zweiniger-Bargielowska *et al.* (eds), *Food and war*, p. 126.

doubts about the accuracy of the official data. Ginn demonstrates that this was also true of household vegetable production.[81]

Distinguishing between urban and rural producers among the overall category of household livestock producers is more difficult. A straightforward urban/rural dualism is hopelessly simplistic. There is a continuum from wilderness to metropolis, taking in cultivation, dispersed settlement, nucleated villages, and small and large towns on the way. It is now very difficult to identify the precise location in which urban animals were kept. Were they mostly in the suburbs? In big cities or small towns? When does a small town become a large village, and does urbanity stop at the small town boundary? The Wartime Social Survey's figures for rural areas were defined in terms of local authority districts, but both urban and rural district council areas would contain built-up areas and fields and uncultivated land. Categorizations are thus based on arbitrary distinctions, and because they work reasonably well for administrative purposes it does not necessarily follow that they will serve equally well to distinguish between areas where different experiences and attitudes to domestic animals were found. However, it does seem clear that the more rural an area, the more likely its residents were to keep poultry and/or pigs. Similarly, the larger the garden attached to a house, the greater the likelihood that it would contain pigs or poultry. Finally, irrespective of size, the closer a farm or smallholding was to an urban area, the more likely it was to be able to practise swill feeding and therefore the more likely it was to be able to keep pigs.

In looking back on wartime emergency circumstances, the question of whether or not the effort and resources used in household pig and poultry production proved worthwhile arises. One viewpoint is simply that eggs and pig meat were so scarce that any means of increasing their supply was worthwhile, especially if it used food by-products that would otherwise have been wasted. On the other hand, even waste products had some kind of cost. As Ginn has argued, household food production, whether of vegetables or animal products, challenged the ability of national government bodies to organize and control food supply and consumption.[82] It also required changes in the rules previously widely applied by local government, especially in regard to noise, smells and the presence of vermin. It probably made it more difficult to control the black, or (probably more accurately) grey markets for food. More specifically, there was a (probably unanswerable) question of whether the balancer meal supplied to household producers would have resulted in more or less protein production if it had been used on farms. There was also the direct cost of employing administrative and advisory staff to deal with household food producers, although it seems unlikely that the numbers involved were very significant.

To set against these costs, there were what might be called benefits to national morale, although again these were not unequivocal. Stories of producing and sharing eggs and pig meat were part of what subsequent historians have described or questioned as the 'people's war' or wartime social solidarity myth. An important part of this was the idea that rationing produced fair shares for all, irrespective of income or social class.[83] The fact that those who

[81] Ginn, 'Dig for Victory!', pp. 303–4.

[82] Ibid., p. 298.

[83] Zweiniger-Bargielowska, 'Fair Shares?', pp. 127–30; Rose, *Which People's War?*, p. 35; Ginn, 'Dig for Victory!', p. 302.

lived in houses with larger gardens were more likely to have space to keep pigs or poultry presents a challenge to this, although the increased availability of allotments to those without gardens is a counter-argument. As Ginn has also argued, what this further investigation of small-scale wartime food production reveals as much as anything is the complexity of the story.[84] Although the emphasis has been on urban pigs and poultry it has demonstrated the difficulty of isolating them from animals kept further from urban centres. On the other hand, it seems clear that in terms of feedstuffs, animal husbandry expertise, and official attitudes, there were perceptible urban/rural differences, although there were also class differences in both urban and rural areas, which may have been equally significant. For example, in 1941, *The Land Worker*, the journal of the National Union of Agricultural Workers, pointed out that farm workers living in tied cottages were often forbidden to keep livestock.[85]

This question of class differences in wartime is just one of the issues raised by this study of household pig and poultry production. Given the work of Sonya Rose and Ross McKibbin it is probably one of the best explored.[86] But there are others that have only been touched on here that clearly deserve further investigation. For example, although they are mentioned by most writers on wartime food production, there seems to be no recent detailed study of pig clubs. The proliferation of household production must also have posed questions for new pig keepers that they had never previously had to address, especially with regard to slaughtering and processing at a time when the domestic refrigerator was a rarity and the domestic deep freeze unknown.[87]

As we have seen, these conditions did not end overnight with the end of the war, but continued into the late 1940s and early 1950s. According to early post-war textbooks, there were two options for pigs sold to the Ministry of Food. They could either be taken to official collecting centres, which were pre-war livestock auction markets, from where they were allocated to slaughterhouses or bacon factories, or sent direct to bacon factories.[88] As noted above, for those that were not to be sold to the Ministry, it was still necessary to apply for a permit to kill, and to send the pig to a licensed slaughterhouse, 'unless the owner has previously held a permit to kill or if despatch to a slaughter-house would cause undue inconvenience. In such cases, a pig may be killed at home'.[89] The extent to which this escape clause was applied in practice is unknown, and it would form an interesting area of enquiry for anyone undertaking further research on the history of pig clubs.

[84] Ibid., p. 304.

[85] Rose, *Which people's war?*, p. 206. The reason that was usually advanced for this ruling was that it removed any temptation to use the farm's feedstuffs for the worker's livestock.

[86] Rose, *Which people's war?* esp. ch. 2 but also pp. 205–12; R. McKibbin, *Classes and cultures: England, 1918–1951* (1998) p. 531. See also Brassley and Potter, 'A view from the top'.

[87] Presumably it posed fewer difficulties for those who had kept pigs before the war. The author's grandmother, for example, who lived in a Lincolnshire village, kept a pig in a sty next to her outdoor earth closet from the beginning of the twentieth century to the 1950s. When its time came, her eldest son simply shot it with his rifle before helping her to butcher it and distribute the meat to the family and neighbours. At that time there were fewer slaughter regulations than there are now.

[88] H. R. Davidson, *The production and marketing of pigs* (1948), pp. 66–7.

[89] A. Morley, *The right way to pig keeping and breeding* (1950), p. 105.

VI

In April 1965 a civil servant in the Ministry of Agriculture, Fisheries and Food drafted a letter to be sent to Mr George Brown, who had been the first chair of the National Council for Domestic Food Production, but was then the Secretary of State for Economic Affairs:

> In the post war years, when the Council was formed, there was a food shortage and the Government had a positive interest from this standpoint in the food produced from allotments and by small pig and poultry keepers and others. Now these activities must be regarded as social and recreational rather than from the standpoint of food production; and they are therefore no longer of positive concern to my Department.[90]

This official reclassification of backyard intensive livestock production demonstrates a view that it was an extraordinary business for extraordinary times, a brief wartime and post-war episode when small-scale and urban pig and poultry production were seen as important enough to suspend several existing rules, regulations, attitudes, practices and expectations, and to return, temporarily, to what were seen as archaic and possibly uncivilized ways.

[90] TNA, MAF 126/100, National Council for Domestic Food Production – discussion of future, 1964–65. Another note in the same file suggests that the Ministry had come to this conclusion by 1960. In May 1965 responsibility for the Council was transferred to the Ministry of Land and Natural Resources on the grounds that the latter ministry was to enquire into policy on allotments.

REVIEW ARTICLE
A harvest gathered in: some implications of *British economic growth 1270–1870* for agricultural history*

by R. W. Hoyle

British economic growth 1270–1870 is the most important work on British economic history to have appeared in recent years or is likely to appear in the near future. Its relevance to agricultural historians may not be immediately apparent, and yet it is inevitable given the nature of the pre-industrial economy that the earlier chapters of the book should serve as a new account of English agriculture, indeed the fullest and most up-to-date account of English developments available. This account comes to striking conclusions and it is important that these are both widely known and appropriately tested in the future.

Whilst *British economic growth* puts our understanding of the British experience on a new footing, much of what it contains had been anticipated in earlier writings.[1] It offers a comprehensive account of change over 600 years, looking back to Domesday on occasion. (The date of 1270 merely reflects the commencement of the continuous series of statistical data employed by the authors.) This is a work of economic history in the tradition of national accounting whose founding father may be taken to be Angus Maddison.[2] (The intellectual genealogy of the book is described in its preface: no more needs to be added here.) The account of agriculture is merely a building block on the way to the larger ambition. This review is in essence a discussion of the three chapters of the book which discuss agriculture, with some reference to material drawn from elsewhere in the book. We are reading the book selectively for a purpose for which it was not intended.

* This is a selective review of parts of Stephen Broadberry, Bruce M. S. Campbell, Alexander Klein, Mark Overton and Bas van Leeuwen, *British Economic Growth, 1270–1870* [hereafter *BEcG*] (2015). An earlier version was presented by the invitation of Professor Gerard Beaur at Rural History 2017 in a session convened by him. I am grateful to a number of colleagues and the *Review*'s referees for reading drafts of the paper. Bruce Campbell and Mark Overton read a late version of the review and suggested a number of corrections which I was happy to accept.

[1] It is interesting to see just how much of the argument of these chapters is anticipated in Overton's paper of 1996, 'Re-establishing the English Agricultural Revolution', *AgHR* 44 (1996), pp. 1–20.

[2] Maddison (1926–2010) published a series of works leading to *The contours of the world economy 1–2030 AD: essays in macro-economic history* (2007).

Not all economic historians are convinced by the approach that this work represents or find it useful. Those on the historical wing of the discipline might well argue that individual figures for this or that should be up by a little, or down by a little; but small adjustments in the underlying data will probably do nothing to change the overall story that these chapters tell, which cannot be challenged by historical (as opposed to economic) methods.

The book draws on the work of five historians, all of them good friends of the British Agricultural History Society. The first is Bruce Campbell who has increasingly taken a quantitative approach to the middle ages, and in recent works has not shrunk back from describing the whole of the British Isles at the end of the thirteenth century in quantitative terms.[3] Campbell brings to the party two big datasets, the first gathered from the extents contained in the inquisitions post mortem made after the death of tenants in chief, and the other his database of crop yields drawn from manorial accounts, which in turn draws on the work of earlier historians who pioneered the collection of data on demesnes.[4] The second is Mark Overton who developed techniques to obtain quantitative information on yields from probate inventories in the late 1970s. His work on Norfolk inventories is familiar: this discussion also draws on unpublished datasets gathered subsequently.[5] The other historians whose data is drawn on here are John Beckett and Michael Turner who worked on eighteenth-century and later farm accounts with the aid of their research assistant, Bethanie Afton.[6]

This review falls into six main sections. Sections I to IV attempt to summarize the major conclusions of the book as they bear on agriculture. In sections V and VI we offer a commentary on aspects of *British economic growth*. In the final section we consider where British agricultural history might usefully go next.

I

We have had sound population figures from *c.*1540 for most of forty years: it is only now that we have equivalent figures for yields. But where the *Population history of England and Wales* was careful to publish annual figures supported by the workings which underpinned them, *BEcH* presents its results in the form of graphs which are reproduced far too small to read easily.[7] Annual data is generally not provided in the book, and this is regrettable. In a sense this may acknowledge the insecurity of data for single years and the reluctance of the authors to allow people to make year-by-year comparisons, and yet this is what many readers will wish to do.

[3] B. M. S. Campbell, 'Benchmarking medieval economic development: England, Wales, Scotland and Ireland circa 1290, *EcHR* 61 (2008), pp. 896–945; id., 'The population geography of Great Britain, *c.*1290: a provisional reconstruction', in C. Briggs, P. M. Kitson and S. J. Thompson, *Population, welfare and economic change in Britain, 1290–1832* (2014), pp. 43–78.

[4] Campbell's IPM data underpinned his *English seigniorial agriculture, 1250–1450* (2000) and B. M. S. Campbell and Ken Bartley, *England on the eve of the Black Death. An atlas of lay lordship, land and wealth, 1300–49* (2006). For the crop yield data, www.cropyields.ac.uk/project.php.

[5] *BEcG*, pp. 84 and 85 for the counties included, and Figure 3.01 for the numbers of inventories drawn on.

[6] M. E. Turner, J. V. Beckett and B. Afton, *Farm production in England, 1700–1914* (2001).

[7] The figures and tables (but apparently not the data files) can be downloaded from the Cambridge University Press website: go to the book's webpage and then follow the tab for 'resources'.

Having said that there are generally accepted annual figures for population from 1540 onwards, there are no such figures for the previous 450 years. There has been much debate over the size of the English population both at the time of Domesday and *c.*1300 (when population is taken to have reached its medieval peak before falling back before the Black Death). The literature on this issue is now substantial: much of it depends on putting fingers in the air, and the reading of local and often insecure materials. The most recent estimates are those published by Gregory Clark in 2007. He approached the question in two ways, by extrapolating from those few communities which had runs of figures for tenants or persons paying tithing pennies and by modelling the marginal product of labour. Between them, these two methods gave a best estimate of 4.92 million for the decade 1260–69, 5.53 million for 1300–09 and a peak of 5.98 million for 1310–19. By the decade of the Black Death the figure had dropped back significantly to 4.86 million. Clark recognized that these figures were high compared to those of other historians.[8] In 2000 Campbell had proposed a maximum of 4.5 million people. As recently as 2008, he gave a best estimate for *c.*1290 of 4.0 million which he justified by saying that it was compatible with what was known about the area of England known to be under cultivation and the agricultural technology available at the time.[9] Clark's estimates were therefore treated with some scepticism, but the objection to them was not his methodology so much as doubts about how these people could be fed. Hence the question which underpins these estimates is that of the total landed area available for cultivation, and again Clark adopted a much higher figure than had been proposed by Campbell. This allowed him to reconcile his high population estimate with a high estimate of the area under cultivation (although it must be said that the latter rested more on assertion than careful calculation).[10]

The new population estimates by Broadberry *et al.* are given in their Table 1.06. They settle on a Domesday population estimate of 1.71 million people: for 1290 they suggest 4.75 million. This is calculated by using the methodology pioneered by H. E. Hallam of comparing tenant numbers at Domesday with those recorded in later manorial documents. The new estimate for 1290 sits almost exactly mid-way between the small Campbell and large Clark estimates previously published, but is better founded than a simple 'splitting the difference' between these two authorities would be! Nonetheless it represents something of a change of mind by Campbell, prompted by a reassessment (to which we will turn in a moment) of the total possible cultivable area in the nineteenth century.[11] Calculating forwards using the number of males recorded in frankpledge lists gives a population in 1450, at the nadir of medieval population, of 1.9 million. Having established best estimates of English population, estimates are then produced of Scottish and Welsh population from 1700 onwards, to enable a succession of British population estimates to be produced.[12]

What will be equally interesting to many historians is that Broadberry *et al.* proceed to distribute population *c.*1086, 1290, 1377 and 1600 by county, giving both shares of population but also absolute figures and growth rates (Tables 1.08 and 1.09). (One wonders why 1524–25

[8] Clark, 'The long march of history', pp. 118–22

[9] Campbell, *Seigniorial agriculture*, pp. 399–400; 'Benchmarking', p. 925.

[10] Clark, 'The long march of history', pp. 124–5.

[11] Campbell, 'Population geography', p. 51.

[12] *BEcG*, Section 1.6, Table 1.10: annual population figures can be found in Appendix 5.3.

was also not treated in this way given the amount of material available through the work of John Sheail and others.[13]) This allows us to see where population was growing fastest. For instance, population in Yorkshire had an annual population growth rate of 0.19 per cent between 1377 and 1600, but in the East Riding population shrank at 0.6 per cent per annum, in the North Riding it grew at 0.15 per cent per annum and in the West Riding it grew at 0.37 per cent per annum (Table 1.09). This serves as an index of industrialization.

II

Chapter 2 considers agricultural land use. It proceeds carefully, methodically, incrementally. It begins by estimating the landed area of England in the mid-nineteenth century, drawing estimates from the tithe files (1836 and later) and the earliest agricultural censuses. That said, some of the figures are hard to reconcile. The mid-nineteenth century is seen as representing a maximum. The total area of England in 1871 is 32,328,331 acres. Of this, only about three quarters (72.7 per cent) or about 24 million acres is seen as being suitable for agriculture and this is divided roughly equally between arable (including fallows and temporary grass) and permanent grass. The country's potential arable came 'at most' to 15 million acres, equivalent to 46 per cent of the national land area. An extrapolation based on the slightly earlier tithe files suggests that the 13.9 million acres or 43 per cent of the national landed area was under grain, fallows, clovers and temporary grasses.

We then work backwards from the mid-nineteenth century figure towards the end of the thirteenth century. The area under cultivation in 1290 is unlikely to have been greater than that of *c.*1850. But the question is posed, could it have been smaller? There are a number of factors which lead the authors to conclude that it could not have been as large. From the 13.9 million acres, they deduct 1.39 million acres which had been drained between 1290 and 1871 (Table 2.04). In addition, and following Phillips, they hold that some 4.0 or 4.5 million acres were underdrained between 1845 and 1890, with most of this being undertaken between 1840 and 1870 in the north and west of England, 'where it allowed much land to be ploughed for the first time'.[14] We then have an estimated half a million acres which had been arable in 1290 but was used as grass in 1870. The calculation is therefore 13.9 million acres, minus 1.4 million acres for land drained (makes 12.5 million acres), minus 4.5 million acres for land underdrained (makes 8.0 million) plus 0.5 million acres for land down to grass in 1870, but arable at earlier dates, makes 8.5 million acres. But then we are told that 'the maximum arable acreage of 1290 is therefore unlikely to have been more than 12.5m to 13.0 million acres',[15] and one wonders quite how have arrived here. One suggestion must be that the area underdrained is finally treated as potential arable in 1290 despite the comment that underdraining allowed at least

[13] John Sheail, *The regional distribution of wealth in England as indicated in the 1524/5 lay subsidy returns* (2 vols, List and Index Society 28–9, 1998) which presents much of the raw material. See for instance an early paper of Bruce Campbell's, 'The population of early Tudor England: a re-evaluation of the 1522 muster returns and 1524 and 1525 lay subsidies', *J. Historical Geography* 7 (1981), pp. 145–54.

[14] *BEcG*, p. 56. A. D. M. Phillips, *The underdraining of farmland in England during the nineteenth century* (1989). Phillips gives an estimate of 4.5m acres underdrained (p. 242). On p. 65 of *BEcG* this is misreported as 4.0 m acres.

[15] *BEcG*, p. 65.

some land to be ploughed for the first time. Underdrainage seems to be first introduced as a factor and then discounted as a factor, then mentioned again all in the space of a few pages. Other factors are considered but for want of certainty about how they should be estimated are finally disregarded as being self-cancelling. We return to this vexed question later, but in the end, the figure adopted by Broadberry *et al.* for the extent of arable land in 1290 is 12,772,192 acres (Table 2.07, which is rounded to 12,750,000 acres in Table 2.08) which is 39.4 per cent of the total cultivated area in the mid-nineteenth century.

The authors argue that this is very much an upper-bound estimate and find it hard to see that any more land than this could have been under cultivation in 1290. They also argue that the implication of these figures is that the area under arable cultivation in 1290 was 1.4 million acres more than that cultivated in 1801 although 1801 hasn't been mentioned before, and the scale of growth in arable acreage between 1801, the tithe returns (1836 and later) and the 1870 agricultural census is only stated two pages later (p. 73). Here it is estimated that the total arable acreage in 1801 was about 11.35 million acres which was 2.5 million acres less than in 1836, so it was not wartime conditions at the turn of the eighteenth century which produced the peak in arable cultivation, but High Farming and investment in drainage a generation later.

It is not easy to unpick these figures: the authors, perhaps realizing this, once again turn to denouncing Gregory Clark for offering much higher and 'idiosyncratic' figures of 15.7 million acres *c.*1300 and even 20 million acres. Again, it is argued that it is hard to see how such large areas could have come under the plough given contemporary restraints, 'environmental, technological and institutional' (pp. 71–2).

Table 2.07 allocates the 12.75 million acres of arable county by county in 1290 by taking into account the location of the drainage schemes identified earlier (in Table 2.04), the density of deserted medieval villages (as a proxy for conversion of arable to pasture) and the effects of urbanization. It is never quite explained how this table was compiled. It gives population per square mile and seems to factor this into the calculation, then the percentage of the surface area likely to have been arable in 1290 on a scale between 12.5 per cent (Westmorland) and 60 or 62.5 per cent (Norfolk and Huntingdonshire) and then the estimated arable acreage in 1290.

We need to note one further point though. Table 2.08 gives the regional distributions of arable *c.*1290 by eight provinces. It also gives estimated total population, population per square mile, estimated arable acreage, arable as a percentage of the total area and arable acres per head. The assumption is made that there is very little interregional trade. Now arable as a percentage of the total area falls from 58.8 per cent in the Eastern Counties to 25.0 per cent in the south west and 1.4 per cent in the north west. The arable acres per head of population lies very sweetly between 2.4 and 2.8, with an outlier of 3.1, and a national average of 2.7 arable acres per head. Now these figures bear thinking about, but they are *too uniform*. They imply a uniformity of agricultural practice and yield. Indeed one has a chicken-and-egg question as to which came first, the estimates of acreage or the estimates of arable acreage per head.[16]

[16] It needs to be stressed that these are figures for total cultivated area in each province divided by estimated population and are not therefore estimates of holding size.

TABLE 1. The changing availability of arable land per head, 1270–1871

	Total arable (m acres)	*% fallow*	*Total sown (m. acres)*	*Arable acres per head*	*Sown acres per head*
1270	12.52	41.0	7.40	2.87	1.70
1290	12.75	38.8	8.19	2.69	1.73
1300	12.72	35.8	8.16	2.69	1.73
1380	9.64	40.4	5.75	3.95	2.26
1420	8.75	40.3	5.21	4.29	2.55
1450	8.44	40.4	5.03	4.42	2.63
1500	8.50	38.1	5.26	3.86	2.39
1600	8.87	24.4	6.72	2.16	1.63
1650	9.63	19.5	7.74	1.81	1.45
1700	9.56	20.0	7.64	1.84	1.47
1750	10.51	15.1	8.92	1.74	1.48
1801	11.35	11.2	10.08	1.27	1.12
1836	13.87	9.4	12.57	0.95	0.86
1871	13.83	3.5	13.35	0.64	0.62

Source: *BEcG*, p. 74 (Table 2.10) (without the notes to the table as printed there).

Having established the likely acreage under arable in the mid-nineteenth century and at the end of the thirteenth, estimates are made for intervening datum points and so we get Table 2.10 which gives us the total arable acreage, the percentage of that acreage used as fallow in the datum years, the total sown acreage, the arable average per head and the sown acres per head. The table is reproduced here as Table 1. The problem it presents, as the notes to the original make clear, is that some years are based on hard evidence where others draw on interpolations from population figures. On the other hand, there is much of interest in the table, chiefly the progressive decline of fallow to a point where it was unimportant by 1871. This means, of course, that the *sown* acres per head shifts from being about two thirds of the arable acres per head (as one would expect under a three-field system) to just about parity, because all the arable, in every given year, was under a crop of some sort. Here we see the beginnings of a thesis that the agricultural revolution was about the more efficient use of fallows, which in turn involved the adoption of plants little used (if not actually unknown) to medieval peasants. This is further discussed at the end of the chapter (pp. 77–8). It is admitted that the area under fallow has to be inferred. The important observation is made that the incentive to reduce the area of fallow especially increased when the area under arable per head was falling. Population growth encouraged farmers to make more positive use of their fallows. This is no more than a generalization of Campbell's observations about high medieval Norfolk agriculture made a generation ago to a national scale and a longer time span. Likewise Overton has long argued for the importance of the better utilization of fallows. The result is that the decline in the amount of fallow was more important in increasing the area under crops than the overall

extension of the landed area, so that by 1750 the sown area exceeded the sown area in 1300 even though around 2.25 million fewer acres were in arable use. This is a factor expounded at greater length in chapter three. Farmers found more rewarding things to do with their fallow than leave it growing weeds, so it was increasingly planted with grasses, turnips, potatoes and other roots, all of which were beneficial to the land, served to feed larger numbers of animals and produce a profit to the farmer. The result was that the increased area sown came largely from what we might call interior space; making better use of what was already there rather than extending the total cultivated area.

III

Chapter three contains the meat of the book for our limited purposes. The methodology can be explained as a series of steps. First the sown acreage per crop is estimated using the information on crop shares found in the three foundational datasets. This is then weighted by regions using 1290 as a guide to late medieval practice and the 1836–70 data as the basis for the post-medieval share. This gives figures for the total sown areas of the major crops, 1270–1871 (Table 3.03). Yields are then calculated from the existing databases and applied to the estimated acreages already established.

The result is that we get national average gross crop yields per acre (Figure 3.02) for the five major crops. These are the reduced to averages for every fifth decade in Table 3.06. Total arable output for every tenth year is then calculated and presented in Table 3.07.

If the basis of these calculations seems reasonable enough, then the authors admit that they are less confident about their estimates of livestock farming. The sources are poorer and the problems more inscrutable. The source information comes from the three databases which are weighted regionally (with the estimates of the area not under arable) to achieve a national total.

The problem is that we have little direct evidence as to the degree to which individual counties were involved in forms of pastoral agriculture between the high medieval peak (when we have demesne accounts) and the nineteenth century. Regional weights are therefore established for 1300 and 1870. At the end of this process we have Table 3.11 which gives us estimated livestock numbers at half century intervals from the 1270s through to the 1860s. These show a rough doubling of animals between *c.*1750 and the mid-nineteenth century. So, the number of milk cattle is estimated at about 600,000 in *c.*1300 and had returned to this approximate level (570,000) by *c.*1750, having fallen to as few as 240,000 *c.*1700, a reduction of a third from 1650.[17] For beef animals the comparable estimates are 540,000 in *c.*1300, then 520,000 in 1750 and 1.11 million in *c.*1860. The authors estimate that there were more sheep in England in 1300 (15.22 million) than in 1750 (13.58 million) but about 22.75 million in the 1860s. Estimates of the quantity of animal products produced are given in Table 3.13. Next estimates are given of the number of working animals although in the case of horses this appears to be

[17] The orthodox literature would lead one to suppose a late seventeenth-century expansion of the dairy sector. One would therefore expect the number of cattle to be larger in 1700 than 1650 and not a third smaller. This figure may be a quirk of the inventory sample.

TABLE 2. Real annual agricultural output growth, 1270s–1860s (constant 1700 prices)

Decades	*Arable sector (%)*	*Livestock sector (%)*	*Total agriculture (%)*
1270s–1300s	0.12	0.40	0.25
1300s–1340s	–0.19	–0.04	–0.12
1340s–1400s	–0.87	–0.42	–0.66
1400s–1450s	–0.37	0.03	–0.16
1450s–1470s	–0.38	0.00	–0.16
1470s–1550s	0.72	0.18	0.45
1550s–1600s	0.63	0.72	0.69
1600s–1650s	0.34	–0.04	0.21
1650s–1700s	0.24	0.47	0.33
1700s–1750s	0.29	0.90	0.55
1750s–1800s	0.52	1.31	0.93
1800s–1830s	0.98	0.63	0.77
1830s–1860s	0.58	1.08	0.85
1270s–1340s	–0.05	0.14	0.03
1270s–1700s	0.08	0.13	0.11
1270s–1860s	0.21	0.37	0.29
1700s–1860s	0.55	1.02	0.77

Source: *BEcG*, p. 115 (Table 3.16) (without the notes to the table as printed there).

a calculation of the number of animals working on farms only. This matters as these numbers are then used to come up with figures for the production of hay. Finally we arrive at Table 3.15, 'Total outputs of milk, meat, wool, hides and hay, 1270–1860s', presented as ten-year averages centred on century ends and half centuries.

In the next stage, product is valued by multiplying output in both sectors of the economy by prices and in Figure 3.04 we arrive at the total arable, livestock and agricultural output 1270–1870 (which is also a good example of a figure reproduced much too small to read). In Table 3.16, annual real agricultural output growth for the two sectors and the total is presented. There is much of interest in this table and it is reproduced here as Table 2. It even contains some support for an eighteenth-century agricultural revolution.

Output is shown to have been growing between 1270 and 1300, but the contraction of the arable sector starts well before the Black Death, much earlier than that of the livestock sector. The contraction of arable persists for 120 years after the Black Death and whilst the livestock sector shrinks between the 1340s and the 1400s, it does so at a much slower rate than the arable. Overall, the agricultural sector shrinks at 0.66 per cent per annum between the 1340s and 1400s. It continues to do so after 1400, but at a much slower rate, and most of the contraction takes place in the arable sector. In short, production is switching from grain to wool and meat, just as we would expect.

Between the 1470s and the 1550s, the arable sector grows strongly (0.72 per cent per annum), much more so than the livestock sector (0.18 per annum). But the growth in the latter exceeds the arable sector in the late sixteenth century, but then contracts slightly between 1600 and 1640. After 1650 though, it is normally the livestock sector which grows faster than the arable sector, in the first half of the eighteenth century at three times the rate (0.29 per cent per annum against 0.90 per annum). This can be seen in Table 3.18 when the relative shares of the two sectors of the economy are presented. (In Table 3.17 the data is divided into the major crops and outputs.) In 1600 the division (in current prices) was 58.1 per cent arable to 41.9 per cent pasture. In 1800 it was 48.5 per cent to 51.5 per cent. By the 1860s it was 40:60. Taken over longer periods, the livestock economy consistently outpaced the arable: so taking the 1270s to the 1700s, the rates of growth were respectively 0.08 per cent per annum and 0.13 per annum; and for the 1700s to 1860s they were 0.55 and 1.02. A final point might be made about this table. The period of fastest growth in the arable economy was in the first years of the nineteenth century when a rate of 0.98 per cent per annum was achieved. This might seem surprising given that the period is interrupted by a period of post-war depression. The period exhibiting the fastest growth in the livestock sector is the late eighteenth century, the classic period of the adoption of 'roots' as winter fodder.

Finally a calculation to span the gap between the end of the manorial sources and the beginning of the inventory data is made using price inelasticity. Historians will generally not go there, but a model is constructed to estimate production over the period from 1300 and 1700. This gives a decent match with the known output data but again the graph is presented too small to be really useful and the actual data is not given. By eye though it suggests a falling output per head over the early sixteenth century, which is surely a point of some interest. It hints at a drift towards a cottage subsistence economy in the first half of the century which was reversed in the second.

This allows the establishment of a continuous data series rather than data series which end in the late fifteenth century and pick up again in the late sixteenth. Appendix 5.3 summarizes the annual data computed in the first half of the book, including that for the output of industry and services (which are not considered in this essay), population, and the calculation of GDP, all indexed on 1700. Unfortunately annual data for the two agricultural sectors is not published here. The data are reproduced here in Figure 1 as both annual data and a seven-year moving average. Where the line for production lies above or to the left of the population line, we can infer episodes of market oversupply, low prices, rising living standards and within agriculture, a shift to pastoral production from arable production. And because this is a measure of production by the price of the commodities produced, it conceals the fact that the supply of grain in the late eighteenth and early nineteenth century was increasingly reliant on imports because English/British agriculture concentrated on high value and perishable crops (meat, butter, cheese) and the country increasingly sourced its bread grains and animal provender from abroad.

There then follow six pages of discussion of the findings. These are the pages which historians and their students will use, and we defer discussion of them until later, turning first to report other findings of the book.

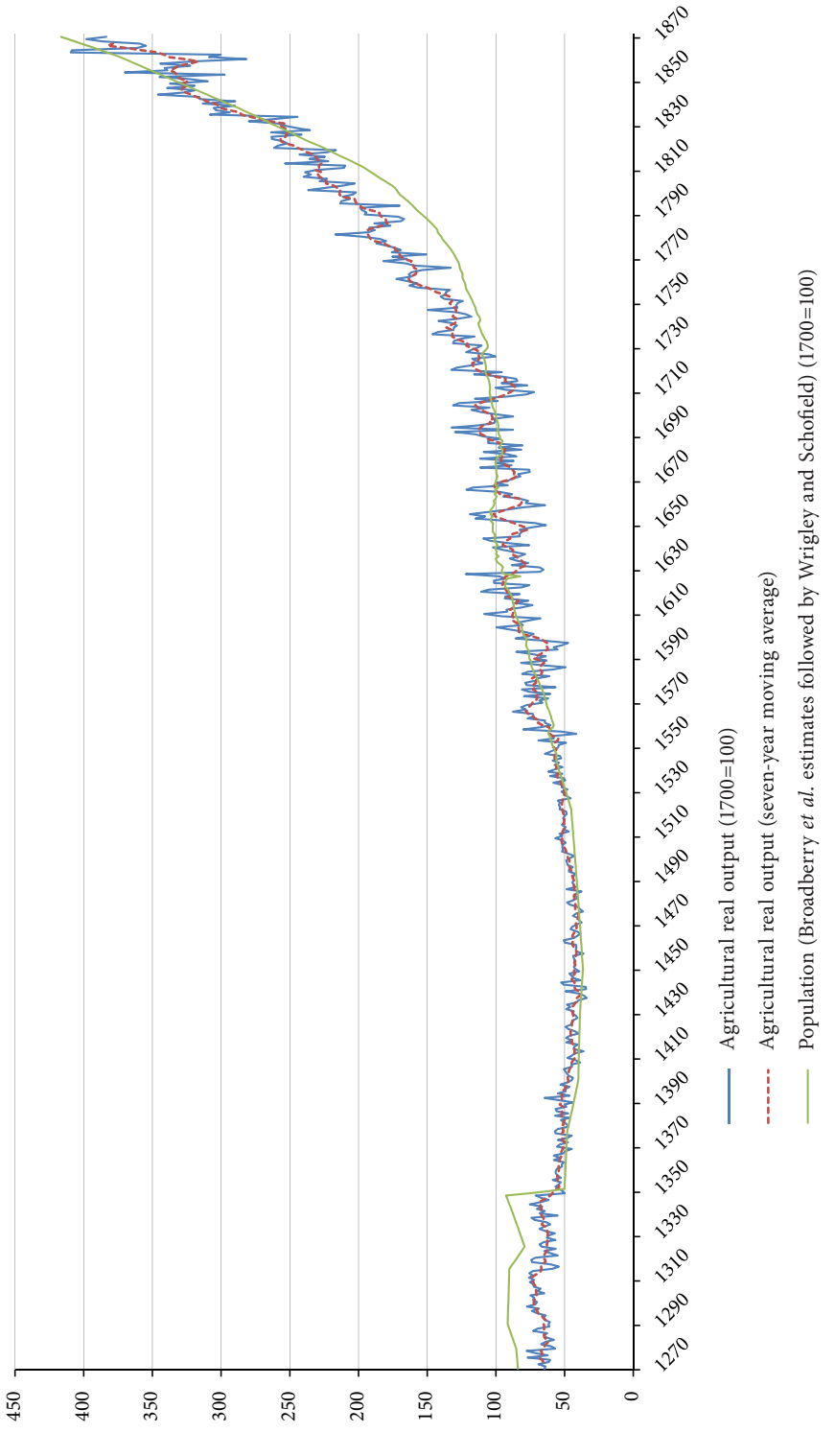


FIGURE 1. Agricultural real output as estimated by Broadberry *et al.* v population

Source: data from Broadberry *et al.*, *British economic growth*, Appendix 5.3. (Available in colour on www.bahs.org.uk.)

IV

A further area in which the book offers new estimates of interest to readers of the *Review* is the proportion of society working in agriculture, and conversely the proportion of population who depend on foodstuffs acquired through markets. It has to be said that understanding here has moved on since Broadberry *et al.*'s book was finished. Table 9.08 summarizes their findings and places them alongside those published some years ago by Shaw-Taylor (2009 and 2010) and Clark (2013). The direction of all recent work, this included, has been to reduce the share of the population engaged in agriculture. The figure given in the book for *c.*1380, derived from those poll taxes that give occupational detail, is 67.0 per cent. That for 1522, drawn, one assumes, from the military surveys of that year, is little different, but the implication is that one person in every three was being fed by the other two. The later figures in the first column of Table 9.08 are derived from the classic political arithmeticians: they suggest little change in the male labour force between 1688 and 1759, but a substantial fall between 1759 and 1801 (from 43.0 per cent to 35.7 per cent) and a further fall between 1820 and 1851 to about 27.2 per cent. By this time each person engaged in agriculture was feeding three others, more or less. Estimates for female employment are also given: these loosely mirror those for male employment.

It seems likely that these figures for sectoral employment will be superseded in the next year or two by the work of Sir Tony Wrigley, Leigh Shaw-Taylor, and others in Cambridge. An early publication of some of this data gives figures which differ significantly from those computed by Broadberry *et al.* and those taken from Shaw-Taylor's earlier publications. So, in their Table 9.08, following King and Massie, Broadberry *et al.* offer a figure for male involvement in agriculture of 46.0 per cent in 1688 and 43.0 per cent in 1759 respectively. Shaw Taylor's figures cited here are 43.0 and 44.0 per cent in 1710 and 1755, close enough; but in 2014 Shaw-Taylor and Wrigley offered an estimate of 49.8 per cent for *c.*1710.[18] This is plainly a treacherous field where judgement has to be suspended until the full publication of the data being gathered in Cambridge, but we are talking of two thirds of men being engaged in agriculture perhaps as late as 1520 but one third by the beginning of the nineteenth century. This is in itself evidence of the efficiency of English agriculture but more on this issue is found in Table 9.09. The labour force involved in agriculture was 90 per cent bigger in 1851 than 1700: but the output of each of those individuals was 75 per cent greater in 1851 than 1700. Table 9.10 presents growth rates in labour productivity. Between 1381 and 1522 the growth rate was marginal (0.02 per cent per annum); between 1522 and 1759 it was present but hardly spectacular (0.13 per cent per annum), but between 1700–59 it reached over half a per cent per annum (0.57). In 1759–1801 it continued at 0.41 per cent per annum. In 1801–51, at a time of increased mechanization, it dropped back to early modern levels (0.10 per cent per annum).

As it seems likely that these figures will be subject to revision, it is perhaps not worth worrying too much about them, but the lack of labour-force productivity gains in an age of agricultural mechanization is striking. One would like to know just how far the

[18] Leigh Shaw-Taylor and Sir Tony Wrigley, 'Occupational structure and population change', in Roderick Floud *et al.*, (eds), *Cambridge Economic History of modern Britain, 1700–1870* (sec. edn, 2014), I, Table 2.2.

eighteenth-century gains reflect the orientation of farming towards a pastoral economy but no analysis by sector is attempted here and, indeed, it might never be possible to offer anything very plausible.

V

There are a number of areas where we need to record reservations. First, there is a basic question about the book: is it a study of England or Britain? Table 1.11 gives figures for English population to 1700 and then suddenly switches to figures for Great Britain. The data in Appendix 5.3 is for England to 1700 and for Great Britain for 1700–1870. There is no good reason why estimates for Scotland and Wales cannot be factored in at earlier dates – Campbell, after all, has done the spadework for *c.*1290 and estimates for *c.*1500 are not beyond the bounds of possibility. The data on output is entirely based on English data. When we come to estimates of output per head in Figure 3.05, we are not told whether the heads are English heads or British heads but the notes to Table 3.21 ('Summary trends in agricultural output and productivity, 1270s–1860s') suggest that the data presented there is entirely English. So far as can be told, chapters two and three are based exclusively on English data and offer the best available account of long-term trends in English agriculture. But over-all, the book talks about England before 1700 and Britain afterwards, and yet it is not plain what the extra-English data is included. This is nowhere explained or justified, an omission which seems to me to be a serious oversight, albeit one which might be justified by the lack of readily available data. (Neither Scotland nor Wales appears in the index, which tells its own story.) One therefore has to assume that there is no distinctively Scottish data in the book except for the population estimates, and that what claims to be Britain is simply England scaled up with an allowance for the Welsh contribution and then further by the estimates of Scottish population in chapter 1. It then becomes an interesting question as to what a properly researched Scottish contribution to the data would look like, and how it would affect the *British* data.

Secondly, we have already suggested that aspects of the calculation of the area cultivated in 1290 is implausible and that some further thought is needed. If it is too large, then the area per capita is also too large and must be smaller. Let us offer an alternative calculation starting with the estimate of 13.9 million acres for the extent of arable in England in the mid-nineteenth century. We can agree with Broadberry *et al.* that virtually all of the land drained in the Fens and Sedgemoor, and from the coastal marshes of the east coast, was unusable as arable before its recovery, so we subtract 1.4 million acres, which makes 12.5 million. This figure also includes inland lakes (Martin Mear in Lancashire for instance) and tracts of boggy ground (the Weald Moors in Shropshire or Wallingfen in East Yorkshire). Much of this may have gone through a second stage of drainage in the nineteenth century. Then there is then the issue of nineteenth-century tile underdrainage. Phillips seems to regard the process of underdrainage as being about increasing productivity rather than changing usage and for this reason underdrainage should be discounted in any assessment of the extent of the arable area, whilst acknowledged as an important element in the improvement of productivity (as we argue subsequently).

There is then the reclamation of woodland, the enclosure of lowland heaths, the relative uplands of the Downs and so on. In short, how much land was used as common in *c.*1300 but

as arable in 1850? If we go for a low estimate of half a million acres, then we are talking about a national arable acreage of 12.0 million in 1300: if we see this movement as equivalent in scale to the draining of the Fens, then we are talking of a national arable acreage of 11.0 million in 1300. On the other side of the table though we need to consider how much land was cultivated as arable in *c.*1300 but was still laid down as improved pasture in the mid-nineteenth century, even after half a century of incentives to plough. One suspects that by 1850 there was relatively little of this, but it was surely a factor before the end of the eighteenth century. Wharram Percy, for instance, was largely ploughed by 1836.[19] Hence this element should also be discounted in any calculation of the size of the arable in 1300 worked back from *c.*1850.

It may be seen how intractable the problems are but also how important it is to achieve a satisfactory resolution of them. There may be finer calculations to be made through intensive local analysis, but it is striking that at the moment we don't even have figures, at the county level, which distinguish the area of open field and the area of common enclosed by parliamentary enclosure. The relevance of this to the present discussion is that land which was common when enclosed by act in the later eighteenth century and later cannot, by definition, have been used as arable in *c.*1290. For immediate purposes, the figure adopted by Broadberry *et al.* of 12.75 million acres of arable in *c.*1290 seems to be on the high side: one of 12 million might be nearer the mark. If we take the figures for population *c.*1290 as being fairly secure, the average acreage per head cannot be higher than 2.4 acres and is almost certainly lower.

Third, there is a further factor which needs to be considered here. This is the assumption that the productivity of demesne agriculture was much the same as that of peasant agriculture. That there is a question to be posed is acknowledged and a counter argument (that demesnes had better land) is advanced. This in itself is a point of some interest. If demesnes had the best land, then it suggests that they were ring-fenced rather than having their land distributed through the open fields in the fashion of their peasant neighbours. Now if the former applies, there then are important implications for labour productivity as a demesne's labourers would not have had to trudge through the open fields from strip to strip, nor carry manure long distances out and produce back. In fact there seem to be as many demesnes which were consolidated as demesnes which were scattered, but where demesnes were enclosed, whether or not they had secured the best land, labour inputs must have been on a lower level than those where the land was in open fields.[20]

More importantly there is a growing body of material (much of which has appeared since the book was published) which suggests that demesnes may not have been either a leading or even an equal sector in the medieval agrarian economy, but may have trailed behind.[21] They may have been short of manure: they were certainly short of animal traction and they may have skimped on labour inputs. Peasants on the other hand may have used much more spade husbandry

[19] S. Wrathmell (ed.), *A history of Wharram Percy and its neighbours* (Wharram, a study of settlement on the Yorkshire Wolds, XIII, 2012), Fig. 116 (p. 361).

[20] David Hall, *The open fields of England* (2014), pp. 95–105, a reference I owe to Professor Christopher Dyer.

[21] David Stone, *Decision-making in medieval agriculture* (2005); H. J. P. La Poutré, 'Fertilization by manure: a manor model comparing English demesne and peasant land, *c.*1300', *AgHR* 65 (2017), pp. 20–48; Janken Myrdal and Alexandra Sapoznik, 'Technology, labour and productivity potential in peasant agriculture: England, *c.*1000 to 1348', *AgHR* 65 (2017), pp. 194–212.

than has been assumed and have put more time into soil preparation, weeding and the close management of crops. All of this suggests that productivity per acre in peasant agriculture was higher. Broadberry *et al.* acknowledge that 'care must … be taken in moving from data on demesnes to inferences about the development of English agriculture as a whole', but finally they conclude that, 'Since the direction of the adjustment is unclear and would anyhow be quite small, it has been assumed here that the yields obtained on demesnes are representative of those within agriculture as a whole'.[22] The demesne sector was never more than 25 per cent of the total area sown *c.*1300. If peasants – and this is a very big if – were able to achieve higher yields, albeit from using techniques which may have been more demanding of labour, then it goes some way to reconciling the lower acreage per capita which we suggest follows for 1290.

A final point might be made. High productivity in English agriculture was achieved by drawing greater levels of resource from first within and then without the British Isles. The trade in store cattle from Scotland (and to a degree Ireland) might be read as simply an internal transfer within Britain but it was this that underpinned the Norfolk rotation with its heavy demand for cattle. Towards the end of the period English agriculture drew heavily on American nitrates – guano – and again this needs to be acknowledged. In any classic calculation of GDP it would be placed on the debit side of the calculation as a cost. Of course, it was the use of Scots cattle and American nitrates which allowed fallow to be reduced, in the one case by allowing higher levels of stocking which made more manure available and in the other by reducing the reliance on manure as fertilizer. They have a place in any comprehensive account of the agricultural revolution. But do the authors still believe in one?

VI

With this question in mind, let us now turn to the chief conclusions of Broadberry *et al.* as they concern us here. Their figures lead them to adopt a Boserupian approach, that demand led to agricultural improvement and increased productivity. In a key comment:

> Historians have sometimes speculated whether in earlier centuries at times of acute population pressure an inability to reconcile these inherently competitive land uses may have resulted in over-stocking of pastures and/or under-manuring of fields, thereby jeopardising the fragile ecological equilibria upon which the sustainability of production depended. It would be surprising if, at the micro-levels of individual farms and localities, this had not occasionally happened. Never the less, at a macro-level and much as Ester Boserup would have expected, population growth clearly drove up yields of both crops and livestock, whilst population decline led crop yields at least to fall. It was in the mid-fifteenth century when population pressure was weakest and land most abundant, that grain yields sank to their lowest recorded level. Thereafter yields steadily improved as the population grew and the arable area expanded. The impressive gains in agricultural output achieved between 1450 and 1850 arose more from intensifying and rationalising the use of existing resources that by bringing more land into production.[23]

[22] *BEcG*, pp. 82, 90–1.

[23] *BEcG*, p. 128. The references to secondary sources are omitted.

Now important consequences follow from this assessment. Malthus is demoted. The operation of Malthusian positive checks in the thirteenth century is acknowledged but not thereafter (see the discussion on p. 273). But there is no room in this analysis for the positive check in the form of famine in the sense that Malthus envisaged. That famines happened is not to be questioned, but this work fits with a growing consensus that famines are produced by short runs of aberrant weather rather than by populations exceeding the capacity of agriculture to support them.[24]

The key event in this account is the Black Death and the plagues which followed it. This completely altered the equilibrium between population and resources, and increased income per head by forcing rises in real wages. Pre-Black Death arrangements never reappeared. When population began to grow again, real wages began to fall but GDP per head remained stable as the new surplus population was accommodated in towns and drew its livelihood from industry rather than having to be accommodated in the countryside. What may be significant here (and I think this is not a point Broadberry *et al.* make), is that industrial pursuits allowed for the employment of women and children. Household income held steady, and the old view that working people were tipped into poverty, based on a reading of daily wage rates, now seems less rather than more likely. Where, however, there was no employment for women and children, falling wage rates for agricultural labourers produced real destitution by the end of the eighteenth century and even a basic standard of living had to be subsidized through parochial rates, especially in high price years. In short then, the labour-intensive organic expansion of textile production between the mid-sixteenth and the mid-eighteenth century enabled living standards to be maintained. The machine-intensive period of expansion which followed destroyed living standards.

So whilst after the mid-fourteenth century there were no ceilings on productivity which, when reached, produced a reaction through the operation of the positive check, ideas of Malthusian stagnation of the sort that have been so influential are also rejected. Broadberry *et al.* recognize the operation of the preventive check though the European marriage pattern, and that access to marriage was dependent on ability to earn wages. But they do not concede that the limits of agricultural technology acted as a bar on population growth. Of course, what differed over time was the range of the technologies available to farmers, especially the range of crops.

If the idea of Mathusian ceilings is rejected, then so too is the idea of agricultural revolution. Instead of seeing productivity increasing in a series of spurts as institutional restraints – notably open fields and unproductive commons – were swept away:

> The essential point [is] that progress was incremental from the fifteenth to the nineteenth centuries and rarely more than evolutionary in pace, since agricultural output never grew at more than one per cent per year until the nineteenth century. Over several centuries, however, this was sufficient to effect a transformation.[25]

Here we might comment that the idea of a persisting growth rate of less than one per cent

[24] See here the recent volume edited by Guido Alfani and Cormac Ó Gráda, *Famine in European history* (2017).
[25] *BEcG*, p. 129.

almost marks the reappearance of Malthus's arithmetical increase in production, which, of course, he read in terms of the 'improvement of barren lands'.[26]

Returning to *British economic growth*, the writer continues by offering a list of the usual suspects that together form the traditional ingredients of agricultural change. We now have a continuous conveyor belt of improvement. Demand produced increased production: the removal of restraints and the introduction of new techniques followed behind. Again, this fits with recent work which sees open fields as being less of a bar to development than was once assumed. In fact one could go further and suggest that not only demand but also oversupply was the stimulus to change. The problem for most of the 100 years after 1650, and probably before and to a degree after, was one of glut, of low grain prices, which forced subsidized exports to maintain the farm-gate price but also encouraged farmers to withdraw from grain-growing and concentrate on dairying and fattening. There is no evidence in this period for demand beginning to outstrip production and forcing another round of innovation. On the contrary: what we can perhaps see is demand making innovation worthwhile and oversupply making it necessary. We can posit that innovation takes place when there is confidence that it will produce a return. The mindset of the individual farmer lies far beyond the range of this book, but one can all too easily see how, if farmers saw an opportunity to make money by producing more, or producing differently, they took it. It is all very well arguing that institutional restraints held back agriculture: but capitalism is rather good at dissolving barriers to the making of money and one is bound to suggest that if some enclosure was delayed even into the early nineteenth century, it is because the profits of seeing it through had not previously been compelling enough.

Finally one is left wondering whether the rejection of the idea of revolution in place of continuous incremental change does not throw the baby out with the bathwater. Commentators at the end of the eighteenth century were in no doubt that in their lifetime there had been momentous changes in agricultural practice.[27] Of course what they saw came not from the perspective of national accounting but their own experience within predominantly local horizons. They recalled changes in the palate of crops grown, the adoption of new machinery (and improvements in traditional machinery) and they had witnessed rapid landscape change. They also believed that there was much more to be done.

The problem with a methodology that looks at national levels of output (or GDP) is that the steady tread of improvements disguises local leaps forwards. Let us suppose that the national production of peas increases by 20 per cent. What this probably means is that in some areas it increases by 50 per cent: in others the production of peas stops completely as

[26] Malthus, in his *Essay*, took the doubling of agricultural productivity in 25 years as his example, although he doubted it could be achieved, and he saw a further doubling in the following 25 years as impossible. (Of course, one per cent growth per annum falls far short of a doubling in 25 years.) He did though acknowledge the possibility of technological change, for he saw the outcome of continued productivity growth as labour-intensive cultivation ('In a few centuries it would make every acre of land in the island like a garden'): his view was therefore deeply pessimistic. In general though, Malthus was uninterested in, or ignorant of, agriculture, perhaps because he had no statistics to play with. T. R. Malthus, *An essay on the principle of population*, ed. Donald Winch (1992), pp. 18–19.

[27] See for instance essays like J. E. Hamilton, 'On the improvement of agriculture in Great Britain and Ireland', *Annals of Agriculture* 13 (1790), pp. 74–9.

the efficiencies achieved by the areas undergoing revolution make the production of peas in less efficient or advantaged areas uneconomic. This sort of behaviour can be seen very plainly in the Industrial Revolution in textiles where the development of very efficient factory production in a limited number of geographical locations made production in others – except for high-value, bespoke products – a hopeless proposition. Revolution in some localities was matched by disengagement in others: there was an element of geographical relocation. We might suspect that exactly the same went on agriculture. This is surely what underpins the division into arable and pastoral areas which is very marked from the mid-seventeenth century onwards but was hardly a new phenomenon even then. If the production of a cereal crop increased by, say, 10 per cent, it was not that it increased by 10 per cent everywhere. It increased by 20 or 30 per cent in some places – places which may be said to have gone through a revolution – while production ceased in others and farmers looked for alternative products to grow.[28]

An approach which eschews ideas of revolution is open to the sort of criticism which Berg and Hudson made quarter of a century ago of the economic interpretation of the Industrial Revolution by Crafts and others.[29] In terms of output, the year-on-year change found by them was not impressive and it could plausibly be argued that there had been no revolution. In terms of the regional experience, the forms of production and the employment and the social experience of labour, there was indeed a revolution between 1780 and 1850. People no longer worked in a domestic environment or in small workshops: they worked in factories under an industrial discipline. Now one would not wish to press the analogy with Berg and Hudson's critique too far, but one could argue that ideas of revolution are finally a matter of perspective. Reading economic growth as a national experience suggests only gradual and incremental change. Treating it as the sum of many local and regional experiences surely finds examples of rapid, accelerated *regional* change if only as some areas played catch-up with what had been achieved – and normalized – elsewhere, or looked for other specialities to pursue. It is certainly far too soon to say that there was no agricultural revolution and until we decide where we stand on this issue, the question will hopefully provoke thousands of undergraduate essays.

VII

The question now becomes one of where British agricultural historians should direct their research effort over the next few years. Of course, this is a study of productivity which draws on work undertaken at a time when studies of productivity still commanded the heights. In a sense *British economic growth* draws to a close a phase of English agricultural history which began in the 1970s when Campbell and Overton started their doctoral work. The hot money has long since moved elsewhere, into social aspects of rural history, cultural histories of the

[28] For this reason there is a doubt in my mind about how far inventory data from regions which continued in arable production may be taken to reflect *national* trends in arable production. The present book may escape this problem by weighting production by county.

[29] Maxine Berg and Pat Hudson, 'Rehabilitating the industrial revolution', *EcHR* 45 (1992), pp. 24–50. (Capitalization as in the original.)

countryside and environmental history, and now there is a new concern with technology through an interest in the treatment of animals over time.

Within the area that the book considers, there is a plain need for more evidence at certain moments, for instance in the gap between the end of the demesne accounts and the beginning of the probate inventory materials. More inventories could be collected for the later sixteenth century to narrow the gap, and the book is clear that the inventory sample could usefully be widened to more counties, but one suspects that it would require a big correction to the existing inventory data to materially alter the results reported by Broadberry *et al*: the point is more and better data would build confidence in their results rather than serve to overturn them.

British economic growth shows that there is a real question about when England achieved its maximum cultivated area in the late eighteenth and first half of the nineteenth century. Clarity here would be helpful in underpinning future calculations of the likely cultivated area *c.*1290. It would certainly be worth looking at how we can secure better estimates of the area of arable, permanent enclosed pasture and common in England between the later middle ages and the onset of parliamentary enclosure in the mid-eighteenth century. As a process which transformed landscapes and allowed for the extension of the arable area by enclosing commons (and the conversion of open field arable to common), enclosure will continue to hold its fascination for agricultural historians.

Another point which needs to be made is that whilst *British economic growth* places a great deal of emphasis on fallows, it ought to say more about underdrainage. Apart from Phillips's work on the later phases of underdrainage, this is an orphan subject which awaits its historian. A number of writers have shown that underdrainage using hollow or bush drains is a significant factor in both increasing the area available for cultivation but also raising the productivity of parcels of ground prone to poor drainage or water-logging. For Allen drainage was one of the uncontestable advantages brought by enclosure. Using data from Vancouver's *General View of Cambridgeshire*, Allen calculated an increase in yield of 20 per cent for wheat, 18 per cent for barley and 27 per cent for oats following underdraining.[30] This was specific to certain soil types: it should not be taken to be a general effect.

Wade Martins and Williamson produced evidence that drainage by hollow drains was familiar on the heavier soils of Essex and Hertfordshire by the end of the 1720s and suggested that it was adopted on the East Anglian clays after the 1760s.[31] There was a great deal of interest in underdraining in the 1790s: the Board of Agriculture and the circle of Arthur Young took up a drainer called Joseph Elkington and a book on the principles of drainage as developed by him appeared under the Board's auspices in 1797.[32]

The problem is that this early drainage using hollow drains is largely historically invisible. The practice, whose use continued throughout the nineteenth century, was to dig a trench

[30] R. C. Allen, *Enclosure and the yeoman. The agricultural development of the south Midlands, 1450–1850* (1992), pp. 138–9.

[31] Susanna Wade Martins and Tom Williamson, *Roots of change. Farming and the landscape in East Anglia, c.1700–1870* (1999), p. 65 and see pp. 61–7 *passim*.

[32] John Johnstone, *An account of the most approved mode of draining land according to the system practised by Mr Joseph Elkington drawn up for consideration of the Board of Agriculture and internal improvement* (1797); Chris Holland, Anne Langley and Adam Moore, *Joseph Elkington: Warwickshire's land drainage pioneer* (2006).

and fill the lower part of it with vegetable matter – gorse, hedge cuttings, coppice timber even – and then backfill the trench. Water would then flow through the vegetable matter, but as this decayed, the drain would collapse and the efficiency of the drain would diminish. The work of drainage therefore needed to be repeated every ten, twelve or fifteen years. The decision as to whether to make or to repair hollow drains and the costs they incurred largely fell on the farmer himself. Tile drains and pipe drains had a long life-expectancy and were therefore improvements which had something of the character of fixtures. The introduction of machine-made tiles and drains substantially reduced their cost. As they were expected to last, it was possible to borrow on their security, both in the sense that tenants might pay interest to landlords for their investment but that from 1846 landowners were able to access government-backed loans for underdrainage. It is the records created by government loans that Phillips exploited, but this stage in the history of underdrainage stands in relation to the longer history in much the same way as parliamentary enclosure stands to enclosure: it is a phase backed by readily accessible records. Unlike parliamentary enclosure though, drainage could take place several times. Tile drains could supersede hollow drains and doubtless often did.

Contemporaries were impressed by the efficiency of drainage. In 1802 the vicar of Mitton in the West Riding of Yorkshire reported that 'The face of this country is of late very much altered by draining the lands'.[33] It is not hard to find other examples of such enthusiasm. We therefore need to take underdraining seriously. It may be argued that underdrainage by hollow or bush drains merely introduces another unquantifiable element into the equation. Moreover, there was probably a regional element to it – the benefits would be felt in some localities and not others according to soil type. It was a technique which farmers could adopt when the prospects for agriculture looked good whilst drains could be allowed to decay when agriculture was in the doldrums. As such, it is a technology which conforms to a Boserupian approach, something which is far from original or innovative, but which can be picked up when the time is right (and put down when it ceases to be useful). The adoption of underdrainage is a factor which needs to be included in any assessment of agricultural change in the half century before tile drains became usual.

There is too the whole question of weather, and the extent to which eighteenth- and nineteenth-century gains in agricultural productivity can be attributed to changes in the prevailing climate rather than being the outcome of changes contrived by people, be it new crops, new strains of crops or new technologies. Did it, in effect, become easier to farm? Did changing climate force the abandonment of some arable land in the later middle ages but permit its return to arable half a millennium later? Did the great expansion of cereal growing into improbable places (the north-west coast of Ireland for instance) become possible because the weather became more clement and the growing season longer? Weather barely features in this book, which, given Campbell's prominence as an advocate of weather as an exogenous factor to medieval society, is perhaps a bit odd. In general agricultural historians don't really

[33] M. E. Turner (ed.), *Home Office acreage returns, Staffordshire to Yorkshire* (List and Index Society 195, 1983), p. 177. The vicar also made some interesting comments on the move way from bare fallows to rotations which lacked a fallow year.

know what to do with weather as a variable, and yet we would all acknowledge that it is not unchanging, even if the exact pattern and timing of change is elusive.

In many respects though *British economic growth* makes the point that agricultural history in England is now a mature discipline. Here we have a work which sums and interprets the work of the last generation, perhaps producing surprising results along the way. But the book also shows the gaps in our knowledge. We have already commented on the uncertainties about the area under cultivation. The account of pastoral productivity is much less well founded than that of arable productivity. But where work is needed most is on areas external to England, on Scotland for one, and on the imports and exports between England and its immediate neighbours. Scotland lacks some of the sources which English historians fall back on – the 1801 crop returns, the tithe files and tithe awards – but it has successive generations of the *Statistical Survey,* which offer the possibility of constructing series of data extending back into the third quarter of the eighteenth century. Price data is also available from the mid-sixteenth century in the form of the fiars.[34] Accounts of Scottish economic history will never be as fine-grained as those of England, but this is no reason not to try to assemble more, and better, Scottish data. It may be expedient to make the assumption that Scotland is simply the younger sibling of England, but it is finally not good enough to be persuasive.

Overall though, *British economic growth* is the gift that the generation now moving into retirement makes to us. Like many a birthday or Christmas present, it may not be entirely welcome, but we should take care that it is not simply put away to gather dust. The chapters on agriculture should be central to our teaching, our research and our discourse.[35]

[34] A. J. S. Gibson and T. C. Smout, *Prices, food and wages in Scotland, 1550–1780* (1995).

[35] Since this review was submitted for publication, Professor Clark has published a discussion of the same chapters of the book ('Growth or stagnation? Farming in England, 1200–1800', *EcHR* 71 [2018], pp. 55–81) to which Campbell and Overton are going to reply in a further article in *EcHR*. They also tell me that they intend to refine their estimates of the area under cultivation. I have chosen not to revise this review article in the light of Professor Clark's comments.

A. D. M. Phillips, 1944–2017*



Tony Phillips died suddenly at his home in Cheshire on 2 November 2017, aged 73. Born and mostly brought up in Manchester, though spending some of his boyhood in Essex, he proceeded from Sale Grammar School to the Geography Department of University College London in 1962. In a department presided over by Henry Clifford Darby with several other luminaries of the sub-discipline among its teaching staff, the young Phillips readily succumbed to the delights of historical geography. Darby's thematic, landscape-evolutionary approach influenced Tony profoundly. It laid the foundations of his own teaching both to generations of Keele undergraduates and to those attending his popular continuing education courses. His UCL

* The author wishes to thank Hugh Clout and Phil Kivell for their helpful comments on an earlier draft. Photograph courtesy School of Geography, Geology and the Environment, University of Keele.

doctoral research, supervised by Hugh Prince with additional advice from F. M. L. Thompson, looked beyond clearing the wood and draining the fen to a theme suggested but as yet little explored by Darby, the underdraining of the clays. The book that eventually emerged, *The underdraining of farmland in England during the nineteenth century* (1989), combined data on the loan capital raised under state legislation with that on private funding derived from all the available estate records of three sample counties to produce national estimates, which, though conjectural, are unlikely to be superseded, of the proportion of drainage-impeded land underdrained during the second half of the nineteenth century. Total capital outlay, Tony suggested, was comparable with that spent on English parliamentary enclosure.

In 1968, Tony was appointed to a lectureship in historical geography at Keele University. Subsequently promoted reader, he was to remain there for his entire career, retiring, though not ceasing to supervise, teach or research, in 2010. A relatively small department, as Keele's was for much of Tony's time there, demands of its staff adaptability in what they teach and a willingness to assume diverse administrative responsibilities. While accepting both of these exigencies with good grace, Tony allowed neither to impede the pursuit of his own research interests. These advanced on a broad front. In the seventies, several papers on French agriculture were co-authored with his UCL contemporary, Hugh Clout. County and regional historical journals became outlets for numerous papers on nineteenth-century English agriculture, each typically exploiting a distinct source – tithe surveys, cropping books, estate papers more generally – to explore different features of agrarian change. Papers in the *Transactions of the Historic Society of Lancashire and Cheshire* (1979) and the *Industrial Archaeology Review* (1979–80) even revisited the subject of Tony's undergraduate dissertation, the agricultural reclamation of Cheshire mosslands as a solution to the problems posed by the disposal of Manchester's waste.

While Barcelona, the venue for many Keele student field trips, was a favourite city and he was briefly a visiting lecturer at York University Toronto, Tony was not greatly given to wanderlust. Having settled at Keele and made his home across the Cheshire Plain, first at Tarporley, where he is buried, then at Maesfen to the north of Whitchurch, it came naturally to him that his 'home counties', Staffordshire, Cheshire and Shropshire, would be at the forefront of his scholarly activity. Some of this may have been happenstance. The Reports to the Inclosure Commissioners by Andrew Thompson, agent to the Keele estate, loom large in the published output from the ESRC-funded project on landlord investment in farm buildings because, as it turned out, they were the only such reports to have survived. Much of it arose because Tony's instinctive readiness to think of new projects cast him as lead facilitator of regional-historical publishing. Though his propensity to initiate occasionally outran his capacity to complete (an Aberystwyth colleague of mine long ago wrote off his contribution to a proposed book on Victorian Staffordshire), a large number of edited projects did materialise, beyond his editorship from 1970 to 1979 of the *North Staffordshire Journal of Field Studies*. They include a volume on the history of the Potteries, published to mark the Keele meeting of the British Association in 1993, the festschrift for Stanley Beaver co-edited with Brian Turton (1975), attractively produced historical atlases of Cheshire (2002) and Staffordshire (2011) co-edited with Colin Phillips, and the festschrift for Michael Greenslade co-edited with Philip Morgan and published by the Staffordshire Record Society (1997). The Society's *Collections* series served as

conduit for several Phillips projects. The edition of Gregory King's surveys of Staffordshire on which Tony was working in the months before his death may be a future volume.

Tony was elected to the British Agricultural History Society's executive committee in 1973 and remained a member of it for more than thirty years. During that time, he chaired the committee, organised numerous winter and several spring conferences, and served first as book reviews editor, then from 1994 to 1998 as editor of the *Review*.

Tony was generous, out-going and fun to be with. His *aperçus* could be both astute and witty. His enthusiasms were many and varied. It saddens me to think that my memory of his unique, infectious laughter will fade and I have no recording. But each time I take the road that leads from Ellesmere past Whitchurch and on towards Warrington, noting the area's substantial brick-built steadings and productive, well-drained farmland, I shall be thinking of Tony at home, just over there, working on the things he loved, living a life he loved.

John R. Walton

Annual list of publications on Agrarian History, 2016*

Compiled by Peter McShane
The Museum of English Rural Life, University of Reading

JOURNAL AND BOOK ARTICLES

ADELL, ISMAEL HERNÁNDEZ and PUJOL-ANDREU, JOSEP, 'Economic growth and biological innovation: the development of the European dairy sector, 1865–1940', *Rural Hist.,* 27, pp. 187–212.

ALDRICH, MEGAN, 'Lancelot Brown, architect and landscape designer at Burghley House', in 'Capability Brown: perception and response in a global context', suppl. to *Garden History*, 44, pp. 51–60.

ALLEN, DANIEL, WATKINS, CHARLES and MATLESS, DAVID, '"An incredibly vile sport": campaigns against otter hunting in Britain, 1900–39', *Rural Hist.,* 27, pp. 79–101.

ALLISON, JULIA, 'Midwives of sixteenth-century rural East Anglia', *Rural Hist.,* 27, pp. 1–19.

ALTHAMMER, BEATE, 'Controlling vagrancy: Germany, England and France, 1880–1914', in Althammer, Raphael and Stazic-Wendt (eds), *Rescuing the vulnerable,* pp. 187–211.

AMBLARD, MARION, 'Le thème du travail agricole dans les tableaux des Glasgow Boys, ou l'Écosse selon des peintres victoriens', *Études Écossaises*, 18, pp. 119–32.

ANDREWS, PATRICK, 'The lost community of Gore Fields', *Proc. Dorset Natural History and Archaeol. Soc.,* 137, pp. 46–56.

ASH, ERIC H., 'Reclaiming a new world: fen drainage, improvement and projectors in seventeenth-century England', *Early Science and Medicine,* 21, pp. 445–69.

AUER, CHRISTIAN, 'La transgression du dogme du laissez-faire: l'intervention du gouvernement Britannique dans les Hautes Terres d'Écosse en 1846–1847', *Études Écossaises*, 18, pp. 107–17.

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—, '"The men who dwell in open country": Buckinghamshire names with OE **fildena*', *Records of Bucks.,* 56, pp. 145–8.

—, '"New" Buckinghamshire Anglo-Saxon charter bounds, II, Aspley Guise', *Records of Bucks.,* 56, pp. 149–54.

BAKER, JOHN and BROOKES, STUART, 'Landscapes of violence in early medieval Wessex: towards a reassessment of Anglo-Saxon strategic landscapes', in Lavelle and Roffey (eds), *Danes in Wessex,* pp. 70–86.

BALL, GEOFFREY, 'Brownian developments and field sports at Audley End', *Saffron Walden Hist. J.,* 31, pp. 27–33.

* Publications are normally of 2016 unless stated. The following short titles are used: *AgHR, Agricultural History Review; EcHR, Economic History Review*

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BAPTY, TAMSIN, 'The Corbetts are "victorious over all": agricultural implement making in Shropshire, *c.*1860 to 1914', *AgHR,* 64, pp. 38–53.

BASSETT, STEVEN and WAGER, SARAH J., '*Donnelie* (Warwicks): identifying a lost Domesday manor and understanding the nature and function of its *haia* (hay)', *Midland Hist.,* 42, pp. 1–17.

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—, William Castleman and Sons: agents to the Marquis of Anglesey', in Beardmore, King and Monks (eds), *The land agent in Britain,* pp. 87–106.

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BOLTON, MARGARET, 'The experience of plague in East Kent, 1636–38', *Local Population Stud.,* 96, pp. 9–27.

BOOTH, PAUL, 'A probable cattle-handling settlement in the Windrush Valley, Oxfordshire: a brief summary of 25 years work at Gill Mill Quarry, Ducklington and South Leigh', *Britannia,* 47, pp. 253–61.

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BOYLAN, CIARA, 'Famine', in Bourke and McBride (eds), *The Princeton history of modern Ireland,* pp. 403–24.

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BREATHNACH, CLARA, 'Handywomen and birthing in rural Ireland, 1851–1955', *Gender & History,* 28, pp. 34–56.

BREEN, COLIN, 'Marine fisheries and society in medieval Ireland', in Barrett and Orton (eds), *Cod and herring,* pp. 91–8.

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Book Reviews

Britain and Ireland

SUSAN ROSE, *The wealth of England. The medieval wool trade and its political importance, 1100–1600* (Oxbow, 2018). 238 pp., 55 illus. £40.

Rose begins her new volume with a quote from Eileen Power: for England in the Middle Ages, 'her commerce and her politics alike were built upon wool' (Power, *The wool trade*, p. 17). Quite rightly Power remains the guiding spirit for all students of the wool trade. Rose's book is divided into four sections – 'Production', 'Trade', 'The Crown and the Wool Trade', and 'Decline'. While agricultural historians may find the opening section of most interest, it is impossible to divorce production, trade and politics. Rose explains how each influenced the others. Graziers often engaged in trade above and beyond the sale of their own wool, although most – like John Heritage of Moreton-in-Marsh – did so on a relatively modest scale and never achieved riches. The greatest among them, such as Cardinal Bishop Henry Beaufort, were powerful figures at court.

Chapter 1 summarizes contemporary writing on pastoral husbandry. Treatises first appeared in the thirteenth century and influential writers included Walter of Henley in England and Jean de Brie in France. They were primarily concerned with the role of the good shepherd and what he needed to do to protect his flocks. Selective breeding probably began earlier than Rose suggests, but its advantages were well known by the sixteenth century. In a case from the 1560s the claimant alleged that the defendant had allowed his rams 'of a very coarse kind of wool' to wander into his fields, obliging him 'to cover the hinder parts of the ewes' with canvas bags (p. 10). She relies on the work of Ryder to state that, in the Middle Ages, horned sheep were uncommon. Anyone who has admired the magnificent stone beasts that gaze down from the churches of Windrush in the Cotswolds and Kilpeck in Herefordshire might beg to differ.

Several case studies examine wool growing on estates held by both the church and laymen. For a while the Cistercians were dominant, but ultimately many of their houses were brought low by misjudging the wool market. 'The system of advance payment for wool provided monasteries with the ready cash needed to support ambitious building plans but could easily lead to disaster if bad weather or attacks of disease badly affected the productivity of flocks' (p. 182). The most poignant remark must be credited to the abbot of Pipewell who, when deposed in 1323, lamented that, 'it is easier to borrow than to pay back debts' (p. 182). Successive bishops of Winchester managed their enterprise much more wisely and extant records trace their fortunes from as early as 1208/9. Among gentry estates, those of Adam de Stratton of Sevenhampton in Wiltshire are particularly well documented. Between 1270 and 1279 he increased annual revenue from livestock farming from just over £6 to more than £55, by which time he owned 1,001 sheep. Sheep farming was not, however, the preserve of the great and the good. Peasants kept small flocks and, in this way, acquired an 'early acquaintance with "commercial" agriculture' (p. 202). Enterprising attitudes developed and flourished in all ranks of society.

In her overall assessment of medieval wool growing, Rose arguably underestimates the changes that occurred between the thirteenth and the fifteenth centuries. Her view that there were 'few if any marked differences in farming practice' (p. 36) between the two centuries is contentious. Although she gives a nod to the work of Slavin and Stone, she does not really get to grips with the consequences of climate change, panzootic, pandemic, demographic collapse and all that ensued for ovine husbandry. She is much more persuasive in analysing the popular reaction against sheep farming in the early sixteenth century, when total animal numbers were almost certainly less than they had been two hundred years earlier and the wool trade was in sharp decline. For her the debate that 'focused on the size of sheep flocks, [was] little more than a convenient symbol for the far-reaching changes in land-holding and land-use in the countryside and their social effects' (p. 179).

Rose relies almost entirely on published material, in which she has read widely. Her volume includes an extensive bibliography that serves as a useful point of reference for other scholars. Nevertheless, there

are some surprising omissions, in particular Bruce Campbell, whose studies of seigneurial agriculture are well known and highly regarded. Those looking for cutting-edge research will be disappointed by this volume. Those who want a well-structured survey of previous work written in a clear, concise and engaging style will be well satisfied. The book is a good read and nicely illustrated. Hopefully it will reach an audience well beyond the halls of academia.

NICHOLAS R. AMOR
University of East Anglia

NIGEL SAUL, *Lordship and faith. The English gentry and the parish church in middle ages* (Oxford University Press, 2017). 384 pp., 50 illus. £75.

This is an ambitious and informative piece of scholarship. Nigel Saul's latest monograph is sure to become a touchstone for scholars of medieval lay piety. To achieve his full-length study of the relationship between the gentry and the parish church, Saul has scoured the English countryside and collated archival research with antiquarian reports to produce an analytical and dynamic account of gentry faith between the late Anglo-Saxon period and the early sixteenth century. The result is a comprehensive monograph, which makes a valuable and important contribution to the flourishing field of parish church studies.

The book's overarching argument is that throughout the middle ages, the English gentry were an active and visible presence in the physical and social space of the parish church. Since the emergence of scholarly interest in the medieval gentry during the 1980s, the question of how far they were involved in parochial life has been prominent in the field. In a seminal article, Colin Richmond argued for the individualistic and self-centred nature of gentry piety, made tangible through the proliferation of books of hours, oratories and household chapels. In some respects, *Lordship and faith* might be read as a response to Richmond's argument. This is most clearly seen in 'Chapel and Household' (chapter six), where Saul presents domestic chapels and parish churches as complementary entities. Saul argues that while the domestic chapel provided a forum for the lord's daily devotions, the parish church nevertheless remained a centrepiece for events associated with key stages of the lifecycle, including baptisms, marriages and funerals. The observations in this chapter are representative of the book's broader conclusion that relations between the gentry and wider parish community were, on the whole, harmonious rather than antagonistic.

To present *Lordship and faith* as a mere refutation of Richmond's thesis, however, would be to understate grossly the book's wider significance and contribution to the field. Impressive for both its breadth and level of detail, the monograph contextualizes the parish church as part of broader corpus of religious institutions, from monasteries and mendicant houses, to household chapels and collegiate foundations. The volume's structure is at once thematic and chronological, enabling Saul to chart the gentry's growing involvement in the parish church over time, whilst also avoiding the trap of becoming overly descriptive. Gentry interest in the parish church is traced back to the late Anglo-Saxon period when thegns – referred to as 'proto-gentry' – began to take an interest in building the modest chapels that prefigured the later parish churches. The book's main focus, however, is the period after the Black Death, when what Saul refers to as the 'gentry church' really came into its own. Saul presents the fourteenth century as a watershed moment when the gentry shifted their resources from the monasteries to parish churches, a transition compounded (and no doubt also facilitated) by diocesan legislation, which saw the laity – and the gentry in particular – increasingly encouraged to shoulder the responsibility for the upkeep of parish churches. It is at this point that we begin to see the gentry really staking a claim to the fabric of parish churches, evidenced by their commission of funerary monuments, chantry chapels and heraldic decoration.

This rosy picture of increased gentry involvement in parish life is, of course, partly determined by the greater amount of surviving source material for the later part of the period. Saul acknowledges that the rebuilding of many parish churches in the fifteenth century, coupled with the systematic preservation of wills from the later fourteenth century onwards, throw a spanner in the works when trying to access the activities of the earlier medieval gentry. Saul is skilful in his navigation of the holes and pitfalls of his sources, although his chapter conclusions occasionally go beyond what we can say on the basis of the evidence available. In chapter eleven, 'Lordship and Patronage', he states that 'sometimes the presence of gentry lordship could become overbearing and oppressive, as when the church was turned into a family mausoleum; rarely, however, did it become wholly intolerable' (p. 274). While the evidence presented in the book suggests that internal disputes between members of the gentry were more common than those between the gentry and other social groups, the more sceptical reader might still wonder how we can know the thoughts of so many parishioners whose voices are either lost to us or mediated through those of their social superiors.

Saul asks 'How far, if at all, did the "gentry" church have a distinct look?' (p. 201). Given that only two dozen end-to-end gentry churches survive from the middle ages, Saul poses a question which is difficult to answer. We learn that the gentry church was a cocktail of variables, impacted by factors such as geography, the master mason's skills and the patron's preferences and wealth. Where they did not embark upon the wholesale rebuilding of the church, gentry patrons usually took an interest in features such as towers, porches and clerestories, and – most characteristically – the chantry chapels where they chose to be buried. Saul concludes that while gentry churches came in all shapes and sizes, they were characteristically grander and more ornate than their humbler neighbours.

Women feature prominently in the book as commissioners of architecture, commemorators of the dead and as advocates for the interests of their fellow parishioners. The monograph notably opens with the example of Isabel de Pembridge, a Shropshire widow whose foundation of a chantry college at Tong was designed to commemorate her three former husbands. An active and innovative patron, Isabel is one of many gentlewomen who repeatedly surface in the book's pages as leading lights of parish life. Of domestic piety in particular, he suggests that gentlewomen may have similarly set the pace when it came to household devotions, providing exemplary models for their peers to follow (p. 120). Although he frequently highlights women's importance, however, Saul's conclusions as to the nature and significance of their roles remain underdeveloped. Did women make a distinctive contribution to the physical and social fabric of the gentry church? Perhaps this is a question for another monograph.

The book's argument is helpfully supplemented by fifty black and white illustrations, which are generously distributed throughout the text. These are essential to the monograph's argument, although colour images would have been a more fitting tribute to the lively and vibrant picture of gentry life painted by Saul's prose. In chapter two, 'Churching the Landscape', a subsection is also confusingly given the same title as the chapter. These, however, are minor issues, which should not detract from the overall achievement of this impressive monograph. A well-researched and clearly written volume, the work is sure to appeal not only to scholars of medieval religion, but also to those wanting a broader understanding of the everyday workings of life in the medieval parish.

RACHEL M. DELMAN
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HADRIAN COOK, *New Forest. The forging of a landscape* (Windgather Press, 2018). 232 pp., 41 illus. £34.99.

Hadrian Cook, author, academic and landscape historian, will perhaps be more familiar to people with an interest in the history, ecology and conservation of water meadows and catchment management. In his latest book, *New Forest*, he turns his attention away from the aquatic to another evocative but altogether more terrestrial landscape as he attempts to 'defragment' interest in the New Forest and tries to produce a fresh and integrated look at its history, conservation policy, changing economy and governance. The writing of the book was, it seems, prompted by two events: the creation of the New Forest National Park in 2005 and the Coalition Government policy of 2011 which many interpreted as an attempt to privatize the Forestry Commission and sell off the New Forest (among other state-owned forests). Both of these events revealed the contested nature of the New Forest landscape. In the case of the former, through the argument that effective forms of governance and legislative provision had already been established over its 900-year history, and in the case of the latter, through protests in favour of the New Forest remaining a state-owned and state-maintained public resource. As the author shrewdly observes, even the late Mrs Thatcher never presumed to privatize the assets of Mrs Windsor. These themes and, indeed, the thrust of the book therefore emanate from questions concerning the values that we place on the landscape; asking why we perhaps value some areas more than others, and what do we value them for? For the New Forest, once a medieval royal hunting forest and now a modern conservation-cum-recreation landscape these are valid enquiries that demand a multi-disciplined approach. This book is, therefore, Cook's attempt to see the subject through the lens of environmental history or 'green history', to use his words, in an approach that mixes discussion of the political and economic dimensions with description of the New Forest landscape.

While the New Forest landscape has changed less than the agricultural landscapes and urban areas that surround it, Cook points out that the Forest has entered the twenty-first century as the core of an array of planning and conservation designations. He therefore seeks to provoke a wider understanding and discussion of how the New Forest has arrived at its current arrangement and where it is going. He does this by examining what he identifies as four critical themes: first, the shaping of the natural environment

into human prehistory; second, human intervention through natural resource management; third, the governance and management of the Forest over time, stressing the pressures on resources and attempts at exclusion of certain groups; and, fourth, policies and designations to conserve the New Forest. The themes are dealt with in order of chronological interest.

After an introduction and a section explaining the landscape's ecology, function and value, the remaining chapters deal (respectively) with the prehistoric and pre-Norman Conquest landscape, revealing through archaeology the impact of early humans on the New Forest; the medieval period, which saw the establishment of the royal forest and elite hunting; the Tudor period through to the reign of William III and Mary, which saw the rise of silvicultural production; the early modern period into the twentieth century, which is described as the decline of the 'old ways'; the twentieth century, including the Second World War era up until the mid-1980s, which saw the conflict between forestry exploitation and public amenity; and, finally, from the mid-1980s into the present day, which has seen the New Forest increasingly under the influence of partnership arrangements between statutory, voluntary and private sector organizations. This book also attempts to outline the twists and turns of the New Forest's journey through history, not just in terms of changing governance and political priorities but also some of the various stakeholders who have altered and influenced its cultural and physical landscape. These stakeholders include the prehistoric hunter-gatherer societies, the aristocracy, politicians, farmers, economists, agricultural labourers, gypsies and commoners to which list has been added in recent years, environmentalists, recreation-seekers, tourists and those living on its margins in the urban hinterland.

New Forest endeavours to blend history, politics, geology and ecology, together with a touch of literature and even folk culture, in order to examine the values placed on its landscape, the process of its governance and the possibilities for its future. Historians who regularly study the New Forest will be familiar with the primary sources (and indeed some of the illustrations) that have been used throughout this book but will surely find originality in the ideas that are presented and the questions raised by Cook's book. Indeed, many of the questions considered by the author, particularly about the prospects for the New Forest in the coming years, are still being discussed amongst the many organizations that share an interest in the Forest's purpose, value, governance and future. Fortunately, the author is fairly upbeat about the outlook for the New Forest, which he believes is all the better for being regarded and managed as a 'nationalised' property. But, as he says, time will tell.

GALE GOULD
University of Southampton

PATRICIA CROOT, *The world of the small farmer. Tenure, profit and politics in the early modern Somerset Levels* (University of Hertfordshire Press, 2017). 240pp. £18.99.

Studies of particular communities, places or landscapes run the risk of being inward-looking, 'parochial', and of little interest to people outside that locality, but Patricia Croot's study of farming communities on the Somerset wetlands is an excellent example of how that problem can be avoided. Croot's Introduction (Chapter 1) sets the scene extremely well, outlining how this is a case study of an important, but neglected, phenomenon: an early modern rural society which demonstrates the importance and dynamic nature of small-scale farming in the development of a capitalist economy. There is an account of the historiography that places this study in its wider context – including the 'Brenner debate' over the transition from feudalism to capitalism – and the issues associated with which are returned to in the conclusions (Chapter 7).

This is not, however, just a study of agricultural economics. In Chapter 2 Croot explores the landscape itself including its natural wetland resources, the important common meadows and pastures, access to local markets, and the wide range of craft activities that were also undertaken. The Somerset Levels are an extensive reclaimed wetland next to the Severn Estuary in south-west England, and represent a hand-crafted landscape that – were it not for a complex system of drainage channels and embankments – would be regularly flooded by both inland rivers and the sea. During the early modern period a strongly market-oriented economy developed and, rather than these small-scale farmers being at a subsistence level, they were successful business people who exploited their landscape's natural potential and good access to nearby towns such as Bristol, Bridgwater, and Taunton.

Patterns of landholding and inheritance are then explored in Chapter 3, with the switch from customary tenure to leasehold for a certain number (usually three) lives being particularly important. Chapter 4 explores the different ways that farmers made a living from the land. Dairying was the dominant land use, but this was complemented by a wide range of other farming strategies including the growing of beans and keeping of pigs, alongside some arable including the cultivation of teasels which can tolerate poor

wet soils. The rich wetland pastures attracted more distant landowners who bought up some of the land in order to fatten livestock. Farm sizes and incomes are also explored. Chapter 5 looks at family structures and inheritance practices, showing, for example, that, while testators could not share out the land belonging to one tenement, where they owned more than one landholding these were distributed amongst their children (something that was a factor in the multiplicity of small holdings that characterized this landscape). Chapter 6 discusses wealth, society, and national politics, showing how the weak manorial structure contributed to local communities' sense of independence and self-determination.

This study is extremely well written, well structured and engaging, but it has one weakness: there are just three illustrations that together do nothing more than show the location of the study area, its parishes and major settlements within it. Apart from the cover image there are no photos to help the reader understand the character of this landscape – such is its water-filled drainage ditches lined with pollarded willows – or more detailed maps showing the intimate relationships between the diverse settlement patterns, field systems and common pastures. A relatively small number of photographs and maps would have brought this landscape to life, and help readers who have never been there to appreciate its visual and historical qualities.

Overall, however, this is an excellent study of a landscape and society dominated by small-scale farmers. It presents a fascinating counterbalance of the world of the great estates that dominated Midland England, and the author shows convincingly that major landlords played a relatively small part in shaping the landscape and economy of this area.

STEPHEN RIPPON
University of Exeter

ELIZABETH GRIFFITHS (ed.), *Her price is above pearls. Family and farming records of Alice Le Strange, 1617–1656* (Norfolk Record Society, 79, 2015). viii + 376 pp., 6 figs. 1 map. 8 tabs. £18.

Alice Le Strange, a seventeenth-century Norfolk woman with an extraordinary talent for accounting and estate management, is responsible for the archive that forms the basis for this exemplary edition. Hidden within a flap of one of her account books Alice's husband Hamon wrote that 'her price is above pearls', highlighting the trust and admiration that he had for her in her role. Griffiths has already demonstrated Alice's role as a manager of domestic affairs in *Consumption and gender in the early seventeenth century household. The world of Alice Le Strange* (published by her in 2012 in collaboration with Jane Whittle). This present volume looks to her role beyond the limits of the household. Thus, it provides a compelling piece of evidence for the crucial role that one remarkable woman had as overseer, improver and accountant of her family's lands and suggests that historians need to look to women, as well as men, who fulfilled these duties.

The book begins with an extensive opening chapter that introduces the reader to the Le Strange family and to the contents of their impressive family archive. In this section, we learn of Alice Le Strange's place within her family and broader Norfolk society, and the significance of her contribution to the management of her family's estate and finances beyond the household. It also introduces the reader to the accounts that follow and provides historical context and detail to aid the reader's navigation of them. We learn, for example, that when Alice came into the possession of her father's estate at Sedgeford she commissioned extensive surveys and reconstructed the infield-outfield farming system for greater profitability. She also kept detailed records of the sheep that she and her five children owned. Furthermore, Griffiths explains how Alice and her family attempted to recover from the terrible losses they suffered as a result of the Civil Wars. The family lost most of their sheep to plunder by soldiers and were forced to pay fines to the Parliamentarian forces. Alice used one of her books to account for her family's finances, documenting the losses that came about from the 'unjust and tirannicall oppression' (p. 83) that the family had suffered as a result of supporting the Royalists during the wars.

The accounts themselves are clearly presented and editorial decisions are explained throughout in footnotes. Griffiths explains that she tried to retain the 'experimental nature' (p. 59) of the original documents when presenting them. As a result, it is possible to observe Alice's corrections and insertions even within the limitations of a printed transcript. This means that the reader can note Alice's errors and occasional confusion (for example in the arithmetic within the sheep accounts) as well as her skill and overall success. All of this serves to present the accounts as documents with a real historical figure at their core and invites the reader to comprehend the incredible contribution that Alice made to the management of her estates.

The edition also contains several tools for the reader to use when navigating the accounts. There is a rather lovely pull out map to be found within the final cover of the book that reproduces the maps of Sedgeford that Alice commissioned from John Fisher in 1631. Additionally, as several of the printed accounts pertain to the family's sheep holdings, there is also a very

useful 'Sheep Glossary' – invaluable to any reader not familiar with the difference between a hogg and a shearling.

Above all, *Her Price is Above Pearls* is an incredibly valuable contribution to the history of women's involvement in estate management, as well as for wider histories of estate management and accounting more broadly. It offers glimpses into the familial relationships that existed within a wealthy seventeenth-century family, from the accounts of the sheep belonging to the children to the wills of Alice and her husband at the end. It provides an in-depth insight into the running of a Norfolk estate and demonstrates the ways in which farming methods changed and improved over the period, as well as how such an estate recovered from the material losses of the 1640s. Most importantly, perhaps, this edition showcases the ways in which one particular woman wrote accounts, improved her estate and noted down perceived unjust losses within the accounts themselves for future generations to read.

By presenting the accounts of Alice Le Strange and holding her up as an extraordinary figure, this edition does not answer the question of whether women were active more generally as estate managers, accountants and improvers in the seventeenth century. This edition ought to prompt further exploration of the role of women as estate managers in the seventeenth century. In this way, the true nature and the potential uniqueness of Alice Le Strange's achievements could be illuminated.

HANNAH WORTHEN
University of Hull

BRIONY MCDONAGH, *Elite women and the agricultural landscape, 1700–1830* (Routledge, 2017). 189 pp., 17 illus. 3 tabs. £105

Briony McDonagh was awarded the Joan Thirsk Memorial Prize for this book. There was stiff competition but McDonagh and her elite women prevailed. Those already acquainted with the activities of these remarkable women will not be surprised, while newcomers will be re-assured that McDonagh is not seduced by luxury, wealth and privilege. She celebrates their achievements and has clearly enjoyed her association with the seventy women cited in the text, but reminds us that their function was to reproduce the social and political power of the ruling elite.

As she says in her concluding chapter, there is no escaping the fact that through their astute estate management, these gifted and determined women bolstered the existing patriarchal order. Improvements, which cemented the property rights of their families, extinguished the rights of commoners and hit lower-class women particularly hard. Even though these elite women were often very religious and also keen philanthropists, some of their activities were potentially disastrous for those further down the social scale.

Nevertheless, McDonagh identifies a real issue. While the contribution made by women in business, the arts and philanthropy during this formative period has been acknowledged, the role of women in shaping the British landscape has largely been ignored, not only by contemporaries, but by modern historians and archivists too. As a historical geographer and feminist, McDonagh sets out to correct this omission and challenge the view, expressed by John Beckett, that 'eighteenth-century landowning was a man's world'.

The idea for the book was part of a wider project to uncover alternative histories of the British landscape and to recognize the contribution of those – including women and the poor – so often written out of existing accounts. We might not visualize elite women as victims of discrimination, but we soon learn in terms of their gender, they were seriously disadvantaged and had much to contend with. In relation to their fathers, husbands and sons they were truly underprivileged. McDonagh fully appreciates the dark corners of their lives and skilfully plots their story.

The book is composed of seven tightly written chapters with an appendix providing the key information on the female landowners, estate managers, builders and improvers featured in the text. This is a most useful reference with details of their route to landownership, marital status when managing the property, approximate years managing the estate, the names of husbands and children, and finally their own maiden name. In this way, seventy lively women and their appendages become quite manageable. The estates are located principally in the Midlands, but with significant additions in the West Country, South East and in the North. The lady landowners of East Anglia, including Lady Suffield and Constance, Marchioness of Lothian who presided at Blickling for over a century, are notable exceptions.

After setting the scene, McDonagh explains the full range of legal constraints which operated against heiresses and female landowners. Primogeniture meant that elder daughters were bypassed in favour of younger sons, while coverture ensured that if they were lucky enough to inherit, estates passed to their husband on marriage. Some managed to secure separate status for their estate, but most had to wait for widowhood to assume complete control of their property. No wonder a quarter of aristocratic women never married. Apparently, a woman's chance of inheriting an estate

diminished during this period as nephews were favoured over daughters: this kept the property within the family. Despite these constraints, McDonagh calculates that, from enclosure awards drawn mainly from the Midlands counties, just over ten per cent of 250,000 acres was owned by women. With 700 examples of female landowners scattered through 150 parishes in ten counties, they were relatively commonplace. Significantly, half the land identified was owned by 50 elite women.

In the next two chapters, McDonagh describes how these women managed and improved their estates. Not all of them showed particular aptitude, but several, notably those women brought up with the prospect of inheritance, showed a special affinity and talent for the various tasks involved. One of first examples, Elizabeth Hood, was trained in the art of estate accounting by her elderly father and inherited the family estate at Butleigh Wootton, Somerset aged just eighteen. She married a captain in the Royal Navy, who was killed six years later, leaving her to manage the estate – which she tripled in size – for a total of 67 years: the longest tenure cited in the appendix.

Similarly, childless widows devoted themselves energetically to their new roles. Elizabeth Prowse is the prime example, benefiting from the experience of her mother-in-law and the manufacturing and radical background of her own family. While her brother, Granville Sharp, campaigned for the abolition of the Slave Trade, brother James made agricultural implements at his iron foundry in London and performed trials on her estate at Wicken. Prowse brought an entirely modern approach to the business, keeping an estate journal, reforming her accounts and experimenting with new ideas and technology. Clearly, these two women were exceptional but not unique, as the other 68 examples testify.

In the next two chapters, McDonagh explores the traditional role of elite women and how their contribution has been represented in obituaries, family memorials, literature and by historians. With the single exception of Elizabeth Manners, Duchess of Rutland, their efforts as estate managers, builders and farmers were disregarded. Praise was firmly focused on their philanthropy and good works, reinforcing the idea of the moral economy of the landed estate. This is understandable in the context of the time. The question is why modern historians, male and female, have accepted this interpretation for so long and adhered to the model of 'separate spheres'. For challenging this assumption McDonagh certainly deserves her award.

LIZ GRIFFITHS
University of Exeter

RUTH TITTENSOR, *Shades of green. An environmental and cultural history of Sitka spruce* (Windgather Press, 2016). 375 pp. £29.95.

The author is an ecologist known for her pioneering studies on the historical management and exploitation of Loch Lomond oaks, and more recently for a remarkable oral history of the Sitka spruce forest at Whitelee in Ayrshire. She returns here with a book that aims to do two things: to tell the story of Sitka spruce in its widest context in North America and Great Britain and Ireland, and implicitly to cast doubt on the usefulness of categories like 'naturalness' for setting conservation priorities.

This explains the structure of the book. It begins with five chapters telling the ecological history of Sitka spruce in Washington, Oregon, British Columbia and Alaska, and its cultural history in relation to the uses that the First Peoples made (and still make) of it. There is much fascinating detail. For instance the discovery of a 6000-year old basket, made of Sitka roots, which is virtually identical in preparation and weaving techniques to those still used by indigenous Alaskans. Sitka in western North America grows into mighty trees, an essential component of the temperate rain forest that clothes the islands and the coastal plain. All parts of it, roots, shoots, bark, the great trunks and branches themselves, have their traditional uses for the First Peoples, ranging from totem poles and boats to fish traps and food.

The next three chapters have nothing at all to do with Sitka, but provide a hasty tour of British woodland history from Mesolithic tinkering with the wilderness, to Tudor ship-building and Georgian planting and wood management, but not saying much about some topics, like the charcoal iron industry. The purpose of this seems to be to demonstrate that human exploitation has left its mark on woodland at every stage, so what we take to be natural wilderness is nothing of the sort. It is also to show how all-enveloping and critical has been the need for timber products, and how ultimately inadequate was the supply of native trees to meet these needs.

The rest of the book returns to its main theme, firstly with the discovery of Sitka spruce by British sailors and explorers on the Pacific coast of North America who used the foliage to make beer as a remedy for scurvy and came to appreciate the tall straight trunks for replacement masts.

Alerted to its potential, the estate gardener David Douglas was sent from Scotland to explore the area's botanical riches, and returned with the first Sitka seeds to Britain in the 1830s. Wealthy sponsors planted the seeds on their estates; some of

the first are now magnificent specimens in Scottish arboreta. Nevertheless, it took the best part of a century for foresters to appreciate fully the remarkable combination of lightness and strength in the timber, and rather longer for them to work out how best to grow it on wet and cold British uplands. Meanwhile when the Forestry Commission came into being in 1919, 'the new commissioners and other significant landowners fell over themselves to get their own property sold and afforested', finding a welcome chance to make money from their worst land at a time when estates were under pressure – an interesting observation from Tittensor. These included the duke of Northumberland, who sold off his least profitable moors at Kielder to enable the Commission to make the biggest forest in England, now the haunt of merlin, goshawk, osprey and red squirrel.

The first to appreciate Sitka as the tree of the future in Britain was W. D. Crozier in an article of 1910. The first time it caught the public imagination was as the timber for early aircraft in the First World War (not for nothing is Boeing located in Seattle). The first person to find seed of the best provenance to grow in Scotland, and the right method for planting it on a large scale on bad land, was Sir John Stirling Maxwell on his estate at Corrour, amid the utter bleakness of Rannoch Moor. After the Second World War, with the invention of powerful moorland ploughs, Sitka came to dominate new planting in Britain and Ireland, covering hillsides with dark blankets of close-planted, short-rotation trees and bringing about the biggest change in land use in Scotland since the Clearances. Protests followed. Meanwhile in North America logging companies made havoc in the old growth forests, coming into conflict with both the First Peoples and with nature conservationists before some kind of compromise was worked out.

Ruth Tittensor dwells on the richness of lichen, bryophyte and fungal diversity in the British plantations, and stresses the ecological interest of these new habitats. She herself is very indignant about the indignation that many felt over afforestation: what right had people like Marion Shoard to protest about Sitka when even the paper her protests were published upon were made from Sitka? What was all this about beauty and nature conservation when beauty is in the eye of the beholder and there is no such thing as naturalness? Her arguments here begin to come off the rails a little. No ecologist or historian argues that Britain has 'natural' habitat: the term used is 'semi-natural', which recognizes the cultural history embedded in, for instance, the Loch Lomond oak-woods. Scientists perforce concentrated their research on semi-natural habitats not because they did not recognize Sitka spruce plantations as habitat but because the Nature Conservancy and its successors who employed them were charged with mitigating threats to less common species, and most of those that were endangered lived in semi-natural habitats threatened by drainage, chemical agriculture or mono-cultural afforestation. In any case, there was substantially more scientific effort put into understanding the new forests than Tittensor suggests: she makes no mention, for example, of Morton Boyd's move from heading the Nature Conservancy Council in Scotland to advising the Forestry Commission, or of the work of Mark Avery and Roderick Leslie, with its very balanced conclusions.

This is a book of striking perspectives and feisty opinions, but perhaps not, to this reviewer, of entirely convincing conclusions.

CHRISTOPHER SMOUT
University of St Andrews

DAN MCKANAN, *Eco-alchemy. Anthroposophy and the history and future of environmentalism* (University of California Press, 2018). 289 pp. £24.95.

Dan McKanan's book is a welcome surprise for those interested in the sub-genre of agricultural history that concerns itself with organic farming. Welcome because it deals with a problem that has until now received little detailed attention from scholars: how significant were the ideas and practice of biodynamic cultivation for the organic movement's progress between the 1930s and the 1980s? More specifically, was the influence of Rudolf Steiner's disciples in the English-speaking world greater than that of Sir Albert Howard and those who adopted his Indore Process of composting? And *Eco-alchemy* is a surprise, because one might have expected such questions to be addressed by agricultural historians rather than a Senior Lecturer at Harvard Divinity School.

That this book's author holds such a post does in fact make sense, as Rudolf Steiner's teachings – known as anthroposophy – are a form of esoteric Christianity. They have spread to many countries since their formulation during the first quarter of the twentieth century, influencing agricultural and educational practices, and have played a significant role, directly and indirectly, in the growth of environmentalism.

McKanan describes his stance as 'neutral with regard to the spiritual practices and worldview that are unique to anthroposophy' (p. xv): a stance which is a thoroughly sound position from which to write about a controversial set of ideas. 'My judgment,' says McKanan, 'that environmentalism has been enriched by anthroposophy is pragmatic, focused on

the effects of anthroposophically inspired initiatives' (p. xv). He is not an evangelist for Steiner's ideas; equally importantly, he is not a secularist enemy of them, eager to carry out a demolition job. Instead, McKanan has visited many anthroposophical projects, spent three summers in a Steinerian community, and is fully aware of the various criticisms that can be levelled at anthroposophy, particularly with regard to its historical links to Nazism, of which he gives an illuminating account.

As an important strand of his argument that anthroposophy has enriched environmental activism, McKanan examines the influence of Steiner's biodynamic methods of cultivation on the organic movement's growth in Britain and North America. He maintains that they were much more significant than has hitherto been recognized. McKanan therefore lays emphasis on the roles played by Steiner's follower Ehrenfried Pfeiffer and by Lord Northbourne, author of *Look to the land* (1940), who experimented with biodynamic methods on his East Kent estate, and held a conference there in 1939 at which Pfeiffer was one of the main speakers. Regrettably, McKanan perpetuates the myth that Northbourne coined the term 'organic agriculture', which Northbourne explicitly denied (see p. 71 of my book, *The development of the organic network,* for details). McKanan interprets the term as a translation of the biodynamic ideals that Northbourne learned from Pfeiffer, but the phrase 'organic husbandry' was in use more than two years before *Look to the land* appeared.

In order to play up the importance of the biodynamic movement in organic history – and the chapter entitled 'Roots' provides much valuable evidence of its quickening influence – McKanan has to play down the role of Sir Albert Howard. He even speculates that without biodynamics there might have been no organic movement at all, since 'Howard was no movement builder' (p. 41). It so happens that February this year has seen the publication of Gregory Barton's *The global history of organic farming*, a book drawing on hitherto undiscovered papers of Howard and his wives Gabrielle and Louise, and describing what Barton sees as the central role of these three figures in the rise of organic agriculture. At the time of writing this review, I have not yet been able to study Barton's book; it will be fascinating to contrast his ideas with those of McKanan.

The evidence which McKanan marshals to demonstrate the influence of biodynamic activists on the wider organic movement should certainly cause those who, like myself, see Howard as the key figure in the British and North American organic movements, to stop and re-consider. In Britain, Pfeiffer impressed not only Lord Northbourne, but leading organicists Viscount Lymington (later the Earl of Portsmouth) and Eve Balfour; while in America he contributed for many years to Jerome Rodale's journal *Organic farming and gardening*. Rodale also promoted Howard's ideas, but Howard was thoroughly sceptical about Steiner's cosmic theories. McKanan describes Howard as having a 'secularizing' approach (p. 53) and being without ties to any spiritual movement. In fact, he was closely associated with the 'Christian sociologists' who ran the *New English Weekly* and with the Council for the Church and Countryside. Certainly, he was more than ready to meet other agricultural scientists and farmers on their own ground, and the pages of the agricultural press in the 1930s and 1940s demonstrate that he rallied many farmers behind him in the cause of observing the 'rule of return' of wastes to the soil.

McKanan provides useful detail on late twentieth-century developments in environmentally minded forms of cultivation. He notes the part played by the soil scientist Herbert Koepf, who succeeded Pfeiffer as the leading promulgator of biodynamics. The anthroposophist establishment Emerson College in Sussex provided tuition for Sue Coppard, who founded WWOOF (Working Weekends on Organic Farms – now Worldwide Opportunities on Organic Farms), and for Patrick Holden, who became Director of the Soil Association.

The organic movement has always been closely associated with initiatives promoting economic reform, and McKanan believes that Community Supported Agriculture is one aspect of the new economy which anthroposophy can claim as its intellectual property, since it was the anthroposophical banks and the biodynamic movement that introduced the idea during the 1980s. He examines how this came about in Germany and in the USA. More broadly, McKanan shows how anthroposophy has changed from a 'self-reinforcing' movement to one that is 'self-dispersing': increasingly open to those sympathetic to its environmentalist ideas without subscribing to its esoteric philosophy.

For the agricultural historian, *Eco-alchemy* offers a thought-provoking perspective on the organic movement's origins and development. For environmental historians, it provides a fair-minded, wide-ranging account of the ways in which anthroposophy has percolated into the mainstream of a worldwide campaign.

PHILIP CONFORD
University of Leicester

Europe and Elsewhere

MARIA ÅGREN (ed.), *Making a living, making a difference. Gender and work in early modern European society* (Oxford University Press, 2017). 272 pp., 14 illus. £22.99.

Making a living, making a difference comes out of the Gender and Work in Early Modern Sweden (GaW) project at Uppsala University. In collaboration with the team who created the Demographic Database at Umeå, Ågren and her collaborators created a database that would collect a large dataset to analyse work in Sweden between 1550 and 1799. Chapters covering 'working together', singleness, marriage and age, have been written by different participants in GaW. The volume achieves a high level of overall intellectual coherence.

The book reaches the important conclusion that *no* area of work was gender-specific. It also demonstrates that marriage was an enabler for *both* sexes, conferring social status. New ways of encapsulating work have emerged from the research findings. The first is 'the two-supporter model', the book revealing that singleness meant relatively low social authority and high levels of mobility and poverty. The book also uses the concept of 'ever-married' to capture the way in which women attained an authority after marriage that endured into widowhood. Widows in Sweden were money-lenders – as has been found in other parts of Europe – and they carried out the early modern equivalent of middle management, including investment in and rental of property.

GaW has turned completely on its head the way in which historians research work. Instead of starting with occupational categories, Ågren chose the anthropologists' approach of standing 'on the street corner' observing human activity. The source was court testimonies. Using a 'verb-oriented method' GaW captured 16,182 records of what people said they were actually *doing*. From this recorded data, GaW created 16 broad work categories: military, teaching, trade, credit, care, administration and justice, and so on. They included theft, which was almost balanced between men and women. The research confirms that prostitution was just an extra work activity for some women.

Like other studies of work, GaW has found the market to be employer-driven (Jane Humphries and Carmen Sarasúa, 'Off the record', 2012). Both men and women *needed* to work and instead of the gendered spatial divisions of public and private, at the centre of employment was a marital household. Young people 'travelled frequently and far to make a living' (p. 21), and patriarchy was less important than 'parentarchy'. In the marital household – which was 90 per cent of the total – work provision meant the elevated authority of *anyone* taking the surrogate roles of mother/father. The north-western European pattern of late marriage led to many couples experiencing a 'life-cycle squeeze' as they struggled to care for the aged while inducting the young into the world of 'making a living'.

Some of the more nuanced patterns of social status and labour divisions are revealed by GaW's division of the 16 work categories into sub-categories of *doing*. For example, managerial work was sub-divided into 'governing', 'ordering', 'assigning', and 'asking' and it was found that the figure of roughly a third representing female involvement in managerial work was skewed upwards by women 'asking'. Similarly, the much smaller percentage of single people found in managerial work tended to be 'asking'. GaW also found that servants were not regarded as occupying a lowly status and that people readily substituted for one another's work activity up or down social hierarchies. Elite women can be found caring for servants, for example, in a society that had 'intersections' of work practice.

A vast and diverse range of work activities was undertaken, then, by both sexes and all ages in 'open houses'. There was *no* gender-idleness. GaW's new categorizations have helped to value upwards work traditionally associated with women, such as childcare. Furthermore, children can be found substituting at times for adults, carrying post, hauling things and caring for babies. GaW's findings prompt new ways of theorising the connections between work and social status across gender, age and class: 'making a living … allowed people to construct sameness in ways that transcended social groups … [and early modern Sweden] was a complex society predicated on both difference and sameness' (pp. 218–9). The reconceptualization begs cultural comparison with other regions in Europe and a debate about whether or not Europe's current cultures of work have emerged from past patterns that are regionally specific. Use of the same ethnographic methodology would provide answers.

Importantly for agricultural history, GaW found that both men and women in early modern Sweden were occupied by the widest range of work activities in urban communities. The urban/rural divide is best revealed in a chapter on 'the fiscal military state'. In some ways, this chapter engages with the historiographies of state power structures (Anderson's *War and society in Europe*, 1988; Linda Colley's *Britons*, 1993; John Brewer's *Sinews of power*, 1989; Peter Dickson's *The fiscal revolution*, 1993) more than the volume does with the historiography of work. Sweden's military

development created a quite unique fiscal citizenry which had access to work opportunities, both in town and country, while paying the price of heavy taxation.

AMANDA L. CAPERN
University of Hull

TINE DE MOOR, *The dilemma of the commoners. Understanding the use of common-pool resources in long-term perspective* (Cambridge University Press, 2015). 226 pp., 10 illus. £67 (hardback), £25.99 (paperback).

In recent years, Tine De Moor has been a significant figure amongst historians of the commons and commons governance, not least through her recent presidency of the International Association for the Study of the Commons. Her many publications on the commons are listed in the book's bibliography (though – slightly confusingly – they appear under two different initials) and together constitute a considerable body of scholarly work. In line with much of this earlier work, *The dilemma of the commoners* offers a bottom-up analysis – 'an intensive and detailed micro-study' (p. 15) – of the functioning of the commons in one particular region (Flanders) in the period up to and including the nineteenth century. Yet it is also clearly envisaged by De Moor as a model for work on commons in other times and places and a call for action in developing new institutions for collective action in the twenty-first century present. It is thus a hugely ambitious book.

The introduction and chapter one set up the book and its aims, before moving on to examine institutionalized forms of collective action in historical perspective, arguing that the second half of the medieval period witnessed a 'silent revolution' in north-western Europe, whereby both agrarian commons and urban guilds emerged. In De Moor's view, common rights and commons institutions were neither 'vestiges of earlier primitive agrarian communism' (p. 76) nor one step on a progression from common to private property, but a reflection of specific circumstances and changes in medieval Europe. Here De Moor differs in her analysis from those who rely on evolutionary explanations to explain the emergence of commons, but also offers a different chronology of this 'revolution' from other recent scholars (for example, Susan Oosthuizen's *The Anglo-Saxon Fenland* (2017), where she argues that common rights emerged several centuries earlier than 1000 AD).

The second, third and fourth chapters focus on institutions for managing common land and common rights in Flanders, with a particular focus on non-arable commons: that is, the common-pool resources of the 'waste' (pasture, turf, meadow, wood, etc), rather than grazing on open-field stubbles or seasonal commoning on land otherwise held in severalty. Chapter 2 examines these resources, the evolution of the legal rights to the land and differences in management between eastern Flanders (where the commons were extensive and physically open) and western Flanders (where they were generally smaller and demarcated by hedges or fences). The next two chapters offer a careful analysis of the functioning of one particular common – that of Gemene and Loweiden close to the city of Bruges in western Flanders – in the two centuries after about 1700. Drawing on a combination quantitative and qualitative analysis, De Moor focuses not on 'a momentary description of features' but on 'changes within the system' (p. 119). She points out that the commoners of Assebreok and Oedelem were a heterogeneous rather than a homogeneous group, and explores variations in participation in the use and management of the common over time. In Chapter 4, she identifies a growing number of passive members who neither turned animals onto the common nor involved themselves in its management, the dwindling number of farmers involved in the common (itself part of the more general proletarianization of rural Flanders) and a clear and growing polarization between users and managers. She also highlights the associated problem of the under-exploitation of the common (too few users), which might be as significant as over-exploitation and similarly lead to 'tragedy'.

In the final section of the book, De Moor lays out her conclusions, while the epilogue considers the contemporary 'new commons movement', arguing that government should take a role in building institutions for collective action in the twenty-first century. As De Moor argues early in the book, 'historical commons can provide us with inspiration on future governance models for natural and other resources' (p. 3), perhaps especially in the wake of the 2008 financial crisis.

The significance of the book lies not just in De Moor's determination to take on and dismantle Hardin's 'tragedy of the commons' thesis: indeed, others – including Lin Ostrom – have already done this. Rather, it lies in her careful and systematic analysis of the Gememe and Loweiden case study and her insistence that those studying the commons embrace both interdisciplinary approaches and historical analysis. As readers of this journal will undoubtedly be aware, the common wastelands of Flanders were different from both English commons and those elsewhere in Continental Europe. Most significantly, in Flanders – unlike in much of England – rights to the common waste were not linked to the tenure of

land in the arable fields or to specific properties, but commoners essentially paid a subscription in order to register their right, though they did not always exercise it (by the nineteenth century, falling participation rates may have contributed to the temporary dissolution of the common). Yet despite regional differences, there is much for rural and agricultural historians of both Britain and Europe to value in the book. Commons were – as De Moor argues – inherently local institutions, whose management was always reflective of specific circumstances, hence the importance of studying them 'from within'. Moreover, as De Moor persuasively argues, 'common land did not escape existing power relations' (p. 178), but was rather caught up in both local and national politics, a theme that might usefully be further explored by others. There are other important reminders too in the book, not least that we need to study not only the rules of commons (as recorded in by-laws, for example), but also the varying application of those rules over time, individual and collective decision making, and problem resolution (as recorded in registration documents, records of sanctions and legal cases).

As for minor gripes: the book occasionally seems to be attempting to tackle rather more than will fit in its 170 pages. I would like to have heard rather more about the Gemene and Loweiden case study – the discussion of which really only occupies two relatively short chapters – and especially the unusual circumstances that led to its reestablishment and survival. As a historical geographer, I note that better (and larger) maps would have been a welcome addition. Finally, De Moor seems to assume that all commoners were male. As she points out in Chapter 3, in the case of her chosen Flanders case study they mainly were: the early sixteenth-century rules of the common show that women could initially claim membership, but from the middle of the seventeenth century women no longer registered as commoners (pp. 103–4). This is a fascinating insight and others scholars might fruitfully investigate the question of gender in other times and places, though the persistent use of male pronouns to describe commoners elsewhere in the book may overstate the case.

Overall, this is a thought-provoking book and a useful addition to a growing body of literature on the functioning of historical commons in north-western Europe and beyond. It is to be recommended as essential reading to both historians and historical geographers of the rural landscape and scholars of the commons in the here-and-now.

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DOUGLAS SOUTHGATE and LOIS ROBERTS, *Globalized fruit, local entrepreneurs. How one banana-exporting country achieved worldwide reach* (University of Pennsylvania Press, 2016). 232 pp., 3 illus. £50.

Ecuador's banana export industry is the largest in the world, accounting for approximately four million tons of shipments per year. Yet it has received relatively little attention within a large body of scholarship centring on the machinations of United Fruit (UFCO, now known as Chiquita) and other US-based multinationals that are synonymous with the global fruit trade. The main thesis of *Globalized fruit, local entrepreneurs* is that the prevailing 'banana republic' narrative developed elsewhere does not apply to Ecuador, whose industry dates from the mid-1930s, long after the US companies had consolidated control over Central America and the Caribbean. Southgate and Roberts attempt to show how Ecuadorian entrepreneurs from the Guayaquil region, most of them of humble origins, established a banana sector that often out-competed the US-based behemoths, not only in dominating new markets but ultimately in exporting bananas to the US itself.

The authors centre their study on a handful of small-scale capitalists whose business and political acumen allowed them to chart a course independent of UFCO while contending with an often intrusive state, nationalist politicians, and labour movements. The most notable of these investors was Luís Noboa, who rose from penniless street vendor to command a personal fortune of $650 million upon his death, almost all of it derived from banana exports. Their promotion from small-scale traders to powerful agricultural bourgeoisie rested on unique geographic advantages associated with Guayaquil itself, especially the ready availability of easily cleared land, an existing agricultural infrastructure, port and labour force, and, most importantly, immunity from the hurricanes that frequently devastated banana production in the Caribbean basin. Despite these advantages, an export-oriented industry in Ecuador remained impractical until the completion of the Panama Canal and resumption of Caribbean shipping after World War I. By that time, United and Standard Fruit had already perfected a system of vertically integrated production, transportation, ripening and wholesaling of fruit on an industrial scale for the US market.

Analysing the rise of the US companies within the 'taxonomy of entrepreneurial innovations' advanced by economist Joseph Schumpeter, the authors suggest that Ecuadorian investors were able to draw upon innovations already developed (at considerable cost)

by the US multinationals. When UFCO belatedly entered Ecuador itself as an exporter in the 1930s, local entrepreneurs established strategic alliances with the company to gain access to the organizational and agronomic knowledge (not to mention chemical inputs) required for banana production on a large scale. Much of the Noboa's success lay in wedding Ecuador's fledgling banana sector to new markets in the Middle East, Japan, and even Eastern Europe and the Soviet Union, where he bartered bananas for machinery and raw materials. He thus avoided direct competition with the American firms until he had amassed enough resources and shipping to challenge them in the US market itself, particularly in California and much of the western US.

This is a story well worth telling, as it highlights the role that historical contingency and individual agency play in the creation of global markets, and the capacity of local elites to outmanoeuvre formidable representatives of foreign capital. Southgate and Roberts adopt an unapologetically 'top-down' approach throughout, situating the entrepreneurial savvy of home-grown capitalists within an ever-shifting national political context that at one moment encouraged their activities and at others impeded them. Yet their analysis is permeated by a rigid neoliberal bias that blinds them to those who provided the most important 'factor of production' for Noboa and his counterparts, that of labour. Ecuadorian farms are known for returning to their workers the lowest share of earnings of any banana industry in the hemisphere (presently about four cents for every dollar of fruit sold in the US). Yet the demands of banana workers and tenant farmers for a greater return to their labour are treated parenthetically, if at all. Land occupations and strikes are simply attributed to the political ambitions of misguided or manipulative politicians and 'union bosses' who stand to personally profit from the movements they lead (pp. 119–20). (This criticism is developed in an extended, if not particularly relevant, polemic about the country's recent nationalist president, Rafael Correa, derided as a 'troublesome populist'). The authors are openly hostile to the primary existing scholarship on Ecuador's banana industry, that of anthropologist Steve Striffler, for his putatively 'anti-corporate cant' and 'ideological perspective at least a quarter century past its expiration date' (p. 36), i.e. the labour theory of value. Striffler's research on the occupation of UFCO's Tenguel estate drew upon material from Ecuadorian archives and Chiquita's own extensive internal memoranda, as well as interviews with dozens of workers and peasants whose families participated in the occupation. *Globalized fruit, local entrepreneurs* is lightly sourced in comparison, relying on already published material (mostly in English) and interviews exclusively with industry representatives, large growers, and government officials, but almost no archival evidence and evidently no conversations with workers themselves. Ironically, its authors repeatedly draw upon Striffler's material when it serves to advance their argument, even while otherwise ignoring or belittling the experiences of his primary informants.

Joseph Schumpeter, whose ideas frame much of the thinking in this book, referred to the effects of entrepreneurial innovation and competition as 'creative destruction'. Some 350,000 Ecuadorians presently work on farms owned by the entrepreneurs that are the protagonists of this work. Much of the latter's business success stems directly from the fact that their workers are the lowest paid in the Americas, earning around 40 per cent of the average wage of their unionized Central American counterparts. Ecuadorian farms, including those of the Noboa family, have been repeatedly cited by human rights organizations for the widespread employment of child labour in production, where they are regularly exposed to chemical pesticides. Contrary to the claims of this book, the entrepreneurial acumen it celebrates largely rests on such 'creatively destructive' arrangements. To understand them, however, readers will have to look elsewhere.

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DEBRA A. REID, *Interpreting agriculture at museums and historic sites* (Rowman and Littlefield, 2017). 284 pp. £24.95.

Deborah Reid invites those of us tasked with working with and researching museums and historic sites to urgently become proficient at interpreting agriculture, 'as the future of humanity on the planet depends on it' (p. xiii). In this volume Reid – who is Curator of Agriculture and Environment at the Henry Ford Museum and Professor Emerita at Eastern Illinois University – has gathered together contributions from a range of curators, museum educators and academics working across America to develop a handbook for agricultural interpretation which aims to be as provocative as Freeman Tilden's 1957 landmark text, *Interpreting our heritage*.

Anyone who has ever worked in a museum or curated an exhibition will know that developing interpretation is a time-consuming and complex process, and in the first four chapters, Reid therefore focuses on simple ways to incorporate agriculture into heritage displays and programmes. She stresses that the interpretation of agriculture doesn't have to be limited to rural sites

and historic farms; most museums have objects that can be traced back to agriculture through the materials they are made of or the scenes they depict, and any site can be used to grow plants and start a conversation about where food comes from. Reid advocates a 'humanist' approach to strategies for incorporating diverse human perspectives into agricultural interpretation and developing interpretation that is engaging and at the same time encourages critical historical thinking about agriculture. This first section also provides a comprehensive overview of attitudes toward collecting agricultural objects in the USA and the development of agricultural and living history museums as specialist institutions.

The second section of the book contains examples of research-led approaches taken by museum professionals as well as chapters covering practical guidance on identifying, documenting and caring for agricultural collections. In the chapter, 'You can't eat gold: Agriculture in early Colorado City, 1858–1867', museum professional and historian Carol Kennis Lopez skilfully demonstrates how contemporary concerns about food security informed her research in preparation for the Pike Peaks sesquicentennial (1858–1861 to 2008–2011). Lopez found herself asking who provided the food for the swathes of settlers who descended on the peaks in search of gold and charts her research into the agricultural practices of settlers in early Colorado City. Her chapter demonstrates that national and local centennials can be timely opportunities for new research into how agriculture impacted people in a certain time and place, and the importance of agriculture and food histories to wider narratives about resettlement and migration. Another highlight of this section is the tribute written by William S. Pretzer (currently Senior Curator for History at the Smithsonian National Museum of African American History and Culture) to his former colleague at the Henry Ford, Peter Cousins. In his chapter, 'A curator's legacy', Pretzer recounts the unswerving dedication with which Cousins worked towards acquiring a Ben Pearson Rust Cotton Picker known affectionately as 'Grandma', a task which took twenty years. Pretzer's moving dedication to his late colleague provides illuminating insights into humanities-centric collecting agendas and how effective museum collecting needs to be underpinned by rigorous research and sensitivity to the personal wishes of individuals who choose to donate the tools of their trade to a museum.

The third section of the book comprises of a series of case studies on localized approaches to interpreting agriculture. Deborah Reid and Cameron L. Saffell (Curator at the Museum of Texas Tech University) illustrate the significance of roads and transportation in interpreting agriculture and provide a case study of the relocation of the Pecos River Bridge to the New Mexico Farm Ranch and Heritage Museum. Barbara Carson (veterinary doctor and farmer at Colonial Pennsylvania Plantation) provides a rich chapter on horse-drawn vehicles and harness function, which includes indispensable information for researchers and museum workers tasked with the often baffling job of identifying and interpreting archaic (and often unprovenanced!) bits of equipment.

Living history museums became extremely popular in the USA in the late twentieth century, leading to a proliferation of sites containing full-scale farms and herds of stock animals to care for. In chapter twelve, Debra Reid and Jonathan D. Kuester (Farm Manager at Volkening Heritage Farm in Illinois) provides a balanced evaluation of the benefits and potential risks of collecting livestock. The authors describe the problems that can blight living history farms, such as demands on staff time, animal welfare concerns and difficulties in maintaining historically appropriate equipment. Reid and Kuester are both advocates of living history and the benefit that can be gained from interpreting agriculture through livestock, but they stress that animals should never become 'lawn ornaments' and, to make the interpretation of livestock meaningful, animals must be well cared for on a scale appropriate to a museum's resources.

After considering individual examples of different research-led approaches across the USA, the final section of the book returns to the nuts and bolts of developing good museum interpretation. Reid's final chapter provides a 'multi-step process' to guide museum staff in developing new interpretation plans for agriculture which focuses on skills in reading material culture and developing historical thinking. The book then concludes with two further case studies: of how agriculture has been incorporated into the Magoffin Home in El Paso and how students at Tusculum College in Tennessee explored the agricultural legacy which built their college.

Interpreting Agriculture is a stimulating and enjoyable read, which is not only packed with practical information about the art of museum interpretation but also a wealth of information about the development of agriculture and farming heritage in the USA. At times, the sheer wealth of information can disrupt the pace of the book, as the focus shifts away from building the case for the social benefit that can be achieved by interpreting agriculture in a museum setting toward detailed examples of scholarship on the history of farming in the USA. The text would also have benefited

from more references to relevant contemporary scholarship in Museum and Heritage Studies – for example, Elizabeth Merritt's work on museum futures and Nina Simon's work on the participatory museum – which could have been used to support Reid's case for the power of 'humanist' interpretation. Nevertheless, Reid and her collaborators achieve their goal in providing an excellent handbook for museums and historic sites to utilize when approaching the topic of agriculture. It is also an insightful read for researchers studying the production of agricultural heritage sites and how museums communicate agricultural knowledge.

RUTH L. QUINN
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The Society's Winter Conference, 2017

by Paul Warde

This year's conference took place on 2 December at the Institute for Historical Research, with the theme of 'The Politics of the Countryside'. Four papers, as is traditional, ranged from the medieval period to the modern. The opening paper by Maika de Keyser of the University of Antwerp, 'Common challenges, different fates: failing commons and societal vulnerabilities in late medieval Breckland,' examined peasant politics over the long term through a comparison between the Campine region of Flanders, and the Brecklands of East Anglia. She began by noting a stark difference between continental and insular historiography; in Europe, the medieval period being seen as something of a golden age followed by declining peasant influence as the powers of autonomous institutions were eroded, while in England almost the reverse is the case. The late medieval and early modern periods are narrated as the escape from serfdom, the decline of the manor and rise of the parish. De Keyser's approach was to test both (admittedly simplistic) stories through a regional comparison to tease out similarities and differences. Both regions studied are economically marginal, had extensive commons and are renowned for problems of sand drift.

The Campine region suffered major sand drift in the ninth and tenth centuries, but subsequently, collective strategies of mitigation such as use of hedgerows and windbreaks arrested the trend until after 1750. Such management was absent in Breckland. Sand drift can now be dated by new techniques as to how long sand has been exposed to sunlight, and while there were probably earlier episodes of drift, they became especially pronounced from the seventeenth century. De Keyser argued that in the medieval Breckland, lords were largely rentiers and left direct management of the land to the peasantry, who were highly invested in the sheep-corn economy. Peasants had a strong interest in maintaining the landscape. However from the fifteenth century, with declining rents, lords moved into more direct exploitation, rigid foldcourse systems, and extensive rabbit warrening. These practices left vast areas of exposed soil, prone to erosion and drift. At the same time they led to a gradual polarization of society and a whittling away of intermediary groups of tenants who had previously had a stake in the manorial court and more attentive land management. Legal efforts to restrain the activities of lords – as was also found by Nicola Whyte in Norfolk – failed in most cases and manorial reeves neglected their own duties.

In both the Campine and the Breckland, a degree of equality and commonality of interest were found to be essential for sound environmental management, while the desire to pursue revenue by those not directly vested in the land, or becoming too poor to survive otherwise, lead to degradation.

The second paper, by Elly Robson of the Institute for Historical Research and the University of Cambridge, examined a famous case of complex conflict between outside and local interests: the draining of Hatfield Chase in Yorkshire from the 1620s to the 1650s that preceded that of the Fens of Cambridgeshire and Lincolnshire. In 'Contested ground: agricultural improvement in Hatfield Level, 1625–1660', Robson's aim was to examine the responses and political thinking of tenants in regard to drainage operations and attempts at 'improvement'. However, the thinking behind opposition to such schemes is not found much in the printed word but must be discovered in and inferred from more localized and experiential objections.

Robson provided an account of the traditional Fens as a 'flexible taskscape,' an economy responding to seasonal inundations. She argued for scepticism about claims of the decline of the sewer courts and worsening conditions in the Fens. Rather, conflict and attempts at improvement were part of a more general rising tide of conflict between lords and tenants. With a strong emphasis on the virtues of tillage, improvers utilized discourses that saw traditional Fen practices as permitting 'water out of place'. In fact, Robson argues, the drainage of Hatfield Chase in the 1620s was more a redistribution than elimination of water, and as with

the more southerly fens led to further environmental problems.

Nevertheless, despite resistance to drainage being based on direct hydrological experience and economic interest, tenants ranged against these projects were constrained to make their case in the language of improvers, arguing in terms of rental value and benefits to the commonwealth. New faultlines appeared, as tenants also disputed the terms of division among themselves, with the issue not necessarily being objection to 'improvement' *per se*, but the desire for autonomy in managing the process. In many cases locals were able to turn experiential knowledge to their advantage, breaking banks and operating sluices so as to force incoming participants out. This was a struggle fought on many fronts, whether in direct altercations, through legal instruments, management of the land and water, and the movements of the cows as direct action. Robson elegantly described a complex story of reluctant adaptation, negotiation and resistance. Amid this she noted the importance of *ideas* to all the participants, an aspect somewhat neglected in the literature or treated somewhat glibly in regard to the commoners. Responses were not just practical but ideational, involving knowledge of land and different ideas of what was industrious.

The afternoon began with a paper by Carl Griffin of the University of Sussex, 'The making of the English labourer as a racial subject'. He began by asking what terms such as 'native' and 'race' really meant in the context of wider understandings of categorizing humans in late Georgian and Victorian times, and then opened up the question about the variety of forms this could take. One was to speak about the alleged ancient races of the British Isles, tracing labourers back to putative Anglo-Saxon origins. Yet this discourse, according to Griffin, tended to render the labourer invisible, a homogeneous part of a wider nation suffering under the Norman Yoke and suited to nationalist ideals.

Yet as labourers came to be seen as a social problem, another kind of discourse of race also can be found, and one that is insufficiently handled in analyses of class. This provided a more anthropological view of the rural labourer as a different kind of man, ignorant, lacking energy, and morosely dissatisfied with his lot and narrowly informed 'village politics are the only politics he cares to discuss' [John Beddoes]: caricatured by the stereotype of 'Hodge'. This was particularly characteristic of the south, home of the 'clodhopper', where various writers commented on the 'animality' of the labourer and compared his [sic] circumstances to those of the 'negro' slave. This was a discourse that frequently condemned and lamented the condition of the labourer by arguing his lot was *worse* than slavery, but also found expression in a general perception of his degraded state. In turn, the labourer was identified as a distinct cultural group, a new subject for emergent ethnographic and folkloric studies undertaken by groups such as the Society of Antiquaries. Griffin provided a compelling view of the lack of work on these understandings of the labourer, and indeed in a literature dominated by class, which gives insufficient attention to the countryside. Categorizations of the rural field worker have to be understood in the light of wider arguments about race and origin at this time.

The final paper, 'Habitat protection, ideology and the state: the politics of the Wildlife and Countryside Act, 1981' by Matthew Kelly of Northumbria University brought us to much more contemporary history. He noted the relative lack of detailed archival study of post-war environmental politics. The 1981 Act was, he argued, the most important conservation measure between the 1949 foundation of the Nature Conservancy and National Parks, and new reforms in the 1990s. The politics of the Act were shaped by, and exemplify, tensions between the Ministry of Agriculture (MAFF), Parks authorities, the Nature Conservancy, and the Countryside Commission. Kelly argues that we can understand such conflicts through the idea of the 'Nature State', how particular styles of agency and implementation create a nature state in the same sense as we can think about the welfare state.

Kelly focused in particular on arguments that National Park authorities should have the power to make conservation orders with a one-off compensation, protecting an area in perpetuity. This idea, promoted by the Porchester Report in Exmoor of 1977, was a significant break from the established pattern of conservation by voluntary agreement, and controversial when food security remained an important context in the 1970s. At the same time the idea of screening areas from interference brought conflict between ecology-minded conservationists, heritage-minded preservationists, and those interested in nature as amenity, who disliked loss of social access. Faultlines were also party-political, with Labour sponsoring a bill to this end in 1978, but the Conservatives aligned with farming interests and arguing that farmers had been custodians of the land and should not be subject to compulsion.

However within days of entering office in 1979 the new Secretary of State for the Environment, Michael Heseltine committed to a much wider bill on Wildlife protection. His paper suggested a new category of the older Site of Special Scientific Interest (established in originally in 1949), permitting MAFF or the Department

of the Environment to ask for restraint on ploughing, and deny grant aid (subsidies) where there was no compliance. Local councils were enthusiastic about the possibilities of such regulation. The Act would be passed in 1981, its provisions for the protection of wildlife providing new roles for a wider set of voices determining what was 'imperilled' and deserved protection. At the same time, the possible restraint of agriculture through management agreements was matched by the idea that farmers might be paid for as providers of environmental services. In this regard, it demonstrated the limits of the reach of the state, and the special conditions still enjoyed by landed interest. Kelly's paper gave a careful and nuanced overview of the complex arguments and forms of consultation that fed into the final Act.

The conference was rounded off by an innovation, a panel reflecting on issues of rural politics across the papers and periods, staffed by Chris Briggs (Cambridge), Briony MacDonagh (Hull) and Clare Griffiths (Cardiff). There was a lively discussion involving both them and participants from the floor. Thanks are to be extended to all who assisted with, and participated in, this year's Winter Conference.

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Forthcoming conferences

British Agricultural History Society
Spring Conference 2019

The Jubilee Conference Centre at the University of Nottingham,
8–10 April 2019

Speakers include Dr Peter Larson, Dr Katie Bridger,
Professor Christopher Dyer, Dr Matthew Blake, Dr Susan Kilby,
Dr Kent Fedorowich, and our international guest, Professor Tim Soens.
There will also be a New Researchers' Session and
a Presidential Lecture by Dr John Broad.

Further details of the conference will be circulated to members and made available on the Society's web site at www.bahs.org.uk.

Rural History 2019

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A disappearing landscape: the heathlands of the Berkshire, Hampshire and Surrey borders*

by Alan G. Crosby

Abstract

At the beginning of the eighteenth century, the heathlands of the Surrey, Berkshire and Hampshire borders covered at least 100,000 acres. They were generally condemned as inhospitable, barren and unproductive waste and were vilified by agricultural improvers at the end of the century. But already in the 1720s their gradual disappearance was foreshadowed by the turnpiking of roads across the heaths and the development of country estates for the *nouveaux riches* within easy reach of London. Over the ensuing 250 years the parliamentary enclosures of 1780–1830, the building of railways, the founding of land-hungry institutions, the annexation of great swathes for military use, and the inexorable progress of large-scale urbanization meant that by the Second World War only small areas of open heathland remained. Designation as 'green belt' after 1947 saved most of this residue, but, today, pressure for commercial, residential and transport development remains a significant and growing threat.

The interchange between the M3 and the A322 at Lightwater is a noisy clot of congested traffic on one of the nation's busiest arteries. It lies at the heart of a network of overloaded roads, some of them dual carriageways, others no more than former country lanes, which now carry great streams of commuters. Beneath the next interchange, half a mile to the north, where the A30 crosses the A322, runs the railway line from Ascot to Camberley and Aldershot. Suburban housing, garden centres, car showrooms, and superstores sprawl in every direction, interspersed with belts of woodland and residual patches of farmland, much of it now given over to what has wittily been termed 'horsiculture', for this is a land of pony clubs and gymkhanas. Overhead, the sky is engraved with the exhaust streams of jets landing and taking off from Heathrow, ten miles away. But between Lightwater and Thorpe, heading for London on the M3, the car passes briefly – for no more than a couple of minutes at the legal speed – through a quite different landscape. On either side of the motorway are expanses of gorse and heather, piny woodland and exposures of sandy, gravelly soils (Figure 1). This is the

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FIGURE 1: The once-characteristic heathland landscape is now a rarity, but this view of the central part of Chobham common evokes the sense of bleakness and barrenness which so struck observers in the eighteenth and early nineteenth centuries. The landscape is more wooded than it would have been 200 years ago, but the thin soils, coarse vegetation and gently undulating topography are as the agricultural writers would have seen them. Photo: Author.

northern end of Chobham Common, chopped through by the motorway at the beginning of the 1970s when people cared rather less about such places.

Two hundred years ago, though, everything was entirely different: indeed, it would have been barely recognizable as today's outer-suburban jungle. The site of the interchange at Lightwater was amid heathland, part of a vast tract of waste which extended northwards to the village of Bracknell (the edge of the heath was where Bracknell station is today) and south to the margin of the clay vale north of the Hog's Back, at Wanborough and Normandy. This area would have seemed to us almost unimaginably silent – we would have heard nothing but the bleating of a few sheep, the calling of a few birds, the rustle of wind in the gorse, maybe the distant hooves of a horse on the turnpike road or the rumbling wheels of an occasional cart. It would also have seemed extraordinarily empty. Though only 25 miles from London, large stretches were completely uninhabited. A tattered scatter of farms and cottages fringed the open heathland, and there were a few villages on the margins, such as Frimley, Pirbright and Sandhurst, but we could have walked for miles without passing a house and, if we had been interested (which few of us two hundred years ago would have been), we could have witnessed the flourishing of

a fascinating ecology, of snakes and slow-worms and lizards, of warblers and heath butterflies, of sundew and marsh grasses and in August rich purple seas of heather.

Today those landscapes have almost disappeared, and that emptiness and solitude is a long-forgotten memory. It vanished almost a century and a half ago as London, that dark cloud on the eastern horizon, spread its tentacles to encroach upon, and eventually to engulf, great swathes of the commons. Canals, railways, arterial highways and motorways sliced the heathlands into portions, while the voracious appetites of housing, light industry and retail parks swallowed up the acres. Firing ranges and military training grounds, edged by red flags and warning signs, cut off access (although paradoxically this has helped the snakes, the lizards, the butterflies and the sundew by keeping out the developers).

Today only remnants of the heathlands survive, cherished and protected, nurtured and sponsored by enthusiastic Friends' organizations, helped as best they can by cash-strapped local authorities and shielded to some extent by planning laws and development controls. These hardy survivors – Horsell Common, Chobham Common, and some of the heaths around Aldershot, Fleet and Yateley – serve to remind us of what has been lost. Their ultimate saviour was probably the imposition of the green belt after 1947, but the building of the M3 across Chobham Common demonstrated that this was not sacrosanct, and in the early twenty first century pressures to release further land for housing, commercial development and yet more transport links grow apace. The heathlands are mostly gone and will never return. Their disappearance was largely unmourned, since they did not attract the vocal defenders who, for example, saved Epping Forest and the Lake District in the late Victorian period. They were not loved by the Victorians, they had no poet or artist to praise their melancholy beauty, and they were vulnerable because of their location, character and agricultural poverty.[1] This paper explains how these landscapes disappeared, between the late eighteenth and the late twentieth centuries.

I

Writing in the mid-1720s, Daniel Defoe described a journey from Farnham in Surrey towards London, taking the road that led over Bagshot Heath towards Staines.[2] His polemic upon the landscape through which the road passed is justly celebrated:

> Those that despise Scotland, and the north part of England, for being full of waste and barren land, may take a view of this part of Surrey, and look upon it as a foil to the beauty of the rest of England, or a mark of just resentment showed by Heaven upon the Englishman's pride … here is a vast tract of land, some of it within seventeen or eighteen miles of the capital city; which is not only poor, but even quite sterile, given up to barrenness, horrid and frightful to look on, not only good for little, but good for nothing. Much of it is a sandy desert, and one may frequently be put in mind here of Arabia Deserta.

[1] A comparable story could be told of the heathlands of East Dorset, extending from Purbeck and Bovington in an arc north of Poole to Ringwood, and linking with the New Forest. There, railways, roads and massive post-1850 suburban development, together with military use west of Wareham, have dramatically reduced the extent of the former heath and caused major damage to a particularly fragile ecology.

[2] The road is now the A30.

Defoe observed that although the sand supported heather, the only livestock were 'some very small sheep … and but very few of these'; and that there were 'but few houses, or people for many miles far and wide'.[3] His estimate that this tract of land, extending across the borders of Surrey, Berkshire and Hampshire, covered at least 100,000 acres was often repeated by later writers and was close to the truth.

The heathlands extended from Bracknell and Ascot in the north to Farnham in the south, almost to Hartley Wintney in the west and beyond Woking in the east. They covered parts of 24 parishes, in some (such as Easthampstead, Sandhurst and Aldershot) occupying the very great majority of the land. As Defoe noted, the whole area was thinly populated, with few nucleated villages. Seventy years later the 'horrid and frightful' heathlands were the subject of no less vitriolic condemnation from the new breed of agricultural writers, with their evangelical fervour for 'improvement'. William James and John Malcolm, in their 1794 survey of the agriculture of Surrey, were scathing:

> upon traversing these cold and exposed wastes, we saw only a few starved animals unworthy of the name of sheep … certain it is that no animal can live long upon these wastes in their present state.[4]

Four years later William Marshall, assessing the rural economy of Southern England, was equally hostile:

> The present PRODUCE, if it deserves the name, is a sort of dwarfish, stunted heath; in many places unable to hide the sand, on which it may be said to starve … on a general view of this extensive tract of country, there will be little risque in saying, that … it is in its PRESENT STATE, the most unprofitable to the community, of any district of equal extent, in the Island, the mountains on the north-west coast of Scotland, perhaps, excepted'.[5]

In 1829 Thomas Allen, claiming that 'it is impossible to imagine a worse kind of soil than that of the heaths of Surrey', stated that 'a pure heath sheep is a remarkably ugly creature, with very large horns, and seldom weighs more than eight pounds per quarter.[6]

Fellow writers on Hampshire and Berkshire were no less scathing. William Pearce, characterizing the Berkshire heathlands in 1794, stated that

> in their present wild and uncultivated state, little or nothing is returned by them to the community … we generally see on all the COMMONS and WASTE LANDS, a number of miserable cattle, sheep, and horses, which are a disgrace to their respective breeds.[7]

They were all, of course, propagandist and their views were based on limited research.[8]

[3] Daniel Defoe, *A tour through the whole island of Great Britain* (1724, Penguin edn, 1979), p. 156.

[4] W. James and J. Malcolm, *A general view of the agriculture of the county of Surrey with observations on the means of its improvement* (1794), p. 23.

[5] William Marshall, *The rural economy of the southern counties* (2 vols, 1798), II, pp. 84, 88.

[6] Thomas Allen, *History of the counties of Surrey and Sussex illustrated by a series of views engraved on steel from original drawings* (1829), pp. 8, 21.

[7] William Pearce, *A general view of the agriculture in Berkshire with observations on the means of its improvement* (1794), p. 59.

[8] William Fordyce Mavor, author of *A general view of the agriculture of Berkshire* (1809) was an expert in English grammar and poetry, and was disarmingly honest about his lack of qualifications for writing about agriculture (p. iv).

Passionate about improvement, they optimistically and naively believed that with manuring and ploughing the heathlands could quickly become productive arable land. Pearce claimed that by such means, 'it may be hoped, some effectual plans may be established, to polish this rough jewel, which lies disregarded and unproductive'.[9] Later agricultural writers were slightly less negative about the area in general, albeit still disliking the sands: Henry Evershed, in a prize essay published in 1853, claimed of north-west Surrey that

> A considerable portion of this formation is included by the sands of Bagshot Heath, but it must not be supposed that the whole of this district is of a similarly poor nature; in many instances the land is of the best description, and except on the worst sands it is generally of a useful kind.[10]

Any positive value of the commons – especially to the cottagers and 'labouring classes' – was largely ignored. Only occasionally do we glimpse the exploitation of resources by the wider community, even though such exploitation was ubiquitous. Charles Vancouver, in his treatise on the agriculture of Hampshire, recorded that 'a large quantity of peat is annually dug on the commons of Cove, Farnborough, and Aldershot', noting that 'the largest body of peat appeared to lie in the parish of Cove … where it seemed much in demand for the coarse potteries established in that parish'.[11] William Mavor, writing of the Forest areas of Berkshire, stated that

> much turf is cut and burnt by the poor, which diminishes the already thin staple of the soil … This occupies too much of the time of the poor, and is perhaps a loss rather than benefit.

Condemning their modest entrepreneurship, he added that 'Some burn turves beyond what is necessary for their domestic consumption, in order to make a profit by the ashes'.[12] Other evidence shows that brushwood, thatching materials and firewood were gathered on the heaths, while the rough grazing of scrawny sheep, which was so condemned by the agricultural writers, was in fact a valuable resource for cottagers and smallholders. Stevenson noted in 1813 that in the Bagshot and Windlesham area local women cut heather to make besom brushes, and gathered whortleberries for sale, disparagingly referring to these as 'miserable productions and trifling employment'.[13] Pearce, in 1794, seems to have acknowledged that the welfare of the ordinary folk should be taken into account, proposing with touching faith that 'liberality to the cottager' involving 'giving a full allocation in return for his few prescriptive rights' could be achieved by the landed gentleman giving up 'a greater proportion of the uncultivated land (from which he receives no benefits) than the law, at present, obliges him'.[14] Needless to say, such generosity of spirit was never effected. In 1841, when the mania for improvement had somewhat abated, a different perspective was taken: Brayley observed perceptively that the unenclosed heaths of West Surrey 'afford [the cottagers] opportunity for healthy recreation,

[9] Pearce, *General view Berkshire*, p. 59.

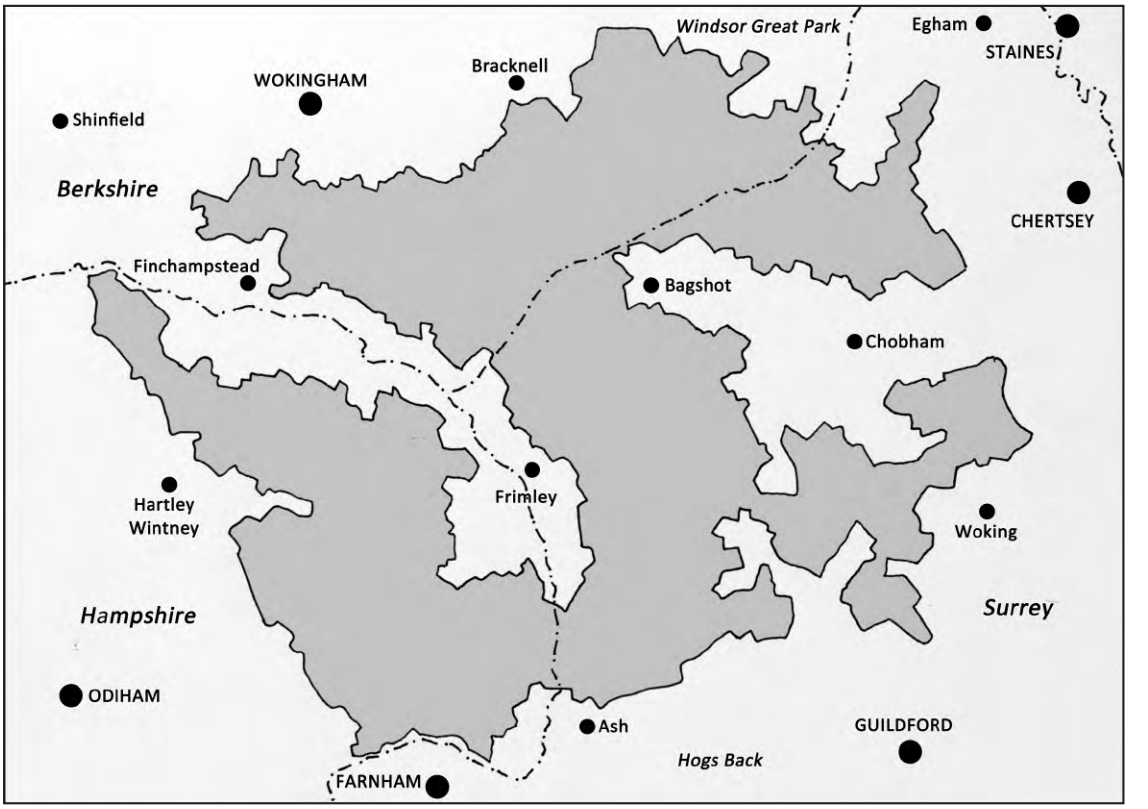
[10] Henry Evershed, 'Farming in Surrey', *JRASE,* first ser., 14 (1853), pp. 395–424.

[11] Charles Vancouver, *General view of the agriculture of Hampshire* (1810), p. 14.

[12] Mavor, *General view Berkshire*, pp. 31, 421.

[13] W. Stevenson, *General view of the agriculture of Surrey* (1813), p. 459.

[14] Pearce, *General view Berkshire,* p. 60.



MAP 1: The extent of the heathlands before the mid-eighteenth century. Map: Author.

denied to the population of counties wholly inclosed', hinting at what would eventually become a key role for these despised landscapes.[15]

In 1801 the total population of the seventeen parishes forming the core of the heathlands was just over 14,000, a density of a mere 0.17 persons per acre, and sizeable tracts were completely uninhabited (Map 1). Given its proximity to London, and location between the prosperous and productive valleys of the Thames and the Wey, it is hardly surprising that this area of bleak and barren wastes, harsh and impoverished, attracted such negative comment. Its condition was the consequence of geology, for here the Bagshot Beds or Sands (today more properly known as the Bagshot Formation) outcrop extensively: 'pale yellow-brown to pale grey or white, locally orange or crimson, fine- to coarse-grained sand that is frequently micaceous and locally clayey, with sparse glauconite and sparse seams of gravel'.[16] More picturesquely, William Marshall wrote of

> a barren sand, or gravel, encrusted with the black earth of heaths, of a dry crumbly quality; and, in general, very thin; the soil, altogether, being of the very worst quality; especially on

[15] Edward Brayley, *A topographical history of Surrey* (5 vols, 1841–8), II, p. 198.

[16] The website, British Geological Survey: Bagshot Formation (www.bgs.ac.uk/lexicon/lexicon.cfm?pub=BGS).



FIGURE 2: Langshot Bog on Chobham Common: a typical basin bog, where a layer of impermeable iron pan in a small valley allows the formation of shallow pools; the peatbogs of the heathlands were the source of fuel for local people as late as the beginning of the twentieth century. Photo: Author.

> the low flat-lying land; where it is inferior even to that of the Yorkshire Moreland; and much inferior to that of Heaths of the Highlands of Scotland.[17]

Stevenson was even more pejorative:

> It is difficult to conceive a character of soil worse … it is a barren sand, soft, deaf, and duffy, mixed with a hungry, poor, gravel, and with the remains of decayed heath; it is very thin, lying on small stones of a dead white colour.[18]

The thinness of the acid soils – or, as some writers observed, over large areas no true soil at all – meant that sands and gravels were widely exposed on the surface, friable and eroding (Defoe described being caught in a sandstorm at Bagshot) and nourishing only a scanty vegetation. The thick layers of loosely consolidated sands supported few surface streams but, contrarily, in the hollows and valleys completely impermeable layers of iron pan had formed, impeding drainage and giving rise to waterlogging, open pools and sizeable peat bogs (Figure 2). The area was thus characterized by both desiccation and saturation, often in close proximity. Nevertheless, the experience of the past 150 years has shown that when the heaths are not

[17] Marshall, *Rural Economy*, II, p. 84.

[18] Stevenson, *General view Surrey*, p. 40.

grazed, woodland cover can regenerate with remarkable speed. The conspicuous lack of trees and the open bleakness of the heaths, which so angered and upset the agricultural writers two centuries and more ago, were as much a product of prolonged overgrazing by those scrawny sheep, as of any intrinsic similarity to 'Arabia Deserta'.

To many people today the heaths are attractive landscapes – they are perhaps the nearest rough country to London – but contemporaries two centuries ago delighted not in wildness but in the lush beauty of rich farmland: as Brayley wrote,

> To a traveller crossing the black and barren heath-lands in the early part of the year, from the neighbourhood of Ash and Pirbright, the scene on approaching Mayford changes as though by enchantment; and instead of blackness and desolation, he sees the hills clothed with verdure, the fields cultivated, and the banks and hedges gay with violets and other spring flowers.[19]

John Byng, travelling from London via Farnham to Winchester in late August 1782, was more courageous than Defoe 60 years before (although the road was now much easier because it was turnpiked). He 'cross'd Bagshot Heath, without a melancholy thought' and after a drink of tea even 'attempted a walk; but it was so cold and damp, that I was glad to return to the warmth of the stable'. His landlord told him that 'On the neighbouring hills were formerly grouse; one was kill'd thereon last year, and deem'd a great curiosity'. But even Byng recorded that on the following day, heading south though what is now Camberley, 'Still the black heath continued, [but] a mile further I quitted the heath; and entering warm enclosures, my eyes receiv'd ample satisfaction about the pretty village of Frimley'.[20]

The physical loathing for the heathlands was compounded by the widespread belief that these were unhealthy areas with a deleterious effect upon the moral and mental state of the inhabitants. Vancouver suggested of the heaths of Cove and Aldershot that 'the raw damps exhaling from this part of the district are supposed to produce rheumatism, and to be otherwise unfriendly to the health of the inhabitants',[21] while most observers took for granted the ignorance and stupidity of local people. Even in the 1840s Brayley could claim of the inhabitants of the green valley of the Wey that 'The working people … are more intelligent and better informed than the labourers on the western borders of the county'. Recounting a tale similar to those from many country districts, he says that 'Among other stories told, illustrative of the ignorance which formerly characterized the inhabitants of this wild tract, is, that they only knew when it rained by looking into the ponds on their heaths and commons'.[22] Just as no writer was really interested in human inhabitants of the heathlands, none was concerned with the exceptional ecological and geological significance and distinctiveness of the heaths. Today, the remnants of these landscapes are treasured, both for their visual quality and their unique ecology. Two centuries ago they were vilified, and their disappearance was positively encouraged. They were, by virtue of their proximity to London and their very poverty, considered ripe for other sorts of development.

[19] Brayley, *Topographical history,* II, p. 24.

[20] C. Bruyn Andrews (ed.), *The Torrington Diaries* (1934), I, pp. 71–3.

[21] Vancouver, *General view Hampshire*, p. 8.

[22] Brayley, *Topographical history*, II, p. 24; I, p. 437.

II

The agricultural writers not only exaggerated the negative aspects of the heathlands, but also overlooked changes which were in progress by the 1790s. By then, improvement of a kind was already taking place, though not usually the kind of which they approved. The improvers wanted grand projects and large-scale landscape change, the opposite of what was actually happening. Piecemeal encroachment upon the waste, and small-scale reclamation to create new farmland, had been under way for many generations, slowly nibbling away at the edges of the heaths and giving rise to highly dispersed settlement patterns, in particular, the squatter communities which were characteristic of much of the heathland margin. The process was discontinuous and fragmented but its cumulative effect was such that since 1600 the area of waste had been substantially reduced. The first Ordnance Survey map (1816) reveals such amorphous and attenuated patterns of settlement in, for example, Knaphill and Westfield on the edge of Woking parish; around Bisley and Lucas Green; across the evocatively named Hungry Hill between Farnham and Aldershot; and beside Sunninghill Bog, another vividly descriptive name, in Berkshire. West of the road from Bagshot through Lightwater to Bisley were numerous islands of improved land scattered across the 'moors', separated by surviving strips and tongues of heath and edged by scattered cottages. At Horsell the squatter fringe was known, with ironic humour, as Cheapside.[23] A century later George Sturt, the Farnham wheelwright who wrote under the name George Bourne, recalled these places from his childhood: 'hardly anywhere are there to be seen three cottages in a row but … little mean dwellings are scattered in disorder … wanting in restfulness to the eyes and much disfigured by shabby detail' (Map 2).[24]

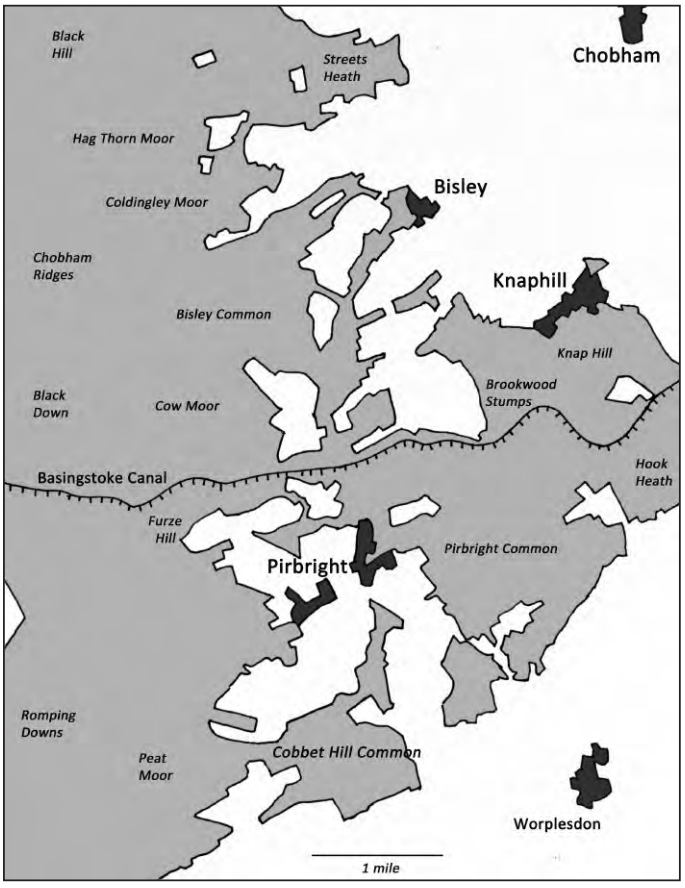
By the 1790s encroachment was also under way further north, at the eastern edge of the Berkshire heathlands around Sunningdale and Ascot. But whereas the piecemeal encroachments described above were characterized by poverty and squalor, these particular examples foreshadowed a very different future, since they involved the carving out of country estates for the *nouveaux riches* of late Georgian society. The earliest major change was the creation from 1753 onwards of the beautiful lake at Virginia Water, formed by damming a shallow boggy valley on the southern edge of Windsor Great Park. This served as a focus for fashionable new development.[25] Geoffrey Tyack's map of Berkshire country houses before 1750 shows only two in the heathland zone of the county (Bannisters at Sandhurst, and Fernhill Park at Winkfield) but his second map identifies nine more in the vicinity of Wokingham, Bracknell and Sunningdale, all dating from between 1750 and 1800 and 'often built on relatively small estates by newcomers to the county who were not reliant on income from land: typically, colonial nabobs, merchants and bankers, retired military officers and government contractors' (Figure 3).[26]

[23] The squatter settlements of the Woking area are discussed in more detail in Alan G. Crosby, *A history of Woking* (sec. edn, 2003), pp. 32–5.

[24] George Bourne, *Change in the village* (1912), p. 2.

[25] The landscape history of Windsor Great Park and Great Forest, including Virginia Water, is covered in meticulous and fascinating detail by Jane Roberts in her splendid and beautiful study, *Royal Landscape: the gardens and parks of Windsor* (1997).

[26] Geoffrey Tyack, 'Country houses to 1750' and id., 'Country houses, 1750–1914' in Joan Dils and Margaret Yates (eds), *An historical atlas of Berkshire* (sec. edn, 2012), pp. 76–7, 120–1.



MAP 2: The tattered edge of the heath resulting from two centuries of piecemeal enclosure in the area south of Bagshot, based on the First edition Ordnance Survey map of 1816

FIGURE 3: The first edition of the one-inch OS map, published in 1816, gives the first earliest detailed depiction of the heathlands. The area between Bracknell, Bagshot and Virginia Water, now densely wooded, was then almost devoid of trees. It was criss-crossed by a geometric network of tracks, mostly the result of military manoeuvres in the previous 25 years. The landscaped parks which were created in east Berkshire after 1750 are prominently shown.



By the end of the eighteenth century the once shunned heathlands were fast becoming an attractive location for the new elite, eastern Berkshire being especially favoured because of its good road access to London via Staines, and also the social cachet bestowed by proximity to Windsor. The latter assumed greater significance with the accession of George III in 1760 and his marriage the following year to Charlotte of Mecklenburg-Strelitz. Between 1762 and 1783 they produced fifteen children and, consciously setting a new domestic tone, lived much of the time at Windsor (which had been out of favour during the previous two reigns). The area became a focus of royal activity and attracted numerous hangers-on. Furthermore, the king was a genuine and active enthusiast for farming and agricultural improvement: it was not idle flattery which led Mavor to declare, in highly elliptical language, that:

> Berkshire, distinguished by many other advantages, is pre-eminent in this, that here the King and Father of his country has deigned to take agriculture under his more immediate cognizance and protection, and from the improvements and experiments made under his august direction, has given ocular demonstration to every person who has had the pleasure of seeing his farms, of the wisdom that directed them, and the benificence from which they originated.[27]

This programme of improvement transformed the royal estate adjacent to the heathlands and seemed to demonstrate their potential.

During the 1790s there was a new and more desperate imperative towards the improvement of waste lands, generating a dramatic wave of parliamentary enclosure across England and Wales. The immediate cause was the national crisis in food supplies occasioned by the Napoleonic Wars, which gave an urgency to ploughing such land to grow grain. The government actively supported and encouraged these developments, through the medium of the Board of Agriculture, which was established in 1793 and thenceforward actively evangelized the cause of improvement. The heathlands of Berkshire, Hampshire and Surrey had hitherto been almost unaffected by formal enclosure, since creating good land from this deeply unpromising terrain presented formidable physical and financial challenges, but the exigencies of a wartime economy dictated that enclosure should be tried on an unprecedented scale, with marginal lands being brought into at least some form of production (although inevitably the transformation could not be achieved instantly).

Between 1800 and 1820 enclosure took place in all the heathland parishes of East Berkshire, mostly in consequence of the Windsor Forest Act 1813, affecting over 24,500 acres, one of the largest parliamentary enclosures in Britain, which triggered a sequence of subsidiary awards for individual parishes. In Sandhurst, Crowthorne and Easthampstead parishes the enclosure involved over half the acreage and in Sunninghill no less than 80 per cent of the parish.[28] In the case of Sandhurst 'the whole parish was something of a sandy wasteland … with a population density [in 1801] of only one person to every 20.4 acres'.[29] In West Surrey there

[27] Mavor, *General view Berkshire*, p. 30.

[28] Peter Durrant, 'Parliamentary enclosure', in Dils and Yates (ed.), *Historical atlas of Berkshire*, pp. 100–1; W. E. Tate, 'A handlist of enclosure acts and awards relating to land in Berkshire', *Berkshire Archaeological J.*, 67 (1943) pp. 56–90: the website, New Landscapes: Enclosure in Berkshire (www.berkshireenclosure.org.uk); Ross Wordie, *Enclosure in Berkshire, 1485–1885* (Berkshire Rec. Soc., 5, 2000).

[29] Wordie, *Enclosure in Berkshire*, p. 129.

were no enclosure acts or awards prior to 1800, but eight in 1800–20, and another five between 1821 and 1840.[30] The Windlesham award, covering about 3000 acres of the notorious Bagshot Heath, was made in 1814 although proposed as early as 1790.[31] A similar picture can be seen in north-east Hampshire, where Farnborough was partly enclosed in 1812, Blackwater and Hawley in 1817, and Crookham and Ewshott in 1834.

Nevertheless, a significant number of parishes remained unenclosed until after 1835, and indeed some were never enclosed: Horsell, on the north side of Woking, where over 830 acres of waste survived, and the great Chobham Common, are particularly important in this respect. Perhaps even more significant is the fact that enclosure was largely futile: the potential for improvement was not realized, most of the land remained uncultivated, and the only possibly viable option was to grow trees. The planting of conifers was increasingly adopted as an expedient by landowners whose allotments of land proved so much less useful than they had anticipated, though even these might struggle: at Sheerwater, between Woking and Chertsey, enclosure in 1805 was accompanied by the draining of a large shallow lake, but although 'the land which the water covered [was] planted, chiefly with Scotch pine … the soil proved less fertile than the planters expected'. Nevertheless, by 1841 there were 'many extensive and thriving plantations of larch and Scotch fir' in Windlesham, and as early as 1820, only six years after the award for that parish, some of the former West Common had been planted with conifers.[32]

In his treatise on the agriculture of Berkshire, Mavor placed particular emphasis upon the potential for timber as a serious commercial resource, suggesting with regard to woodland management in Windsor Forest that 'the improvements which have been made … are truly worthy of a patriot King' and that elsewhere on the heaths, if only common rights ('frequently synonimous [*sic*] to the right to trespass') could be abolished, 'one tenth of the land, properly planted and secured, would produce timber to a greater value, and of a superior description, to the whole under existing circumstances'.[33] However Evershed, writing in 1853 after the great wave of enclosures had subsided, and contradicting some positive statements earlier in his own essay, was notably pessimistic even on this point, suggesting that:

> a large portion of the western area of Surrey must ever remain irreclaimable. The heaths of Frensham, Whitley, and Thursley on the south, and of Frimley, Bagshot, and Woking on the north, consist of a sterile and unimprovable sand, while a great part of the intermediate country is of a similarly poor nature; only a few patches of good loam are to be found, and the district must always remain comparatively worthless in an agricultural point of view, and its products ever be confined to the growth of heath, gorse, fern, and a few plantations of larch and Scotch fir.

He quoted the specific example of 'Bradley common' [Bridley near Woking] where 'more than 100 acres is being reclaimed at an expense of 7l. or 8l. an acre; but it appears doubtful if the larch and Scotch fir which have been planted will thrive'.[34]

[30] A. G. Parton, 'Parliamentary enclosure in nineteenth-century Surrey: some perspectives on the evaluation of land potential', *AgHR* 33 (1985), pp. 51–8.

[31] The Windlesham award is discussed in detail in Marie de G Eedle, *A history of Bagshot and Windlesham* (1977), pp. 98–103.

[32] Brayley, *Topographical history,* II, p. 147; Eedle, *Bagshot and Windlesham*, p. 103.

[33] Mavor, *General view Berkshire*, pp. 309–10.

[34] Evershed, 'Farming in Surrey', p. 414.

Of greater long-term significance was the discovery that while the heathlands were less than ideal for conventional agriculture, they were perfectly suited to the cultivation of newly arrived and ultra-fashionable garden plants. Various species of azaleas were in regular cultivation in the 1740s and 1750s whilst *Rhododendron ponticum* was introduced to England in 1763 from the Iberian peninsula.[35] By the 1790s it was recognized that the thin, acid soils were ideal for these and many other species: James and Malcolm, writing in 1794, claimed of Bagshot that:

> the very soil, which is by so many said not to be worth cultivation, is so very desirable and so very much in request by every nurseryman, that he can scarce grow a plant that is a native of America … without having for the principal part of his composition, equal to four fifths of this species of soil.

At the end of the century Michael Waterer established nursery gardens at Knaphill, between Woking and Pirbright, described forty years later as comprising:

> about 120 acres of ground, which were enclosed from the bog and heath, and progressively stocked with numerous exotica from America, which now flourish here with even more than their native beauty and luxuriance. Here, the noble magnolia, with rhododendrons, azalias, kalmias, andromedias, and many other hardy exotics, obtain a vigorous growth, and display, in May and June, one entire mass of blossom, which perfumes the air for miles around.[36]

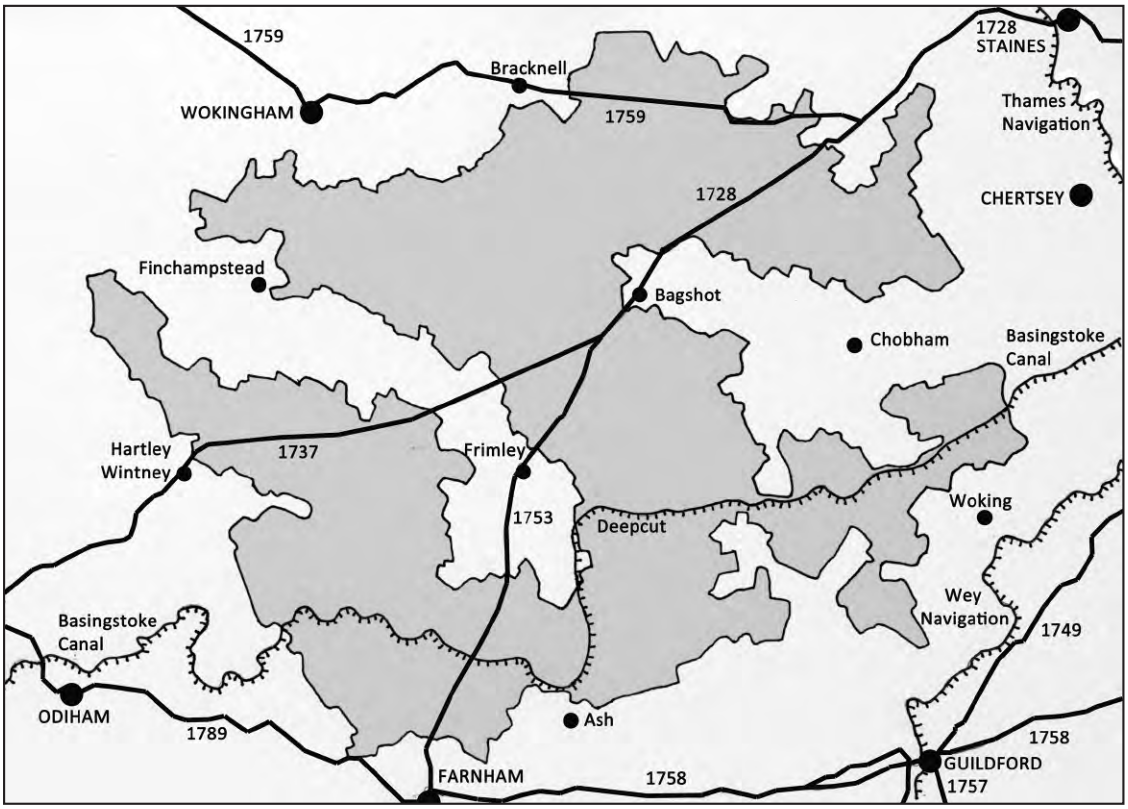
From the sterile soils of the area emerged one of the formative elements in English landscape design and domestic gardening of the past two centuries.

III

A key to the larger-scale changes that emerged in the later eighteenth century and gathered pace after 1800 was the improvement of communications (Map 3). In this respect the turnpiking of the road from Staines to Bagshot in 1728, and its extension to Basingstoke in 1737, were of crucial importance. Turnpiking tamed the terrors of using the road across the heaths, so vividly expressed by Defoe, and it substantially reduced journey times. The main road to the west soon became busy with scheduled coach services, a trend accelerated by the further turnpiking of the Bagshot-Farnham-Alton road in 1753, and that from Sunningdale to Reading via Wokingham in 1759. The main local impact of turnpiking the three routes from Staines – to Wokingham, Basingstoke and Farnham – was that it opened up the area to the precursor of commuter traffic. The improved surfaces and faster journeys made it possible for city men, politicians and self-made nabobs to live in the area south of Windsor but to travel into London with relative speed and comfort. This was not daily commuting, but it marked the appearance of what would become a fundamental of modern society – the physical separation of home and workplace. For a small minority of wealthy individuals, road improvements facilitated

[35] The websites, Forest Research: Rhododendron Control (www.forestry.gov.uk/fr/rhododendroncontrol) and Henning's Rhododendron and Azalia Pages – History (www.rhodyman.net/rhodynhis.php).

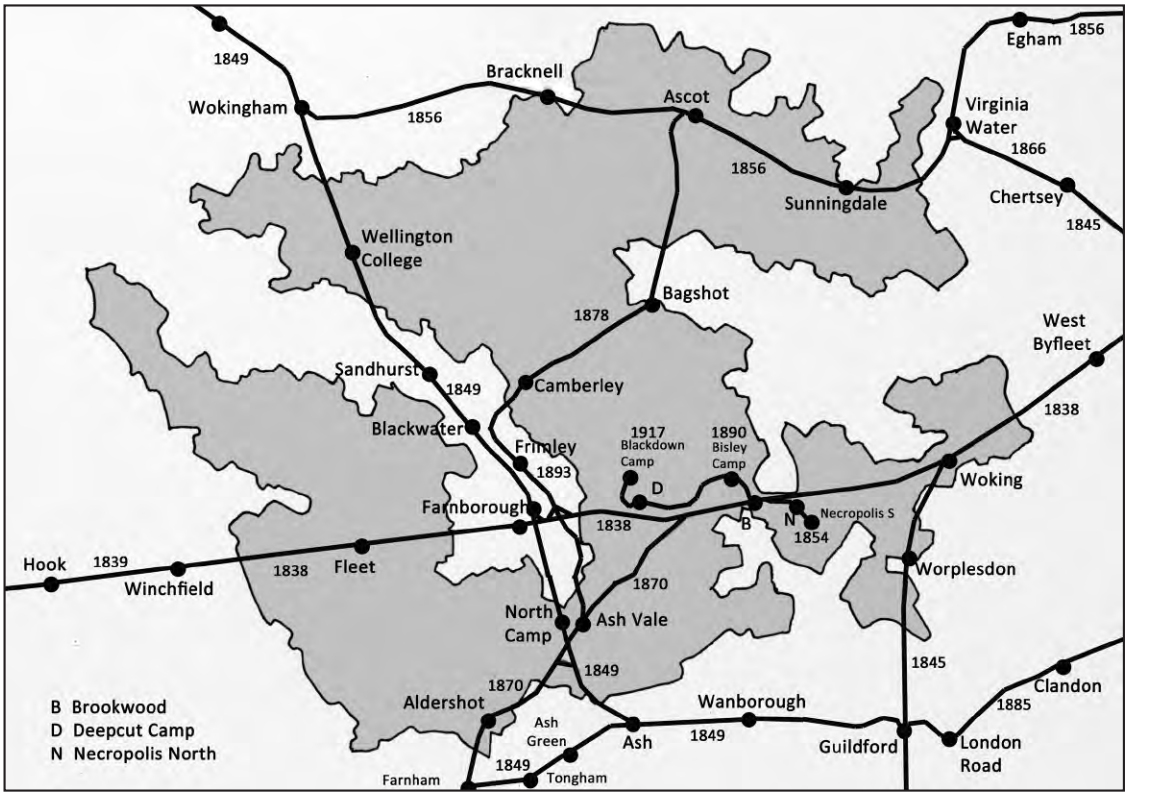
[36] James and Malcolm, *General view Surrey*, p. 71; Brayley, *Topographical history*, II, p. 7.



MAP 3: The turnpike roads and the Basingstoke Canal. Map: Author.

the lifestyle choice of a country estate within reach of town. The effect is readily seen in the creation of parkland and building of country houses, already noted: a similar phenomenon was observable in the vicinity of Esher, along the Guildford turnpike, but east Berkshire set the trend.

Other transport improvements were more prosaic. The Basingstoke Canal, first proposed in the early 1770s and authorized in 1778, was finally completed in 1794. For much of its 37 miles it crossed unenclosed commons, a major factor in reducing the costs of land acquisition but the cause of some lengthy meandering. Of the 23 miles between Byfleet and Church Crookham, over twenty were cut through heathland. It crossed Woodham and Woking Commons, sliced through the north-south ridge of the heath with the impressive 1000-yard-long cutting that has ever since been called Deepcut, contoured along the Blackwater valley and passed through the great expanse of waste between Aldershot and Fleet. Indeed, the expectation was that the canal would derive much traffic from transporting chalk and manure from the area south of Basingstoke to the Surrey and Hampshire borders, where they would be used to sweeten the acid soils and allow extensive improvement. In return, peat would be carried into Hampshire, to top-dress limy soils. It was a rational plan which, like so many promoted in speculative canal projects, was largely unsuccessful. Some piecemeal enclosure and improvement did take place close to the waterway in the vicinity of Pirbright, Ash



MAP 4: The railway network. Map: Author.

and Church Crookham,[37] and large quantities of chalk were sent eastwards from the pits at Odiham, but half a century after the completion of the canal most of the surrounding heathlands remained unenclosed.

Far more significant, in so many ways, was the growth of the railway network, arguably the single most influential factor in the disappearance of the heathlands. Map 4 shows the opening dates of lines through the heaths of Berkshire, Surrey and Hampshire. The railway from London to Southampton was first proposed at the end of the 1820s with a route via the flourishing market towns of Guildford, Farnham, Alton and Winchester. However, that alignment was soon rejected, partly because it was inconvenient for projected extensions to Bristol and Exeter but also, of greater concern, because it involved extremely high land acquisition costs. These considerations dictated a different route, running in a direct line via Woking Common and Farnborough to Basingstoke, the intended junction for lines to the west, and then south to Southampton. Like the parallel Basingstoke Canal, from the River Wey westwards it passed for much of its length through empty heathland which was either unenclosed or had never been improved for agriculture. It was no coincidence that its first temporary terminus, Woking Common, as we can see in Figure 4, stood in the centre of a vast

[37] Paul A. Vine, *London's lost route to Basingstoke: the story of the Basingstoke Canal* (1968), esp. chs 3 and 7.



FIGURE 4: Woking Common Station on the London and Southampton Railway, shortly after its opening in May 1838: this is now the heart of a town of more than 100,000 people, but in 1838 the nearest building was more than half a mile away. 'The station at Woking Common' by L. Wood (engraved by J.R. Jobbins and published by R. Tyas (October 1838)) Photo: Author.

tract of heath with no other building in sight. Such land was cheap and willingly disposed of by manorial lords and landowners. Most other lines in the area were similarly routed through or close to heathland, minimizing land costs but passing through areas with little or no population. That was soon to change.

IV

Almost inevitably, railway stations close to London acted as the foci of urban growth, as commuting began to develop. 'Dormitory towns' emerged and the stations themselves generated employment and commercial opportunities. But across much of the heathland the initial major changes were associated with government policies and the development of institutions. Railways made accessible huge tracts of poor, cheap land which had hitherto been remote and of little agricultural value. Major changes in Victorian social, defence and education policies created institutions that were land hungry, and the heathlands suited their requirements perfectly. The earliest such changes pre-dated the railway age: during the 1790s the army conducted military exercises and built a series of redoubts and practice works on Bagshot Heath and the other commons stretching north on the Berkshire side of the Basingstoke road.[38]

The Royal Military College was founded at Marlow in Buckinghamshire in 1802 and, in 1813, its methods and systems already a proven success, the College relocated to new buildings at

[38] The website, Swinley Forest History and Mystery (swinleyforest.org.uk/archaeology/napoleonic-period/).

Sandhurst Park, close to the earlier exercise grounds.[39] In April 1801 some 450 acres had been purchased by the government from the prime minister, William Pitt, who had previously acquired the land from John Tekell, his nephew by marriage, and who made a hefty profit on the deal.[40] The physical character and location of the site were crucial. Major General John le Marchant, the founder-designer of the College, especially valued its open heathland aspect and very small local population: he chose the site 'as to avoid a neighbourhood injurious to the morals of the cadets and which allows space for military movements and the construction of military works without interruption'.[41] Subsequently amalgamated with the Royal Military Academy and the military seminary of the East India Company, Sandhurst became the focus of officer training and, as the army reforms of the mid-nineteenth century placed greater emphasis on professionalism, the college expanded rapidly, extending beyond the original parkland site onto the adjacent heath.

By the 1840s key figures in government were acutely concerned over the manifest weaknesses in British military training, but until the death of the Duke of Wellington in 1852 little could be done – he and his powerful coterie held steadfastly to the procedures which had been in force at the time of Waterloo. As soon as the Iron Duke was out of the way a reformist faction, including Prince Albert, began to implement changes, foremost among them being the provision of permanent military training grounds instead of peripatetic summer camps. These required cheap land which was otherwise of little value; easy access for large numbers of men and large quantities of supplies; and the potential to form part of London's defences since, despite the good relationship with France under Napoleon III, it was still assumed that any potential invasion would be by the French.

The first site considered was near Reigate, but there the cost of the good agricultural land was far too high. However, in 1853 a great summer camp had been held on Chobham Common and, inspired by this excellent location, Viscount Hardinge, Wellington's successor as commander-in-chief, suggested that the desolate emptiness of Aldershot Heath – only five miles from Sandhurst – would be ideal. In January 1854 the War Department began buying tracts of land north of the small village of Aldershot, paying £12 an acre, and by 1861 had acquired some 8000 acres. The original idea was to use the land every summer, but the outbreak of the Crimean War in 1853 had made it imperative to have a permanent encampment, so between April 1854 and the end of 1859 over 1200 wooden barrack huts were built. The site was bisected by the Basingstoke Canal, which enjoyed a brief period of busy prosperity as construction materials and supplies were brought in for the new camp, but the railway opened in 1870 put an end to its remaining business.[42]

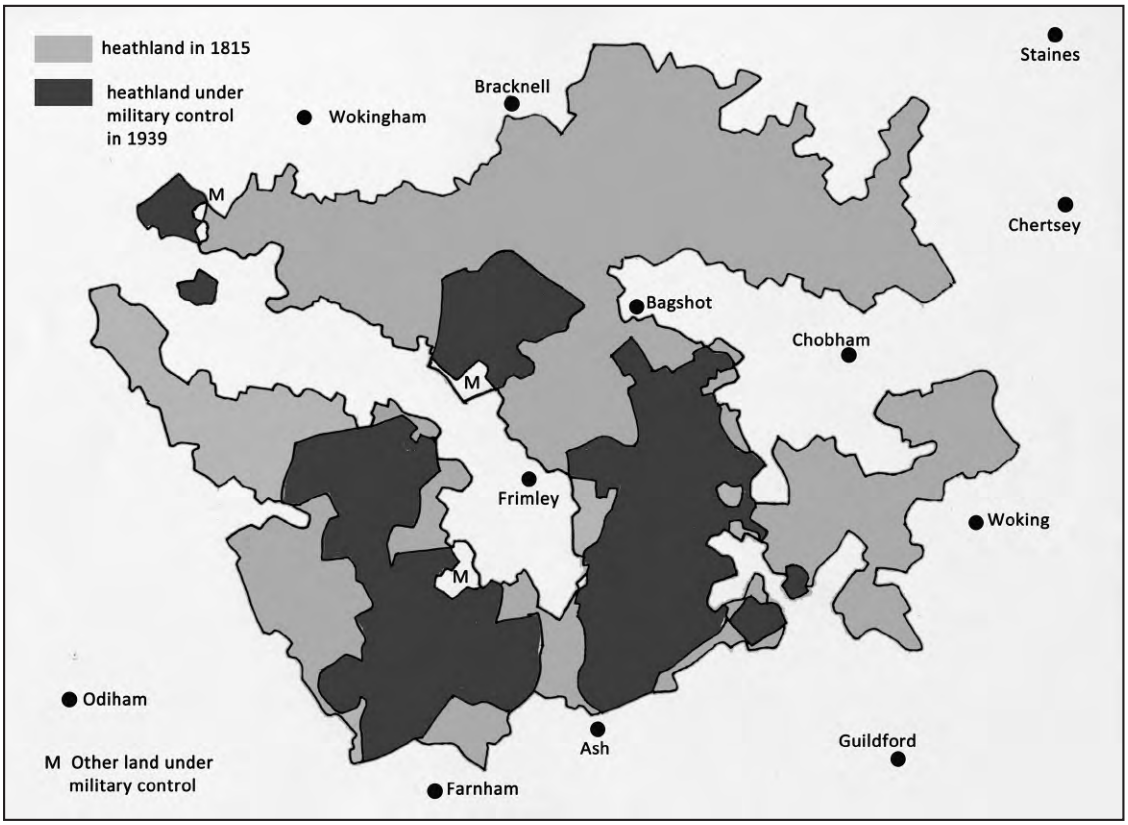
The success of the project, and the remarkable speed with which it was put into effect, encouraged further expansion (Map 5). By 1900 Aldershot had become Britain's largest garrison town, at the centre of a network of subsidiary depots, barracks and training grounds,

[39] A. F. Mockler-Ferryman, *Annals of Sandhurst: A Chronicle of the Royal Military College from its Foundation to the Present Day with a sketch of the History of the Staff College* (1900), pp. 9–14.

[40] S. Chesterman and K. Dancy, *A history of Sandhurst* (1986).

[41] Quoted in Alan Shepperd, *Sandhurst: the Royal Military Academy* (1980), p. 28.

[42] Paul H. Vickers, *Aldershot military town: a brief history* (2011); id., 'The origins of Aldershot Camp' at www.friendsofthealdershotmilitarymuseum.org.uk/garrison.010.html



MAP 5: The heathlands showing the extent of military ownership in 1939. Map: Author.

almost without exception occupying former heathland requisitioned by the government or purchased cheaply from willing landowners. In 1875, for example, the War Office acquired 3070 acres on Pirbright Common, and began the development of the main camp of the Brigade of Guards. Fifteen years later the National Rifle Association, with the active support of the War Office, bought 3000 acres at Bisley, transferring its ranges from Wimbledon Common.[43] With its almost unaltered Victorian and Edwardian architecture and layout Bisley Camp is now a conservation area, and its rifle ranges are part of an internationally significant site of special scientific interest, preserving over 2000 acres of heathland of exceptional ecological richness.

Between 1894 and 1902 almost all of Chobham Ridges, extending south from Bagshot to the southern edge of Pirbright, and including the higher ground around Mytchett and Deepcut, was bought by the War Office. The construction of Deepcut Camp and the nearby Blackdown Camp began in 1900, major extensions being added during the First World War served by an extension of the Bisley branch railway which had been completed in 1890. Other land was acquired in the Yateley and Fleet area of Hampshire, together with the great tract of heathland

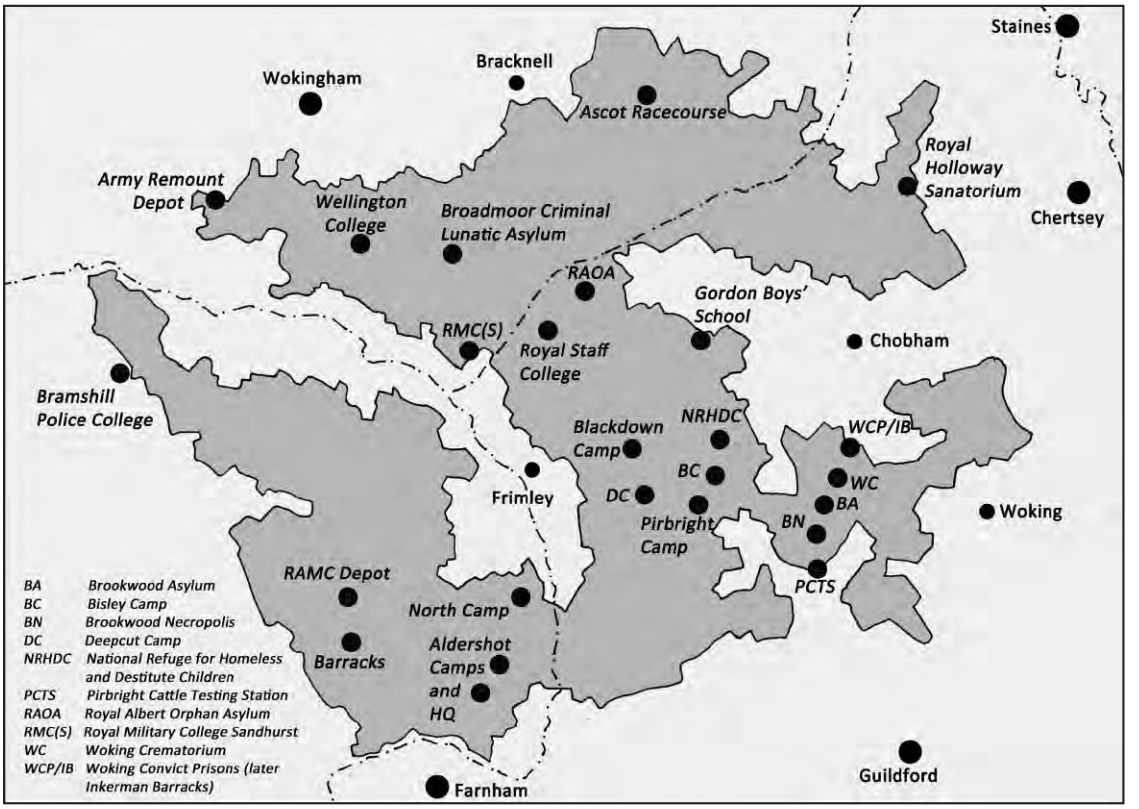
[43] The website of the National Rifle Association of the United Kingdom includes a timeline (nra.org.uk/who-are-we/history/) and background notes on the history of Bisley Camp (nra.org.uk/nra-bisley/about-bisley/).

extending north of Sandhurst towards Bracknell. In 1904 land at Arborfield, at the north-western tip of the heathlands, was chosen as the site of a remount depot which operated until 1937 and then became the Army Technical School. A notable addition to the assemblage of military installations was the landing ground at Laffan's Plain, Britain's first airfield, which in 1908 saw the first powered aeroplane flight in this country. Its distant successor, Farnborough Airport, now covers over 1500 acres including the adjacent warehousing and business parks, all on former heathland. In 1941–42 Blackbushe military aerodrome was built on the common at Hartfordbridge Flats, beside the A30. After the war it became a moderately successful civilian airport, but closed in 1960. It was later reopened as an executive and private airport, its proximity to the affluent residential areas of the former heaths being a major asset.

V

By the outbreak of the First World War the War Office was much the largest landowner in the area, and its successor, the Ministry of Defence, remains so to this day. But other institutions were attracted by the same factors that encouraged military use of the heaths – cheap land, convenient access to London, and a small resident population that was unlikely to be in a position to object. The first major scheme was perhaps the most bizarre. The Burials Act of 1850 forbade future use of churchyards for interment in the metropolitan area, creating a potential crisis in the disposal of the dead. In 1848–49 there had been proposals for huge new cemeteries on the edge of London, at Kensal Green and Erith, and the newly formed General Board of Health had already contemplated a scheme for an immense national cemetery, or necropolis, outside the city. The 1850 Act refocused attention on the latter idea, and in October 1851 the London Necropolis and National Mausoleum Company was registered. Its plan was to acquire all the unenclosed commons in the parish of Woking, a site carefully chosen because the land was almost worthless, the light sandy soil was very suitable for interment, and the main London-Southampton railway and the Basingstoke Canal ran across the common. The somewhat surreal intention was that the corpses of the nation would travel to the necropolis by rail or water, forming a never-ceasing procession of funerals attended by an army of clergy, labourers and administrative officials, as well as trainloads of mourners.

After much wrangling, in June 1852 parliament authorized the plan, and by the Woking Commons Act of 1854 the Company acquired 2268 acres of common land, most of which was thereby in effect enclosed, paying Lord Onslow, the lord of the manor, a total of £33,944. Work on the cemetery began immediately, taking in 400 acres of former common at Brookwood, alongside the road from Bagshot to Guildford. Brookwood Necropolis was designed by Henry Abraham, the company architect, who visualized an oasis of greenery and tranquillity amid windswept lonely heathland, and his ambition succeeded admirably. Winding paths and avenues linked Gothic chapels, surrounded by a luxuriant and beautiful planting of the shrubs and conifers which grew so successfully in nearby nursery gardens. There were architecturally impressive mausolea and monumental tombs amid lavish greenery, although the vast majority of interments were of London paupers, who were buried without ceremony in biodegradable 'earth to earth' coffins in unmarked shallow plots. The cemetery was opened in November 1854, linked to the London and South Western Railway by a short branch line with two stations. At



MAP 6: The Victorian and Edwardian institutions and major military establishments. Map: Author.

Waterloo the Necropolis Company had its own station, from which it operated a daily return journey to Brookwood, each train conveying up to 35 funeral parties. It is said to be the largest cemetery in Western Europe, and by the end of 1939 there had been 201,000 burials there.

However, once the cemetery was open, and to nobody's great surprise (many MPs had expressed doubts during the parliamentary debates in 1851–52), the company announced that it did not need the remaining 1800 acres. By a further Act in 1855 it was permitted to sell the surplus, mostly for building purposes. As some commentators suggested at the time, a gigantic property speculation had been masked by the cemetery project – indeed, in the 1870s and 1880s, as sales progressed, the company was selling valuable building land at knock-down prices to its own directors. The long-term significance of the 1855 legislation is that it allowed the company to develop a completely new town, Woking, centred on the railway station in the middle of the heath. It is impossible not to conclude that this was the intention from the outset.[44]

Other institutions soon followed (Map 6). In 1858 the Necropolis Company sold 65 acres at Knaphill, on the western edge of Woking parish, to the Home Office, for the construction of male and female convict prisons, and two years later the Surrey county justices acquired a further 150 acres for the building of a new lunatic asylum at Brookwood. In 1871 the parish

[44] The history of the company, the cemetery and the land deals is covered in detail in Crosby, *Woking*, pp. 70–80.

of Woking had a population of 6500, of whom some 3000 were convicts, lunatics, or prison and asylum warders and their families.[45] And Woking was not, of course, unique, for almost every heathland parish acquired comparable institutions for the secluded accommodation of society's undesirables – the dead, criminals, the insane, and public schoolboys. These great Victorian edifices, huge Gothic buildings in red or patterned brick, set in extensive landscaped grounds with home farms, shrubberies, lawns, and high perimeter walls, were of course found throughout the country, but nowhere else was there such a concentration as in the heathlands of Surrey, Hampshire and Berkshire.

In 1816 the area that was to become Crowthorne was the middle of an uninhabited expanse of heathland, four miles by seven miles. The railway from Reading to Guildford was built across the common in 1849, and in 1859 a station opened to serve a great new institution, Wellington College, founded in December 1853 under the patronage of Queen Victoria and Prince Albert to provide for the education of the orphaned children of army officers. The site on the heath near the wind-battered tree called the 'Crow Thorn' was chosen for the usual reasons, as well as its proximity to Sandhurst:

> The land was very cheap. The spot was desolate and the soil barren … 150 acres of what was virtually useless land … a wilderness of heather and scrub, broken only by forests of tall majestic pines and sluggish stretches of bog and flat.[46]

It eventually extended to over 400 magnificently landscaped acres, but *The Times*, reporting the opening ceremony in January 1859, was scathing about the choice of site. Its vehement hostility sums up the contemporary view of the Berkshire heaths:

> On Saturday, Her Majesty inaugurated the public opening of this institution, and consequently the bleak, inhospitable-looking moor on which the building has unfortunately been erected had, for the first time, such a busy aspect as was almost sufficient to give an air of animation even to a spot so desolate and so cold. The selection of a spot so wild and so cheerless can only be accounted for by the fact that the twelve acres of land on which the college and its outbuildings stand was presented to the Wellington memorial fund gratuitously … It is a matter of great though useless regret that the governors ever accepted such an offer at all and were led to erect a national memorial on ground so utterly bleak and barren.[47]

Two years later the Home Office bought 53 acres just over a mile from the College, and there built the architecturally splendid Broadmoor Criminal Lunatic Asylum, which was opened for female patients in 1863 and males in 1864. Again, the location was crucial: 'The new asylum was to be perched high up on a ridge within the forest, commanding a magnificent and suitably healthy view across the countryside below'. The ample space available for generously sized buildings and extensive grounds was the key factor.[48] By 1881 Broadmoor had 485 inmates and 45 resident staff, together with many others who lived in the adjacent villages. With the Royal Military Academy, the College and the Asylum, the ancient parish of Sandhurst now housed

[45] For the institutions in the Brookwood and Knaphill area, see Crosby, *Woking*, pp. 93–8.

[46] David Newsome, *A history of Wellington College, 1859–1959* (1959), p. 34.

[47] *The Times*, 31 Jan. 1859.

[48] Mark Stevens, *Broadmoor revealed: Victorian crime and the lunatic asylum* (2013), p. 6.

three major institutions. Here, as at Woking, their sheer scale, and the numbers they employed, made a major and decisive contribution to the emergence of a sizeable town.

VI

The same factors which encouraged the development of institutions and military activities also prompted the laying out of racecourses and golf courses, an important social and recreational adjunct to the emergence of high-class residential areas on the former heathland. The celebrity pioneer was the racecourse at Ascot, founded on the instructions of Queen Anne who, despite her later monumental physique, was in her youth an enthusiastic horsewoman, 'passionately addicted to hunting'. In later life she rode in a light chaise to follow the hunt through the Windsor Great Forest, where many of her royal ancestors had hunted, and in the summer of 1711 ordered the laying out of a 'round Heat on Ascott Common'. Its earliest use was recorded by Jonathan Swift, who wrote from Windsor on 11 August 1711 that 'much company is come to town this evening to see tomorrow's race'.[49]

Although much the most celebrated and long-lasting, the course at Ascot was originally one of several in the vicinity of the heathlands during the eighteenth century. For example, in his diary covering 1736–44, Robert Lee of Binfield recorded attendance at race meetings held at Egham, Maidenhead Thicket, Bracknell, and Binfield itself. These were important social occasions for the local yeomen and lesser gentry.[50] Eventually, as the historian of Berkshire racing has commented,

> Courses began to close as a lack of money and enclosure of common lands on which some of them were sited made holding the meeting less profitable. Maidenhead held its last meeting in 1787 … and Reading [in] 1814 (although it was revived in the 1840s). Hawthorn Hill, between Maidenhead and Windsor, survived until 1939.[51]

However, at Tweseldown, near Fleet, racing on the heath began in 1866, mainly for the benefit of officers from local camps and garrisons. The course was used for the equestrian events in the 1948 Olympic Games and still survives, although races are no longer held.[52]

Golf came much later but had a far wider impact. At the end of the Second World War there were 15 golf courses in the area of the former heathlands, and today the tally is 27. Unsurprisingly they are concentrated in areas such as the west and north sides of Woking, in the vicinity of Sunningdale and Virginia Water, and around Bracknell and Wokingham. Among the first was the Royal Ascot Club (1887), and of Surrey it was noted that, 'In the ten years between 1886 and 1895 golf clubs grew with great rapidity throughout all districts of the county'.[53] The New Zealand Golf Club at Woodham near Woking was opened in 1895, 'carved

[49] Dorothy Laird, *Royal Ascot: a history of Royal Ascot from its founding by Queen Anne to the present time* (1976), pp. 13–16; *VCH Berkshire*, II, pp. 305–9 deals with the county's major racecourses.

[50] Harry Leonard (ed.), *Diaries and correspondence of Robert Lee of Binfield, 1736–1744* (Berkshire Rec. Soc., 18, 2012), pp. 92–3, 136, 138, 141–2.

[51] David Boyd, *The running horses: a history of racing in Berkshire from 1740* (1978).

[52] The Tweseldown racecourse and equestrian centre website includes a history of the course, with timeline, at tweseldown.co.uk/history/

[53] *VCH Surrey,* II, (1903), pp. 521–6.

out of a pine forest' as a result of a wager from a friend that Hugh Locke King, owner of the estate, would be unable not turn this unpromising site into a successful course. Locke King won, and went on to establish the racetrack and airfield at Brooklands on another unprofitable part of his estate.[54]

Here, as elsewhere in the heathlands, the sandy soil was particularly suitable for the construction of golf courses, while the need for a large area of land was easily met when landowners happily sold property of little agricultural value. The development of courses culminated, in 1922, in the opening of Royal Wentworth, which lay at the heart of a super-expensive private residential estate. During the 1950s and 1960s more new courses were laid out close to fast-growing residential areas, a trend which was increasingly in conflict with the strict application of green-belt policies, since the development of golf courses implied major landscape change and the construction of ancillary buildings, car parks, access roads and practice facilities.[55] The dominance of golf courses as a land use is today exemplified by the borough of Woking, where they occupy 10.74 per cent of the entire area, the highest proportion in the United Kingdom.[56]

VII

The most far-reaching consequence of the development of the railway network was the urbanization of the heathlands. Until the mid-nineteenth century there were no towns and few villages, although a ring of medieval market centres circled the area at distances varying from three to five miles – from Guildford and Farnham, via Odiham and Wokingham, to Windsor and Chertsey. When the railways were built across the heaths most stations were, as at Woking, Farnborough, Fleet (originally and revealingly 'Fleet Pond'), and Wellington College, in the midst of empty land. Woking Common station, for example, was a mile and a half from the tiny town of Woking, which stood beside the River Wey. Farnborough station, for over ten years the nearest railhead to Farnham and serving a number of small villages, was in the middle of nowhere. Within a few years, however, these stations stimulated new development, invariably unplanned and with no sense that a coherent urban area could, would, or should be created. By the 1860s the London and South Western Railway Company, which had very heavy commuter traffic from stations between Surbiton and Waterloo, was well aware of the potential for commuter business further out from the city, and began to timetable fast longer-distance services, which encouraged the urbanization of places such as Woking and Ascot.

Table 1, which gives population figures at the beginning, middle, and end of the nineteenth century, emphasizes the significance of the twin forces driving urbanization – the railway network and the development of the great institutions, including military activity. In 1900 parishes such as Chobham, Pirbright and Yateley, with no rail link or no direct link to London,

[54] T. D. P. Emblem, *Around and about New Zealand Golf Club* (n.d. but 1989), p. 55.

[55] See, for example, the website, Sutton Green Golf Club (www.suttongreengc.co.uk/course/video-flyover).

[56] The website, the Golf Business, 'More than 10% of Woking is golf courses' (www.thegolfbusiness.co.uk/2017/09/more-than-10-of-woking-is-golf-courses).

TABLE 1: Population growth in the core parishes of the heathlands, 1801–1901

	1801	*1851*	*1901*
Berkshire			
Easthampstead	566	698	1708
Finchampstead	463	613	666
Sandhurst	222	815	2386
Sunninghill	700	1350	4719
Winkfield	1465	2185	4243
Hampshire			
Aldershot	494	875	30,974
Farnborough	399	477	11,500
Yateley	1375	2156	2794
Surrey			
Bisley	196	340	747
Chobham	1176	2069	3186
Frimley	532	1791	8409
Horsell	493	762	2105
Pirbright	400	637	1540
Windlesham	1060	1794	3415
Woking	1340	2837	16,244

and without a major institution, had shown relatively slow growth. Sandhurst parish, despite not having a direct rail connection to the capital, had grown much more rapidly because of the various institutions in the vicinity. But those places with both direct links and institutions, such as Woking and Aldershot, had become sizeable towns in only half a century.

The great phase of growth – the 'take off' period for urban development in the area – was from the 1870s. By this time the new and chaotic town of Woking was beginning to sprawl across the heath, the old village of Farnborough was extending north to its new focus along the railway, and thanks to the massive military intervention, Aldershot had been transformed from a small rural community into a major town in less than twenty years. The village of Frimley, whose bucolic delights as an oasis of green amid the black heaths had been extolled by writers fifty years before, grew rapidly after the railway from Bagshot to Ash was opened in 1878, but even more remarkable was the mushrooming of a new town, Camberley, just to the north. In 1816 this area was uninhabited heathland, although a broken ribbon of recent housing extended along the main road from the bridge over the Blackwater towards Bagshot. Christened York Town, after George III's son Frederick, Duke of York, this was the earliest settlement in the vicinity of the later town. In the early 1860s the new Royal Military Staff College was built there, along the road from Sandhurst, and the housing that developed adjacent to the college was named Cambridge Town (the Duke of Cambridge, Queen Victoria's cousin, was commander-in-chief of the armed forces). In 1877 this nascent community was renamed Camberley (an invented name, though reminiscent of genuine Surrey place-names) to avoid postal confusion with Cambridge, and after its station was opened in the following year the emergence of a town – which like most of the heathland communities was unplanned, lacked a proper centre, and had a dismal quality of architecture – was guaranteed.

On the Hampshire side of the Blackwater urbanization was also rapid. In Aldershot the impetus was not commuting: it was too distant from London and, like any garrison town, had a deeply unenviable reputation as a wild place characterized by drunkenness, prostitution, and brawling. But it grew with remarkable speed: only six years after the founding of the camp

the town had a population of 9000 military personnel and 7000 civilians, and by 1900 the total population was over 31,000. Farnborough, its marginally more decorous and respectable neighbour, shared in the military role – the great North Camp lay within the parish – and by 1901 had a population of 11,000. To the north-west Fleet began to develop as a town after the sale of almost 250 acres of building land in 1878, and by 1901 had over 2000 people. All of these towns were eventually outranked by Woking, which is now by far the largest town in Surrey with a population of just over 100,000. Described in the 1960s by Ian Nairn as 'a period piece but not a very creditable one', the child of the Necropolis Company was largely a failure in terms of planning, design and architecture, but it was a triumphant success as a building speculation.[57]

Although Aldershot was distinctively a rougher and poorer community, all the new towns had areas of terraced housing, gasworks and railway sidings, and substantial numbers of small villas and lower middle-class developments. However, a hallmark of every one apart from Aldershot was the early emergence of superior residential areas characterized by large detached houses set in extensive landscaped grounds. These neighbourhoods were often the result of careful policies of more orderly land sales combined with restrictive covenants, implemented by landowners anxious to maintain the social tone and to maximize profit by strictly excluding unsociable or socially inferior uses. In some cases, as in Hook Heath in Woking, the elevated sites enjoyed sweeping views across rural landscapes to, for example, the North Downs, and in all instances the detailed planting of gardens and grounds, with conifers, shrubberies, ponds, lawns and winding drives, was a crucial element in the ambience. Deliberately 'rustic' designs for houses, tile-hung, barge-boarded, many-gabled and consciously vernacular (albeit on a grand scale) highlighted the desire of new residents, socially conservative and politically Conservative, to harness the forces of 'tradition'.[58]

The combination of money, traditionalism and the particular landscape of the heathlands produced a highly distinctive townscape, inextricably associated with a no less distinctive social structure. The great devotee of suburbia, John Betjeman, loved the area and was perfectly attuned to these nuances:

> A horse-riding horse for a horse-track
> Conifer county of Surrey approached
> Through remarkable wrought-iron gates
> …
> Over the redolent pinewoods, in at the bathroom casement
> One fine Saturday, Windlesham bells shall call.[59]

The poem entitled 'Camberley' pokes gentle fun at the retired ex-Indian Army residents, while the celebrated 'A Subaltern's Love Song' brilliantly evokes the inter-war atmosphere of the residential heathlands:

[57] It must be admitted that since the 1960s Woking has been radically transformed by successive phases of wholesale redevelopment, so it is no longer 'a period piece'. The jury is still out on whether its architecture is more creditable.

[58] For high-class residential development in the Woking area, see Crosby, *Woking*, pp. 88–93.

[59] John Betjeman, 'Pot Pourri from a Surrey Garden'; the title of the poem is derived from the best-selling gardening memoir *Pot-pourri from a Surrey Garden* by Mrs C. W. Earle (1897). Mrs Earle lived at Cobham, at the eastern end of the heathlands.

> By roads 'not adopted', by woodlanded ways
> She drove to the club in the late summer haze
> Into nine-o'clock Camberley, heavy with bells
> And mushroomy, pine-woody, evergreen smells.

The paradox was that the heathlands, for centuries one of the poorest parts of southern England, had the very attributes which made the upper middle-class dream possible – gentle hills, sandy soils perfect for the new styles of landscaping, and cheap land which meant that a large property could be bought for a bargain rate. The impoverished heathlands would eventually rank among the most expensive real estate in Europe.[60]

In some cases the towns which emerged later in the nineteenth century, and especially in the first half of the twentieth, before green belt restrictions placed at least some limits on urban sprawl, were almost entirely of this type. The classic example is Ascot which, with Sunninghill and Sunningdale, forms an urban area of over 12,000 people. By 1830 thirteen country houses had been built in the area south of a line from Windsor through Wokingham to Arborfield, and on the Ordnance Survey map of 1816 their surrounding parks, carved out of the heathland edges in the arc between Bracknell, Ascot and Bagshot, are particularly distinctive. The continuing improvement in communications, including the arrival of the railway from Staines to Wokingham in the summer of 1856, prompted a second wave of country house building, with another eight major houses being constructed between 1840 and 1914 around Bracknell and Ascot. Thereafter, a distinctive form of urban development followed, essentially amorphous, with small and exclusive residential developments along leafy lanes and wooded avenues, gradually coalescing into a sizeable low-density built-up area, with no true town centre and much open land in pockets within the urbanized envelope.

Comparable 'quasi-urbanization' can be seen at Virginia Water, Crowthorne, the Wick Hill area south of Wokingham, Yateley, Blackwater and Hawley, Lightwater and West End. None of these places is truly urban in character or function, but each of them has the population size and geographical extent of a town. They are in reality town-sized suburbs, very heavily dependent upon commuting either to Greater London or to nearby 'real' towns such as Reading, Woking, Bracknell, Guildford and Aldershot but, as further expansion into the green belt is proposed and as urban facilities are gradually acquired (notably, retailing and office developments), their character will alter again. A quite different form of urban development gobbled up swathes of former heathland in Berkshire – the dramatic expansion of Bracknell from a small and obscure town at the end of the Second World War, into a sprawling new town of the 1950s which has continued to grow apace and now has a population now approaching 90,000.[61] Recent Office of National Statistics attempts to define urban areas on the basis of built-up area rather than administrative boundaries have proposed that almost all the heathlands now

[60] The character of urbanization in the area is discussed in more detail in Michael H. Ferguson, 'Land use, settlement and society in the Bagshot Sands region, 1840–1940' (unpublished PhD thesis, University of Reading, 1979). It is placed in a wider context in Alun Howkins, 'Social, cultural and domestic life', ch. 23, in E. J. T. Collins (ed.), *The agrarian history of England and Wales,* VII, *1850–1914* (2 vols, 2000), II, pp. 1354–1424.

[61] There are outline plans for the further expansion of Bracknell to bring its population up to 125,000.

come within the urban orbit of Greater London, since continuous belts of developed land, especially along railway lines and main roads, connect even Bracknell and Wokingham with the capital. It suggests, however, that reasonably coherent urban subdivisions can be delineated: Aldershot/Farnborough/Farnham/Camberley (174,000 people); Woking (124,000); Bracknell/Ascot (96,000); Wokingham (42,000) and Yateley/Sandhurst (37,000). This gives a rough figure of around half a million people in the former heathland areas, an astonishing change from fewer than 20,000 two centuries ago.

VII

So what is left? A combination of enclosure, institutional development, military takeover, urbanization and the creation of parks and estates, and the building of railways (and, later, main roads and motorways) drastically reduced the extent of heathland from the 1750s onwards. The previously uninterrupted tracts of open land – Defoe's 100,000 acres – were chopped up, subdivided, built over and converted to other land uses. But equally important was the almost complete destruction of traditional agriculture and, in particular, the end of grazing by sheep and cattle. Descriptions of the heathlands after the 1830s refer mainly to the new and the novel, not to what was inevitably seen as the dwindling and the disappearing. Though we know, for example, that peat-cutting for fuel lingered on in some areas until the beginning of the twentieth century, it was scarcely documented and of little interest. New housing developments and socially elevated residents were, in contrast, extensively reported.

But the total reshaping of the local farming economy was of profound importance. Not only did it involve the disappearance of traditional lifestyles, but it also meant a major change in landscape terms. Once the grazing of those 'miserable and half-starved sheep' had ended, and once it was realized that afforestation of the poor-quality land was feasible, there was both a direct incentive for landowners to plant conifers, and an insidious natural regeneration first of scrub and latterly of full woodland. As noted earlier, although the commons and heaths seemed so barren to the agricultural writers of the late eighteenth and early nineteenth centuries, the lack of tree cover was almost certainly the result of the over-grazing of the area by those stunted sheep. There was no intrinsic reason why tree cover could not be re-established, particularly with birch which can thrive on very thin poor soils. The decline and disappearance of sheep farming from the late nineteenth century onwards was the trigger for the regeneration, which was well under way by the late 1930s, but the process dramatically accelerated after the myxomatosis outbreak of 1953–55, which killed an estimated 95 per cent of wild rabbits in Britain. The surviving areas of open heathland, with short turf and sandy soils, had been ideal for rabbits. Their intensive grazing effectively continued the work of sheep in previous generations, preventing any scrub or tree cover from developing. After 1955, however, woodland regeneration was uninhibited and rapid. The result is that a very high proportion of the undeveloped land which was formerly heath was covered either in self-regenerated deciduous woodland, preceded by gorse and scrub and followed by silver birch (the first species to form full tree cover), oak, and alder in wetter areas, or by deliberately planted conifer woodland (Figure 5).

This was at first regarded with equanimity, but by the 1970s it was realized that it would spell the end of the unique ecological structure of the open heathlands, a habitat of great rarity



FIGURE 5: The impact of woodland growth is very clear in this view from Windy Gap Hill near Aldershot, looking north-west towards Farnborough and Camberley. As recently as the mid-1950s almost none of this landscape was wooded, but today tree cover is ubiquitous. Photo: Author.

in European terms and one everywhere endangered by urban development and woodland encroachment. In consequence, considerable efforts are now made in some areas, such as Chobham Common and Horsell Common, to reverse this process, with grazing by 'traditional breed' cattle and ponies, felling and clearance of invasive woodland, and deliberate re-creation of grassland and open habitats, including environmental work to sustain and extend the shallow basin wetlands so typical of the original heath. Ironically, the finest stretches of untouched heathland are those which have been in military control for over a century.

Standing on the heights of Chobham Common or Caesar's Camp above Aldershot, two worlds are visible. In the distance are the ever-taller tower blocks of sprawling towns, pylons and high-voltage cables span the view, and the incessant drone of traffic on the M3 or the great highways is matched by the seemingly ceaseless passage of planes heading for Heathrow. But in the foreground are boggy hollows at the foot of loose gravelly slopes of heather and coconut-scented gorse, mushroomy smells emanate from oak and birch woodlands, and the paths and tracks winding through the coarse moorland grasses are trodden by horse riders and dog walkers. As Brayley noted 175 years ago, the heathlands were already a recreational asset. Now, they are loved, treasured and jealously guarded, but this disappearing landscape is still under threat. It has a rich and unique history. Let us hope it survives the development pressures of the twenty-first century.

The road to modern forestry: dealing with deforestation in nineteenth-century southern Sweden*

by Magnus Bohman

Abstract

Previous research has connected progressive deforestation in the seventeenth and eighteenth centuries with an increase in the demand for timber for building and wood for fuel and a failure to replant. This paper investigates a southern Swedish region during the nineteenth century, where a tendency to deforestation and a low standard of forestry had prevailed for a long time despite restrictions on felling and attempts to promote replanting. We show that a new type of agricultural organization – the *Hushållningssällskapet* – encouraged the replanting of woodland and the improvement of forestry practice. It supported the enforcement of State policy, but also protected the interests of farmers, not all of whom were persuaded that replanting woodland was a good use of their land. The paper provides new evidence for the state of forestry and the active role of agricultural organizations during a crucial period of agricultural transformation.

In Sweden, as elsewhere, the increased demand for timber for building and wood for fuel in the seventeenth and eighteenth centuries caused deforestation and provoked a struggle between competing interests – including the State – to control the resources of the forest.[1] This paper investigates Malmöhus county in southern Sweden during the period between 1800 and 1870 (see Figure 1), an area in which deforestation and a generally poor standard of forestry had prevailed for a long time despite restraints on felling and attempts to encourage

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[1] See e.g. Paul Warde, *Ecology, economy and state formation in early modern Germany* (2006); P. Eliasson, *Forests, power and people. An environmental history of the Swedish forest 1800–1875* (2002); J. Radkau, 'Wood and forestry in German history. In quest of an environmental approach', *Environment and History* 1 (1996), pp. 63–76; D. Worster, 'Transformation of the earth. Towards an agroecological perspective in history', *J. American Hist.* 76 (1990), pp. 1087–1106. Paul Warde, 'Fear of wood shortage and the reality of woodland in Europe, *c.*1450–1850', *Hist. Workshop J.* 62 (2006), pp. 28–57 was drawn to my attention too late to be taken into account on this occasion, but it provides an informative and relevant discussion of many of the questions addressed here.

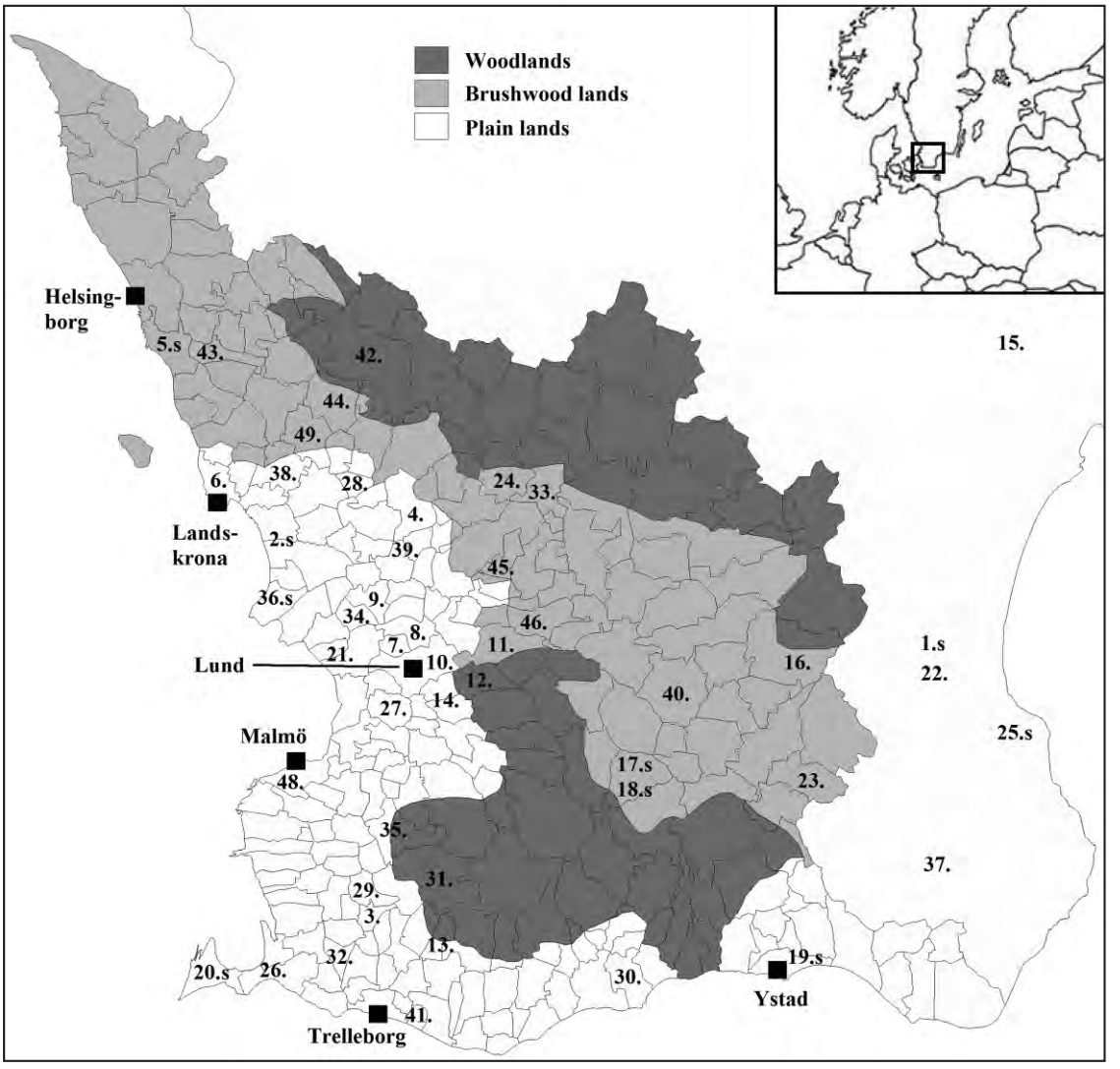


FIGURE 1: The area of investigation and location of tree plantations, *c*.1814–60

Note: location of tree plantations indicated according to numbering in Table 1. The map shows major towns, parish borders and ethnographic regions according to Campbell. An added 's' after the number indicates a plantation specifically aimed at counteracting shifting sand.
Source: Campbell, *Skånska bygder*.

the replanting of woodland. The total area of woodland finally started to increase from the 1860s, as the planting of conifers took hold in some parts of the county and the traditional multipurpose use of (mainly) deciduous woodland disappeared.

A new type of agricultural organization emerged in Sweden from the late eighteenth century. These were the regional agricultural societies called *Hushållningssällskap* (hereinafter HHS). Similar societies were founded all over Europe and even internationally, and they shared the

paramount purpose of improving agriculture.[2] Previous research has investigated aspects of these societies, but our knowledge of their impact on agricultural development remains limited.[3] This justifies our paper, which is split in two. First, it investigates how the HHS discussed deforestation and poor forestry practices and the measures it recommended. Second, it assesses the success of these measures.

The primary source is the archives of the regional agricultural society, *Malmähus läns hushållningssällskap,* whose documents on forestry from the founding of the society in 1814 and to the 1860s have been examined for this paper.[4] The archive consists of a mixed body of documents such as petitions, instructions and protocols (minutes), largely unsorted and sometimes fragmentary. This sometimes makes it difficult to follow a certain case or argument from beginning to end. Because of the organizational structure of HHS (discussed further in a subsequent section), many differing opinions on the state of forestry are represented in the archive. This allows us insights into contemporary opinion of a sort which it is impossible to find elsewhere.

The remainder of the paper has the following structure. Section I explains the background and presents previous research on forestry with a focus on the region and period under investigation. Section II outlines the emergence, purpose and organization of HHS. Section III describes its discussions of forestry and the practical steps that the HSS took to encourage it. Our conclusions follow in section IV.

I

The farmers' entitlement to forest resources was strictly regulated in Sweden as elsewhere. The privileges of the Crown and the nobility placed restrictions on tenants and freeholders alike, and the property structure of the open field system meant that the individual farmer was subject to the order of the village community (*byordningen*).[5] Forestry policy in Sweden was determined by the requirements of the navy and the mining industry, both of which enjoyed privileges due to their importance respectively for warfare and the export economy. The forest ordinance of 1734 (*1734 års skogsordning*) has been described as the culmination of a restrictive policy.[6] It confirmed the existing prohibition on farmers felling oak and beech

[2] See e.g. J. Mokyr, 'The intellectual origins of modern economic growth', *JEcH* 65 (2005), pp. 285–351; O Kåhrström (ed.), *Regionala främjare av de areella näringarna under 200 år* (2002); K. Hudson, *Patriotism with profit. British agricultural societies in the eighteenth and nineteenth centuries* (1972).

[3] F. Eriksson and P. Eriksson (eds), *Perspektiv på lantbrukets organisering – historiografi, begreppshistoria och källor* (2016); G. Fertig (ed.), *Social networks, political institutions, and rural societies* (2015); L. Miskell, 'Putting on a show: the Royal Agricultural Society of England and the Victorian town, *c.*1840–1876', *AgHR* 60 (2012), pp. 37–59; J. Marjanen, *Den ekonomiska patriotismens uppgång och fall. Finska hushållningssällskapet i europeisk, svensk och finsk kontext 1720–1840* (2013); J. Stattin, *Hushållningssällskapen och agrarsamhällets förändring – utveckling och verksamhet under 1800-talets första hälft* (1980).

[4] The complete archival reference is Regional Archives Lund (LLA), Hushållningssällskapet i Malmöhus län, huvudarkivet (HHS), volym A1 (protokoll). Henceforth, the archival reference is HHS, A1:X.

[5] Woodland was usually used by the village as common, but the more valuable types of trees were sometimes cultivated on the arable land and meadows of the infields.

[6] P. Eliasson and G. Hamilton, '"Blifwer ondt att förena sigh" – några linjer i den svenska skogslagstiftningen om utmark och skog', in *Skogshistorisk forskning i Europa och Nordamerika* (1999), p. 64.

trees without a licence granted after an inspection by an officer appointed by the crown, and extended the ban to include maple, lime, elm and ash. The ordinance stated that freeholders were allowed to use wood growing on their land for household use provided they did not exhaust it, but that farmers were obliged to use blown-down trees, dry branches, stubs and the like for firewood before felling healthy trees. The ordinance also ordered that two trees of the currently most valuable type should be planted in place of a felled tree of the same species. The ordinance of 1734 ordered dwellers on homesteads lacking wood to plant at least 12 willow, elm, lime or maple trees for each *matlag*.[7] However, an amendment of 1739 enabled farmers to avoid the obligation if their land was not suitable for planting trees. The restrictions, sometimes vague and sometimes very specific,[8] were difficult to enforce in practice.

The eighteenth century brought intensified demand pressure on forest resources. Timber exports tripled between 1685 and the late 1730s and continued to run at a high level. The Swedish population (and so the demand for fuel) doubled between 1720 and 1830. Meanwhile, the political influence of farmers increased and over time they secured the alleviation of some of the restrictions. Previous historians have described how farmers sought an increased freedom to utilize both land and commons as they wished.[9] The increased exploitation of forest resources prompted a debate on how forestry might be improved. It focused on not merely replacing felled timber but reforestation through replanting. The State issued ordinances for several Swedish counties in the eighteenth century, including one for our area of investigation in 1779.[10]

Farmers' right of disposition to land was strengthened during the nineteenth century, as existing restrictions on its use were progressively lifted. One example was that freeholders gained the freedom to dispose of beech trees and oak trees growing on their land as they wished in 1793 and 1830 respectively. Rapid population growth and intensified demand for new land to cultivate – in combination with the removal of the restraints on farmers – all contributed to accelerated deforestation. A radical enclosure reform, which spread rapidly following the introduction of the *laga skifte* ordinance in 1827, meant that landowners could divide and privatize village commons. Often, but not invariably, it accelerated the clearance of forests.[11] Contemporary observers and previous researchers have described the intensified deforestation of the time in terms of an impending crisis, but there is no consensus concerning the extent

[7] The Swedish term *matlag* roughly means a group of people fed within the same household.

[8] There was, for instance, a ban on using birch branches for decoration.

[9] S. Granér, *Samhävd och rågång. Om egendomsrelationer, ägoskiften och marknadsintegration i en värmländsk skogsbygd, 1630–1750* (2002); Eliasson and Hamilton, '"*Blifwer ondt*"'.

[10] M. Bohman, *Peasants, production patterns and paths of development during the agricultural transformation in Southern Sweden (Scania),* ca *1700–1870* (2010), p. 133; Eriksson and Hamilton, '"*Blifwer ondt*"', p. 67.

[11] One aim of the enclosure reforms was to improve forestry, but previous research has claimed that short-term effects were the opposite: see e.g. R. Pettersson, 'Äganderätten, laga skiftet och skogarnas avtagande', in M. Widgren (ed.), *Äganderätten i lantbrukets historia* (1995), p. 130ff. Other research has also argued that the standard depiction of how collective rights, exemplified by a well-established common-property regime of forestland, were transformed into individual rights has been oversimplified: see J. Larsson, 'Boundaries and property rights: The transformation of a common-pool resource', *AgHR* 62 (2014), pp. 40–60.

or even existence of such a crisis.[12] Meanwhile, a tug of war continued as the farmers' struggle for liberal rights of disposition came into conflict with the State's attempts to regulate felling and replanting. A break occurred in mid-century – following new and more scientifically based insights into, for instance, the ecological consequences of deforestation – when a new form of forestry policy took shape, which emphasized the role of the State as the active owner of forests, setting a standard in forest management for others to follow. With the establishment of a new executive forest agency in 1859 (*Kungliga Skogsstyrelsen*), the State took the responsibility for the development of a natural resource over the long term from individuals whose concern was arguably focused on the short term. It was however a somewhat peculiar development, since the period in question was generally characterized by economic liberalization.[13] The State's policy therefore shifted from strict regulation in the eighteenth century (which failed to counteract increasing deforestation) to a more supportive and educational role. Meanwhile, other factors played a role. A separation occurred between silviculture and agriculture, as the traditional multipurpose woodlands gave way to denser woodlands whose sole purpose was to produce timber. Furthermore, changes in the international trade in timber from the 1870s ended the boom in sawmill exports that had caused the sometimes ruthless exploitation of forests, especially in the northern parts of Sweden.[14] The total area of wooded land in Scania did not start to increase until the 1860s, when plantations of fir and pine trees – mainly in the northern parts of Scania – replaced the original oak and beech tree forests.

The state of forestry in our area of investigation shares many similarities with this general account, but also some important differences. Deforestation in Malmöhus county, as in neighbouring coastal regions, was mainly a consequence of the expansion of the agricultural area and not timber exports or the demands of the iron industry. The share of arable land was already very high and increased further during our period of investigation. Its expansion was encouraged by the implementation of an early enclosure reform (*enskifte*) in the first decades of the nineteenth century. Furthermore, the proportion of the land owned by the nobility was among the highest in Sweden.[15] Previous research has shown that the forests of Scania were already severely depleted by the beginning of the eighteenth century.[16] Although there were local differences, in general the exploitation of forests exceeded their regrowth. Previous research has argued that protectionist policies made matters worse, and an export ban on firewood introduced in 1658 arguably pushed woodland farmers into the alternative of potash-production and thus increased the exploitation of beech trees. Deforestation intensified in

[12] Some have argued that deforestation was part of a more general ecological crisis in Europe: see: T. Kjærgaard, *The Danish revolution 1500–1800. An ecohistorical interpretation* (1994), others that the crisis was more of a local phenomenon: M. Bohman, 'Conditional crisis? Ecological challenges and conditions of growth during the agricultural revolution in southern Sweden, c.1700–1900', *EcHR* 70 (2016), pp. 171–86.

[13] Eliasson and Hamilton, *'"Blifwer ondt"'*, pp. 72–7.

[14] E.g. L. Schön, *Sweden's road to modernity: an economic history* (2010).

[15] See e.g. C.-J. Gadd, *Den agrara revolutionen 1700–1870* (2000), p. 439. Manorial forestry was often highlighted as an exemplar for farmers to follow, but is mainly excluded from our investigations since it functioned under different conditions. Forests were reportedly part of 'the ideal picture of a manor's delights', and they were used perhaps as much for hunting and recreation as for strictly economic purposes: see M. Olsson, *Manorial economy and corvée labour in early modern Scania* (2002), p. 15.

[16] G. Nordholm, 'Några drag ur den sydskånska bokskogens historia', *Svensk Geografisk Årsbok* 18 (1942), pp. 542–60.

the early nineteenth century, and the total area of wooded land in Scania reached its lowest point around 1860. As elsewhere in Europe, previous research on this region has described deforestation in the early nineteenth century as an impending crisis.[17] A variety of measures were undertaken to counteract the increasing shortage of wood in Scania including the planting of trees alongside roads.[18] The 'Scanian Planting Office' (*Det Skånska Planteringsverket*), established in 1756, encouraged farmers to plant trees by providing them with saplings and seeds.[19] Some farms had established so-called *plantehagar* – plantations of beech and oak trees – whose creation had been a condition for allowing the felling of beech and oak trees in the outfields.[20]

Finally, we turn our focus to the emergence of the new agricultural organizations, the *Hushållningssällskapen*. They have been the subject of previous research, but we still know little about their impact on agricultural development. The first agricultural society for a Swedish county emerged in the late eighteenth century, but most of them were established following the publication of a common plan for the societies in 1813. The society in Malmöhus county was founded the following year. Each society was led by an executive committee (*förvaltningsutskott,* hereafter EC), which was chaired by the county governor and consisted of a secretary, a treasurer and six commissioners. Two commissioners were appointed annually, one by the county governor and the other elected by the members of the society. The society needed local contacts in order to achieve its purpose. Local commissions (*beredningsgrupper*, hereafter LCs), led by the clergy and consisting mainly of farmers, were established. There was two-way communication between the EC and the LCs, since the latter monitored local conditions and reported on them to the EC, which in turn sent advice and instructions. Previous research has described the founding of HHS as an emergence of a 'third sector', since it created a link between the State ('first sector') and the farmers of the 'second' sector.[21]

To summarize: the period up until the 1860s was characterized by continuous deforestation in our area of investigation. The increased pressure on forest resources during the eighteenth century took place in the context of traditional multipurpose use of wooded land, increasingly strict regulations and the property structure of the open field system. Demand intensified in the early nineteenth century, but it happened in a context of diminished restrictions, strengthened private property rights, and a shift of policy from limiting felling to promoting replanting. The regional agricultural societies emerged during this transformative period. During the second

[17] M. Bohman, 'Deal with it! The emergence and reversal of an agro-ecological crisis: Southern Sweden in the eighteenth and nineteenth centuries', *Scandinavian Economic Hist. Rev.* 65 (2017), pp. 206–20; F. af Petersens, *Skogshushållning* (1933).

[18] The establishment of tree-lined roads (in Swedish *alléer*), in the province of Scania is thoroughly analyzed by P. Olsson, *Both sides of the Road: Avenues and the landscape in Scania, 1700–1900* (2012).

[19] The Scanian Planting office was dissolved in 1784. It had probably generated poor returns during its time of operation: see L.-E. Holmberg, *Skogshistoria år från år 1177–2005* (2005).

[20] See Eliasson, *Forests*, p. 11. The renowned Swedish botanist Carl Linnaeus, also known after his ennoblement as Carl von Linné, noted and discussed *plantehagar* during his travels in Scania in 1749: see C. Linnaeus, *Carl Linnaeus skånska resa år 1749* (1977), p. 123; Bohman, 'Deal with it', p. 21.

[21] There was a connection between HHS and the Royal Academy of Agriculture (*Kungl. Svenska Lantbruksakademien*), which was a semi-State authority founded in 1811: see U. Lange, *Experimentalfältet. The royal Swedish academy of agriculture's experimental station in Stockholm, 1816–1907* (2000).

half of the nineteenth century, a new order emerged, characterized by a more modern type of forestry, the State as an active owner of forests, and new market conditions. The total area of wooded land started to increase from the 1860s, due mainly to successful replanting in the areas where forestry had traditionally been an important source of income.

II

On its foundation in 1814, the regional agricultural society of Malmöhus county immediately engaged with the issue of forestry. Several documents reflect a perception of an increasing shortage of forest resources, exemplified, for instance, by notes on the widespread use of peat burning for heating houses.[22] Opinions differed as to the causes of deforestation, but population growth, the expansion of arable land, and 'irresponsible exploitation' are repeatedly mentioned. An example of the latter was the claim that increased consumption of spirits had caused excessive consumption of firewood in distilling.[23] More fundamentally, differing opinions were expressed about regulation. In a protocol of 1833, the EC expressed its support for the prevailing firewood export ban, using the argument that 'the benefits of the individual landowner must bend to that of the general public at a time when the needs of the plains and towns of Scania are bigger than ever before'.[24] The EC acknowledged the need to transport firewood from other parts of the county, but concluded that steps must be undertaken both locally and nationally to increase the supply of fuel through improved forestry, replanting, the planting of willow[25] and the more sustainable use of peat bogs.[26] A more spectacular suggestion, which was never realized, was to construct a canal from the wooded areas around Lake Ringsjön to the coastal town of Malmö to convey wood to the bigger towns of the western coast. HHS continuously acknowledged the need for improved transportation, whether roads or railways, to enable the easier transportation of wood.[27] On several occasions the HHS praised the coalmine in Höganäs, since it offered an alternative source of fuel for domestic heating.[28]

The archive reveals that the causes of and solutions to wood shortage were vigorously debated without any consensus being achieved, despite the EC's official statements. One example is a petition written by a member of the EC in 1835, which criticized the mandatory planting obligation. The petitioner presented a detailed calculation and argued that the losses

[22] HHS, A1:1, 'Förvaltningsutskottets memorial 1818'.

[23] HHS, A1:3, 'Hörby och Lyby pastorats hushållsberedningsberättelse för år 1837'.

[24] HHS, A1:3, 'Protokoll, 1 Nov. 1833'.

[25] The paper applies the general term 'willow' to denote different species of the genus *Salix*.

[26] Previous research has shown that there was a nature-based specialization in the province of Scania between three main types of agricultural regions: the plains, the woodland regions and the brushwood region. See A. Campbell, *Skånska bygder under förra hälften av 1700-talet. Etnografisk studie över den skånska allmogens äldre odlingar, hägnader och byggnader* (1928); Bohman, 'Conditional crisis'. Campbell's ethnographic division (see Figure 1) concerns the earlier half of the eighteenth century.

[27] For instance HHS A1:5, *'Inkommande brev till förvaltningsutskottet, avsändare Carl G. Breyer, Malmö den 19 februari 1846'.*

[28] Coal deposits are scarce in Sweden, and one of few is at Höganäs in north-western Scania. The EC reported that 38,376 barrels of coal were sold within Scania and 37,160 barrels were sold to the rest of Sweden and abroad in the year 1817. The coal mining company received 6 *riksdaler banco* for each sold barrel, which was financed by a toll on imported English coal. HHS, A1:1, 'Förvaltningsutskottets memorial 1818'.

from using fertile arable land to produce firewood far exceeded the costs of importing firewood from the nearby forest-rich county of Kronoberg.[29] There are other examples of arguments being made against both the export ban and forced planting of trees. Another petitioner – Sergeant Sandberg of Lyngby parish – argued that a major problem was the town-dwellers' unwillingness to pay a realistic price for firewood. To prove his point that there was no acute shortage, Sandberg offered to donate trees from his land to any resident of Malmö or Lund who was willing to collect them, 'from root to top', and leave the land 'free and clean' so more lucrative forms of production could take place.[30] The documents also contain claims that manors were unwilling to sell peat and firewood due to low prices and the high cost of transportation, and that consequently they produced mainly for local use.[31] A later EC report from 1843 concluded that the supply of wood products, including firewood, was abundant due to the inflow from other parts of the country, which had caused prices to fall and had halted the felling of local forests.[32]

Reports from the local committees (LCs) survive in greater numbers from the 1830s, and they provide insights into how perceptions of deforestation had changed since the earliest years of HHS. We can draw on about 50 reports that tend to be less pessimistic about wood shortage, although with some important differences. Some, particularly from plain land areas, praised farmers who had turned previously wooded land into arable or expressed regret that they had not yet done so.[33] The LC of Rönneberga hundred (*härad*) reported that its complete lack of forest was not a problem, since nearby areas provided an ample supply of firewood at a good price.[34] The LC of Asmundtorp and Tofta parishes reported in neutral terms about their lack of woodland but reported that well-kept plantations of willow provided firewood and an income from its sale.[35] The LC of Bara complained about the wood shortage and generally poor forestry, and expressed a need for solutions such as planting willow hedges. The most negative reports usually came from areas of the county where forestry had traditionally been an important source of income, particularly the areas specified as 'woodlands' in Figure 1. A report from Onsjö hundred described the local disinterest in woodland. It called for improved forestry and the conversion of land that was useless for grazing and crop production into woodland.[36]

The documents also reveal contemporary opinions about the effects of the enclosure reforms. HHS generally supported and encouraged enclosure, and argued in favour of the beneficial effects of strengthened private property rights on land management, including forestry. However, some LC reports were negative, and claimed that enclosure threatened the few remaining forests.[37] Enclosure promoted the expansion of arable land at the expense of forests,

[29] HHS, A1:3, 'Inlaga 29/4 1835'.

[30] HHS, A1:3, 'Lyngby pastorats hushållningsberednings berättelse till Bara kontrakts hushållskommitté för år 1837'. Sandberg was a *fanjunkare*, a form of non-commissioned officer.

[31] HHS, A1:3, 'Lyngby pastorats hushållsberedningsberättelse för år 1837'.

[32] HHS, A1:4, 'Förvaltningsutskottets protokoll, 28 February 1843'.

[33] HHS, A1:3, 'Lyngby pastorats hushållsberedningsberättelse för år 1837', and 'Sammandrag av pastoratsberedningarnas berättelser av Vemmenhög kontrakt i maj år 1837'.

[34] HHS, A1:4, 'Kjells Nöbbelöfs pasatorats hushållningsberednings berättelse till Rönnebergs härads hushållscommitté, 6 February 1844'.

[35] HHS, A1:3, 'Asmundtorp och Tofta pastorats hushållsberedningsberättelse för år 1837'.

[36] HHS, A1:3, 'Sammanställning av Onsjö kontrakts hushållningsberedningsberättelser för år 1837'.

[37] HHS, A1:3, 'Vanstad och Tolånga pastorats hushållsberedningsberättelse för år 1837'.

at least initially, but opinions varied between whether it was for the better or the worse. From Brundby parish it was reported that the forests 'had suffered' and that remaining woodlands were 'threatened by accelerating devastation'.[38] A report from Frosta hundred complained that the forests had, since the implementation of the reform, been felled with 'an incredible speed' and that the farmers 'were too much in need of income today in order to invest work and costs in forestry, which only generated profit for future generations'.[39] On the other hand, a report from Lyngby parish reported that the reform had resulted in the complete clearance of 'useless brushwood' from what had previously been outlands.[40]

Apart from just discussing the issues, the documents also reveal that the HHS actively undertook measures to counteract deforestation and improve forestry. A royal ordinance from 1813 concerning mandatory planting ordered each HHS to establish local planting committees (PCs), in order to ensure that farmers complied with the obligations placed on them. The PCs were to be elected but should contain at least one person of rank. Their task was to choose suitable places for plantations and then report to the EC how far the planting obligation had been fulfilled. The PCs would also provide trees and seeds. Substituting the planting of trees for willow hedges on boundary banks (*pilevallar*) was optional – the ordinance considered 300 fathoms (534 meters) of bank planted with three rows of willow to equal a tree plantation of one sixth of an acre.[41] If a farmer did not fulfil the obligation placed on him, and if legitimate reasons for his failure were not reported to the county governor within fourteen days of a report being made, a fine of between 1 *riksdaler* 32 *skillingar banco* and 6 *riksdaler* 32 *skillingar banco* would be imposed.

How well did the HHS fulfil its duty to enforce the planting obligation? The archives include descriptions of many completed planting projects (see Figure 1 and Appendix), although probably not all of them, due to gaps in the records. The documents reveal that many parishes established PCs, but that their level of activity varied and was most generally intense during the first two decades after the planting ordnance was issued. The EC produced a summary in 1818, based on all the reports it had received from the local PCs. It knew of 52.5 acres (106 *tunnland* and 12 *kappland*) of 'completed enclosures for tree seeds': about 31 km of willows planted on earth walls; 45,512 saplings had been planted and 4,252,714 trees of various types.[42] Are these figures reasonable? Subsequently we will present examples drawn from the reports of the local PCs that show extensive planting projects.

The records show examples of farmers who joined forces to comply with the planting obligation. In 1813–14, the towns of Landskrona and Helsingborg and the villages of Raus and Pahlstorp employed 'gardeners' to establish and care for their plantations. This shows how the

[38] HHS, A1:3, 'Brundby pastorats hushållsberedningsberättelse för år 1837'.

[39] HHS, A1:3, 'Sammanställning av Frosta contracts hushållsberedningsberättelser för år 1837'.

[40] HHS, A1:3, 'Lyngby pastorats hushållsberedningsberättelse för år 1837'.

[41] HHS, A1:1, 'Instruktion för Malmöhus läns hushållsberedningar, § 6'. There is a possible connection between the formation of PCs and the contemporary implementation of the early radical enclosure reform (*enskifte*), since redistribution of land required plantation of willow hedges on earthworks as means to mark out new boundaries.

[42] HHS, A1:1, 'Förvaltningsutskottets memorial 1819'. The EC praised the increased planting of willow in the surrounding areas to the town of Malmö, and wrote that it should serve as an example. It had generated firewood but also a new export commodity, which according to the custom office's notes amounted to 17000 willow barrel hoops.

plantations were a long-term commitment that justified the employment of men to maintain fences and protect the wood against animals and intruders. The merchant Lorentz Kockum from the town of Malmö included the planting obligation of a neighbour within a plantation of 164 acres on his own land. The neighbour was to pay 30 *kappor* (about 138 litres) of barley annually for 25 years, after which Kockum's plantation was expected to generate a profit. The EC approved of the agreement, both for its economies of scale and because Kockum's land was less well suited for grain production.

Some planting projects struggled. For instance, shifting sand devastated a plantation of 114 acres established by the town of Ystad on its outfields. The EC wrote a report on the issue, and hoped that fences and grass mounds would solve the problem. Shifting sand also caused problems for tree plantations at the village of Hemmestorp and the town of Skanör, and it appears repeatedly as a problem in the documents. Attempts to stop the sand drift in Hemmestorp failed, but a mandatory obligation to contribute to fences and support from HHS in the form of seeds and saplings had reportedly produced enduring results.[43]

Enforcing the planting obligation necessitated monitoring and follow-up inspections, of which the archive contains several examples (see Appendix, pp. 213–14). Our research reveals once more that results varied between planting committees (PCs). An illustrative example is from Nosaby parish, where the farmers in 1816 had committed to planting 18 trees each, annually and over the course of four years.[44] The local PC conducted an inspection in 1819 and presented a detailed report with a table, which showed the actual number of planted trees, including the surplus or deficit over the expected number. In all, the 42 farms in Nosaby parish had committed to planting 3024 trees. The number planted was 3484, a surplus of 460 trees. There were however big differences between the farms: the biggest individual surplus and over the expected quota of 72 trees per farm amounted to 286 and the biggest deficit 55 trees. The PC stressed individual responsibility, despite the total surplus for the parish as a whole, and ordered that farmers must achieve the expected individual quotas before the next inspection. However, the PC argued that there were valid reasons for the shortfall and concluded that no fine should be imposed. The reasons were a recent enclosure in the neighbouring village of Åraslöv, which had caused uncertainties about land ownership, difficulties in obtaining planting materials, and damage caused by hares. Another example is from Fränninge parish, where the PC reported on no fewer than 12 individual planting projects. The village had established a tree plantation on its western field, but some landowners had reportedly felled trees without permission. The PC came to an agreement with the village community that no further felling could occur without the village's consent, and that any violation would be punished by a fine of 10 *rikdsdaler banco*.[45] However, it is noteworthy that neither here, nor anywhere else, do we find a single instance of a farmer being fined for not fulfilling his planting obligation.

The investigation reveals several examples of the supportive role of HHS. One is that the EC funded the printing and distribution of a dissertation on the topic of planting wild trees,

[43] For a more detailed account, see: Bohman, 'Deal with it'; id., *Peasants, production patterns and paths of development,* pp. 206–20.

[44] HHA, A1:1, 'Rapport från Nosaby sockens planteringskommitté, 30/6 1819'.

[45] HHS, A1:1, 'Rapport från Fränninge socken planteringskommitté, 26/4 1819'.

written by a Professor Retzius in 1811, as an aid to the LCs and PCs. There are also examples of members who donated trees, one of them as many as 200,000 willow saplings. Another member provided funding of 50 *riksdaler banco* annually for three years for the employment of a planter (*planterare*) in Torna hundred.[46] The documents provide several examples of men being employed to tend the trees, an illustration of the emerging professionalization of forestry. In 1831 the HHS received two separate applications from former foresters (*jägmästare/skogsombudsmän*) in Älvsborg county, who offered their services in Malmöhus county. Another way in which the HHS promoted the professionalization of forestry was to pay for educational trips abroad, as in the example of 'Master' (*magister*) Hammar who in 1852 received a scholarship to travel to northern Germany with the aim of studying forestry in general and plantations on sand fields in particular.[47] The increased planting activities also provided new opportunities for income and specialization, exemplified by Mattias Nilsson in the village of Råby who established a tree nursery. The garden reportedly sold more than 6000 saplings during the period 1830–33.[48]

From 1824 the HHS encouraged forestry by offering prizes to well-executed plantations. These originally took the form of six annual grants of 10 *riksdaler banco* each, and were made possible by a donation from the Royal Swedish Academy of Agriculture (*Kungliga lantbruksakademien*).[49] The number of applicants for the rewards increased from the 1830s, when knowledge of the competition spread due to advertisements placed in local papers. Some candidates simply nominated themselves, but it was more common that LCs nominated candidates to the EC. The rewards were made after discussion. Some members of HHS opposed rewarding tree plantations, and argued that farmers should use fertile land for crop production instead. Others called for prizes that were more utilitarian – such as breeding stock – rather than silver cups, which were liable to be stolen.[50] A later proposal made to the HHS suggested that it should transform the rewards into grants, for which the farmers could apply in preparation for planting projects. The petitioner suggested that the HHS should then provide planting materials and expertise, in return for the farmers committing to maintain the plantation under the supervision of the local PC.[51]

An example of a more indirect way in which the HHS addressed the issue of deforestation was by the promotion of alternative sources of fuel. On a number of occasions it referred approvingly to the coal mine at Höganäs. Peat could also be used for fuel. Initially the HHS had disapproved of the exploitation of peat bogs but it came to recommend peat for fuel provided the worked out bogs were either planted with trees or even turned into arable. Whether these suggestions were implemented is difficult to assess due to the lack of information, but it is certain that here the HHS saw its role as collecting and disseminating information about best practice.

[46] The county governor appointed a man named Mattias Girdström to the position. His instructions were to assist the farmers, 'with his own hands and through education', and to establish a nursery garden. HHS, A1:3, 'förvaltningsutskottets protokoll, 1/11 1833'.

[47] HHS, A1:6, 'Förslag till instruktion för resestipendiat, 16/11 1852'.

[48] HHS, A1:3, 'Brev till förvaltningsutskottet undertecknat Mattias Nilsson i Stora Råby, 16/4 1835'.

[49] HHS, A1:2, 'Cirkulär, KSLA, 3/8 1827'.

[50] For instance, HHS, A1:3, 'Brev till förvaltningsutskottet undertecknat av J. Kjellman i Lilla Harrie juli 1835'.

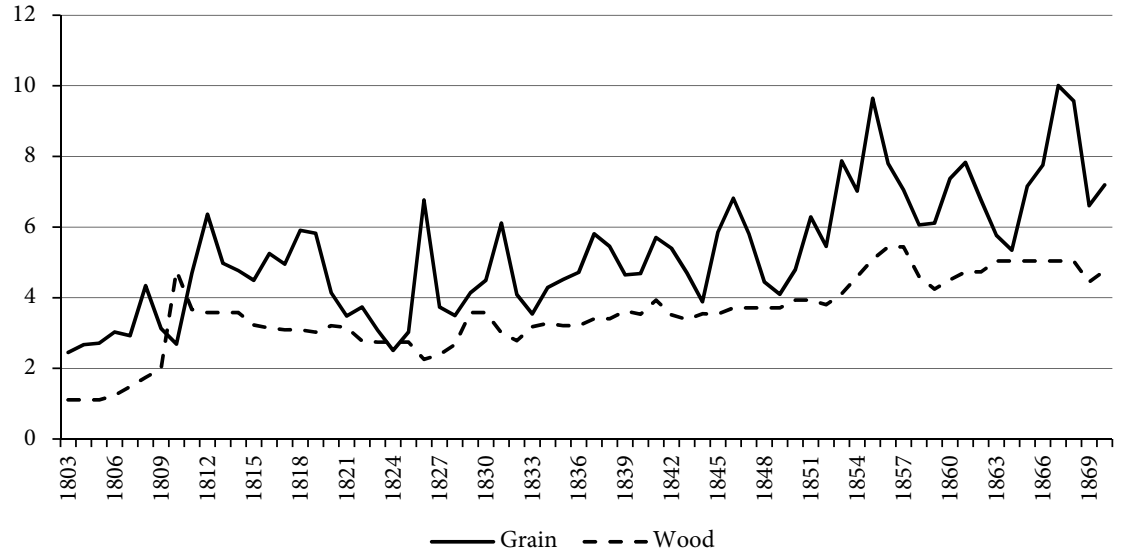


FIGURE 2: Nominal prices for wood and grain

Note: Calculations based on average prices. For grain: rye+barley+oats in *kronor*/hl. For wood: birch+pine+beech wood in *kronor*/m³.
Source: L. Jörberg, *A history of prices in Sweden, 1732–1914* (2 vols, 1972), I, pp. 141, 144, 157, 160, 173, 176, 494, 497, 505, 508, 514–15.

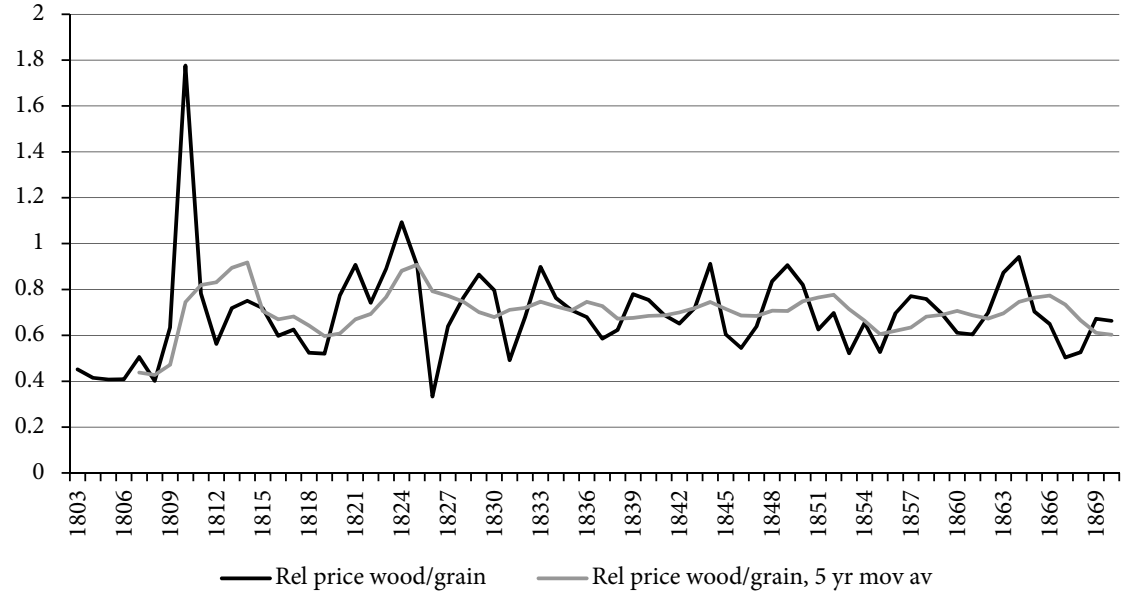


FIGURE 3: Relative price wood/grain

Note: calculations based on average prices. For grain: rye+barley+oats in *kronor*/hl. For wood: birch+pine+beech wood in *kronor*/m³.
Source: Jörberg, *History of Prices in Sweden,* I, pp. 141, 144, 157, 160, 173, 176, 494, 497, 505, 508, 514–15.

A different source that can be drawn on suggests that the Society's campaign to encourage tree planting for fuel was not without success. Figures 2 and 3 illustrate the long-term development of prices during the period 1803–70, the former nominal prices for grain and wood, and the latter the relative price between wood and grain. In a broad sense, we are able to identify two main periods. From around 1803 to the late 1820s, wood prices tended to increase faster than grain prices. From about 1830 to 1870, the prices of wood and grain increased at a similar rate. The development up until 1830 thus fits with the picture of accelerating deforestation and shortage of wood, whereas the development from the 1830s fits with the observation that at least some farmers no longer perceived wood growing as negatively as before.

III

A number of conclusions arise out of this research. First, we have found that from its foundation, the regional agricultural society (HHS) was actively engaged in questions of deforestation. It was aware of the tendency towards deforestation, but there was no consensus within the society about either its causes or a solution to the problem. Attitudes among the farmers may have changed around 1830. Farmers on the fertile plains became more accepting of deforestation, whereas others showed a greater willingness to see advantage in planting trees. Price data suggest that market development had mitigated local shortages of wood from the 1830s, but the HHS was still concerned to improve local supply in accordance by enforcing the planting obligation ordered by the State. The explanation for the changing attitudes is probably the strengthened rights of farmers to employ their land how they wanted – through the lifting of restrictions on land use and enclosures combined with new market opportunities – which enabled farmers on the fertile plains to use wooded land for what they believed was a better purpose, the specialized production of grain. This view fits with the thesis of a long-term tug of war between the State and farmers over the farmer's right to use the land how he wished, which shifted significantly in favour of the farmer during our period of investigation.[52] Price trends and strengthened property rights also help explain why the total area of woodland for the province as a whole finally started to increase from the 1860s. In areas where forestry had traditionally been an important source of income – and where the land was less suited for grain production – farmers had started to see advantage in replanting. The emerging professionalization and separation of silviculture from other agricultural activities was thus a further development of the traditional patterns of specialization between the plains and the forested regions of Scania.[53]

The second aim of this paper was to assess the effects of the measures undertaken by the HHS. Our results confirm that it not only discussed the issues of deforestation and poor forestry, but also had an impact on practice. We have shown how the HHS helped to enforce

[51] HHS, A1:7, 'Brev till Malmöhus läns hushållningssällskap, Jöns Olsson, Nordanå, 3 December 1863'.

[52] Compare with S. Granér, *Samhävd och rågång*; E. Ostrom, *Governing the commons – the evolution of institutions for collective action* (1990).

[53] Compare to Bohman, *Peasants, production patterns and paths of development*; id., 'A matter of geography? Agricultural specialization in Southern Sweden (Scania), 1732–1864', in A. Antoine (ed.), *Agricultural specialization and rural patterns of development* (2016), pp. 99–118.

the planting obligation, and quantitative as well as qualitative evidence shows that the results were significant – although with varying success at the local level. The explanation for its relative success compared to previous attempts at agricultural education is probably its organizational character and structure, which was a novelty at the time.[54] Previous attempts had generally wielded the stick rather than the carrot. They failed because they tended to provoke those affected by the policy into disobedience, since there was no other way for them to affect or at least question the legitimacy of the policy.[55] HHS on the other hand provided a new forum for a dialogue between the State and farmers. Our results confirm a claim made in earlier research, that the State made each HHS its tool within its regional agricultural administration.[56] Previous research considered the latter half of the nineteenth century, but our results show it happening much earlier. The HHS managed to balance its dual role, since it supported the interests of farmers even while enforcing State policy.[57]

However, the direct impact of the mandatory planting obligation is questionable. Planting trees on fertile arable land was counterproductive and worked against the economic incentives at hand, as some members of HHS vividly argued. Furthermore, our result show that the activities of HHS connected to the planting obligation gradually subsided after an intense start. The indirect and long-term effects were however probably important, since from its very beginning the HHS engaged itself in local agricultural matters and developed its advisory and educational role. It mattered that such a supportive structure was already in place when a new type of specialized and professionalized forestry started to emerge during the latter half of the nineteenth century.

In summary, this paper has provided new empirical evidence for the active role and impact of agricultural organizations during a crucial period of agricultural transformation. The results show that the organizations provided a new institutional infrastructure more firmly anchored among the farmers, which proved more successful than previous attempts to implement State policies, but more importantly for the long-term improvement of forestry.

[54] The decision in 1813 to appoint local parish committees to supervise the implementation of the planting obligation was an innovation: see R. Nellbeck, *Några drag ur svensk skogsvårdshistoria. En historisk exposé med särskild hänsyn tagen till utvecklingen i sydligaste Sverige och Bergslagen under 1700-talet och tidigt 1800-tal* (1953).

[55] E. Reuterswärd, *Ett massmedium för folket. Studier i de allmänna kungörelsernas funktion i 1700-talets samhälle* (2001), pp. 279–85.

[56] R. Petterson, 'Forskning om hushållningssällskapens historia', in Kåhrström (ed.), *Regionala främjare*; Gadd, *Den agrara revolutionen*; Kempe, *Studier angående de svenska hushållningssällskapen*.

[57] Compare to Stattin, *Hushållningssällskapen*.

Appendix.
List of tree plantations established, *c.*1814–60, and their inspections, sorted chronologically according to year of establishment

	Location	*Year of establishment*	*Inspections*	*Comments*
1.	Brösarp v*	*c.*1774	1819	Shifting sand
2.	V Karaby and Saxtorp p	*c.*1811	1818, 1831, 1834, 1837, 1845	Pine trees, shifting sand
3.	Östra Grevie p	*c.*1811	1819	
4.	Åkarp v (Reslöv p)	*c.*1811	1821	
5.	Raus p	1813	1816, 1818, 1831, 1840, 1841, 1842, 1844, 1845, 1847, 1848	Shifting sand
6.	Landskrona t	1814	1816	
7.	N Nöbbelöv p	*c.*1814	1832	
8.	Vallkärra p	*c.*1814	1832	
9.	Lackalänga p	*c.*1814	1832, 1837	
10.	Lund t	*c.*1814	1832	
11.	S Sandby p	*c.*1814	1832, 1837	
12.	Hardeberga p	1815	1818, 1832, 1837	
13.	V Alstad v	1815	1820	
14.	Stora Råby and Bjällerup p	1815	1819, 1833, 1834, 1835, 1837, 1845	
15.	Nosaby p*	1816–18	1818	
16.	Fränninge p	1817–18	1818, 1819, 1850	
17.	Everlöv p	1818	1835, 1849	Shifting sand
18.	Hemmestorp v	1818	1847, 1848	Shifting sand
19.	Ystad t	1818		Shifting sand
20.	Skanör p	1818	1837, 1838, 1847, 1848, 1849	Shifting sand
21.	Fjelie and Flädie p	1819	1832, 1837	
22.	Eljaröd p*	1819		
23.	Vanstad p	1819	1819	
24.	Bosarp v	1819		
25.	Mellby p*	1819		Pine trees, shifting sand
26.	Stora Hammar and Räng p	1819		
27.	Uppåkra p	1830	1832, 1835	
28.	Källs-Nöbbelöv p	1830	1835, 1845	
29.	V Ingelstad p	1830	1835	
30.	Skivarp p	1830	1835	
31.	Fårabeck v (S. Sallerup/Svedala p)	1830	1835	
32.	V Värlinge v (Bodarp p)	1832	1835	

	Location	*Year of establishment*	*Inspections*	*Comments*
33.	Stehag p (Rönneholm castle)	1848		Manorial land
34.	Stävie p	?	1844	
35.	Skabersjö p	?	1837, 1843	Manorial land
36.	Barsebäck p	?		Pine trees, shifting sand
37.	Ö Ingelstad p*	?	1835	
38.	Asmundtorp p	?	1825, 1826, 1836, 1837	
39.	St Harrie and Virke p	?	1837	
40.	Sövdeborg and Öved p	?	1837	Annual sowing of pine seeds on manorial land
41.	Dalköpinge p	?	1837	General planting of fruit trees and *salix*
42.	Kågeröd p	?	1837	30,000 larch trees imported from England
43.	Bårslöv p	?	1837	
44.	Halmstad p	?	1837	
45.	Borlunda p	?	1837	General planting of *salix*.
46.	Holmby p	?	1837	Pine trees
47.	Torna h	?	1818	General planting of *salix*
48.	Malmö t	?	1818	General planting of *salix*
49.	Sireköpinge p	?	1835	

Notes: h=hundred, p=parish, t=town, v=village/hamlet. Names of hamlets are specified as far as possible, but in some cases several unspecified plantations have been grouped within the same parish or hundred.
*=located in the neighboring Kristianstad county.
Source: Regional Archives Lund (LLA), Hushållningssällskapet i Malmöhus län, huvudarkivet, volym A1.

John Bright's Poacher: Poaching, politics and the illicit trade in live game in early Victorian England*

by Harvey Osborne

Abstract

This article takes as its subject the life and career of Frederick Gowing, once described as 'the greatest poacher in England'. Gowing's reputation as a professional poacher brought him to national attention during the Anti-Corn Law League's populist campaign against the Game Laws of the 1840s, when he provided evidence damaging to the landed interest at the 1845 Select Committee on the Game Laws. His unusually well-documented career reveals otherwise concealed and unknown features of commercial poaching in late Georgian and early Victorian England. Although in some ways an archetypal 'Victorian poacher' and 'social criminal', Gowing's experiences in the illegal trade in game, which included poaching breeding-stock on behalf of game-preservers themselves as well as supplying urban markets with dead game, illustrates the complexity of the poaching industry of the nineteenth century as well as the liminal and often ambiguous position of the poacher in society. Gowing's later transition from convicted poacher to respectable employment as a gamekeeper on a large estate in the English midlands further underlines the ambivalent and sometimes paradoxical relationship between poaching and gamekeeping in nineteenth-century England.

Poaching is still largely understood as the 'epitome of social and rural crime' predominantly committed by poverty-stricken agricultural labourers seeking to 'rehabilitate' their dire economic position.[1] This remains a powerful and representative portrayal, particularly for those areas of the agrarian south and east where extensive game preservation by agricultural landlords coalesced with the structural poverty of rural labouring communities to generate prolonged conflict between poachers and preservers, which intensified during the late Georgian period and only declined in the later decades of Victoria's reign.[2] In this context historians have

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[1] J. E. Archer, '"A reckless spirit of enterprise": Game preserving and poaching in nineteenth-century Lancashire', in D. W. Howell and K. O. Morgan (eds), *Crime, protest and police in modern British society* (1999), p. 149. J. L. Hammond and B. Hammond, *The Village Labourer, 1760–1832* (1911), p. 186.

[2] P. B. Munsche, *Gentlemen and poachers. The English Game Laws, 1671–1831* (1981). H. Hopkins, *'The*

been able to identify the commonplace nature of both offending and offenders. As studies by Alun Howkins, Tim Shakesheff and John Archer have demonstrated, those prosecuted for offences against the game laws in agricultural areas were typically local men in working-class occupations, often farm labourers, ostensibly seeking to support household economies.[3] Relatively few were involved in other forms of criminality. Joseph Arch's observation that 'every other man you met was a poacher' underlines both the ordinary nature of most offenders and the lack of stigma associated with this form of crime.[4] The proximity to nature afforded by rural work from its earliest stages provided a ready apprenticeship in the ways of taking game and rabbits. Opposition to the game laws, widespread across all classes, allied to the closely bound nature of the communities that typically produced offenders, meant that poachers generally enjoyed at least the tacit support of their neighbours and often more active forms of assistance.

This understanding of offending and offenders has been subject to marginal revision in recent decades, beginning with a highly nuanced study by David Jones and more particularly through the work of John Archer.[5] Although Jones's contribution continued to underline the prosaic nature of the poacher, it also succeeded in highlighting both the diverse motives of offenders and the shadowy world of commercial poaching and professional poachers. The enormous scale of the illegal trade in game, with over 100,000 dozen pheasant and partridge eggs being carried to London in a typical season, required some reconciliation with an understanding of offenders that was largely dominated by the image of the village labourer 'poaching for the pot'.[6] Archer's later work, particularly that focused on early Victorian Lancashire, sought to develop our understanding of commercial poaching further. His findings also suggested other possible incongruities with the traditional image of the poacher as an otherwise law-abiding rural worker whose periodic offending was driven by subsistence concerns. In the Lancashire countryside, the poachers who most troubled the authorities were drawn from urban backgrounds and industrial occupations and were often organized into established gangs with a reputation for wider lawlessness and violence. Furthermore, these offenders were highly market-oriented, they were 'not poaching for their own immediate needs … they were in it for the money'.[7] The commercial nature of much Lancastrian poaching, allied to the character

Note 2 *continued*
long affray': The poaching wars in Britain, 1760–1914 (1986). J. E. Archer, 'Poachers abroad', in G. E. Mingay (ed.), *The unquiet countryside* (1989), pp. 52–64. H. Osborne and M. Winstanley, 'Rural and urban poaching in Victorian England', *Rural Hist.* 7 (2006), pp. 187–212.

[3] A. Howkins, 'Economic crime and class law: Poaching and the Game Laws, 1840–1880', in S. B. Burman and B. E. Harrell-Bond (eds), *The imposition of law* (1979), pp. 273–88. J. E. Archer, *"By a flash and a scare": Incendiarism, animal maiming and poaching in East Anglia, 1815–1870* (1990). T. Shakesheff, *Rural conflict, crime and protest, Herefordshire, 1800–1860* (2003).

[4] J. Arch, *The story of his life, told by himself* (1898), p. 13.

[5] D. J. V. Jones, 'The poacher: A study in Victorian crime and protest', *Historical J.* 22 (1979), pp. 825–60. Archer, '"A reckless spirit of enterprise"', p. 163; id., 'Poaching gangs and violence: The urban-rural divide in nineteenth-century Lancashire', *British J. of Criminology* 39 (1999), p. 32. See also, Osborne and Winstanley, 'Rural and urban poaching' and H. Osborne, '"Unwomanly practices": Poaching, crime, gender and the female offender in nineteenth-century Britain', *Rural Hist.* 27 (2016), pp. 149–68.

[6] Hopkins, *'The Long Affray'*, p. 88. BPP, VIII, 1828, *Report from House of Lords Select Committee on the Laws relating to Game* (Evidence of Mr L. M.), pp. 42–3. Archer, '"A reckless spirit of enterprise"', p. 163.

[7] Archer, '"A reckless spirit of enterprise"', p. 163.

of offenders, appeared to Archer to suggest 'a divergence' from the established picture of the crime in the rural south and east and raised wider questions. Was it the case that, in their assessment of poaching and poachers, 'certain subtleties, nuances and complexities (had) been overlooked or underplayed by historians?'.[8]

This examination of the life and career of Frederick Gowing, a professional poacher from East Anglia, is sympathetic to Archer's suggestion that established understandings of poaching and poachers have in some respects obscured the inevitable complexity of offending and individual offenders. While in some ways Gowing's experiences reinforce some traditional interpretations of poaching crime, his particularly well-documented career also highlights lesser-known aspects of the poaching industry of the nineteenth century. These include indications not only of the sheer scale and profitability of commercial poaching, particularly in the game heartlands of eastern England, but also the way in which poaching for the market was often outwardly concealed, not least from the later historian. Gowing's career in the illegal trade in game also encompassed the supply of live birds and animals and this aspect of his activity highlights the participation of gamekeepers and game-preservers in a criminal trade that they were ostensibly committed to quashing. It was this facet of poaching crime that brought Gowing momentarily into the public spotlight after his recruitment to the Anti-Corn Law League's campaign against the game laws during the 1840s and his participation as a witness to the 1845 Select Committee into the Game Laws. As Gowing's evidence to the Committee highlighted, as a rural supplier of dead and live game to urban middle-class consumers and landed proprietors respectively, poachers not only often operated on the margins of several different worlds, but across the more ambiguous boundaries of the game conflict. Considering the life history of such individuals, rather than compartmentalizing them based on a single event or life stage, also highlights the potential fluidity and elasticity of the boundaries between poacher and preserver. Gowing, like many others of his kind, defied easy categorization and embodied the popular idiom, 'poacher turned gamekeeper'.

I

Frederick Gowing, the man later described by John Bright as 'the greatest poacher in England', was born in March 1804, in the coastal parish of Aldringham cum Thorpe, close to the town of Aldeburgh in East Suffolk.[9] His father Thomas died at the age of 30 in 1809 when Frederick was just five, leaving the boy with his mother Mary and younger sister Sheba. Sometime before Thomas Gowing's death, or more likely just after, the family moved to the hamlet of Iken, about nine miles distant by road, a parish adjacent to the tidal River Alde, again close to the Suffolk coast. This much is known because in 1814 the widowed Mary Gowing and her children were subject to a Poor Law removal order from Iken back to their home parish of Aldringham cum Thorpe.[10] In the years before the removal, however, as a small boy, Frederick Gowing was employed as an assistant 'rabbit-killer' to the gamekeepers

[8] Ibid., p. 148.

[9] G. M. Trevelyan, *Life of John Bright* (1913), pp. 92–7.

[10] Suffolk Record Office (hereafter SRO), FC161/G12/31, Poor Law removal order: Mary Gowing, widow, with Frederick and Sheba her children, Iken to Thorpe, 18 Nov. 1814.

of the Sudbourne Estate, which encompassed the parish of Iken.[11] This experience proved formative for Gowing's subsequent life and employment. Gowing later claimed that in such surroundings, where game was 'so thick that instead of getting out of they [*sic*] way you had to get out of theirs … boys would begin to get game as naturally as they would begin to play marbles, without being able to say exactly how they learnt'.[12] As autobiographical evidence from the nineteenth century attests, experiences of work and play for young boys particularly, allied to the influence of older family members and neighbours, provided an early introduction to the natural world and to hunting as a rite of passage.[13] As a prison inspector observed in 1845, 'there is a natural impulse in boys to take birds and hares, particularly when so good an opportunity is afforded them when out crow-scaring or stone-picking in the fields'.[14]

Even after Gowing left Iken, he returned to the Sudbourne Estate to hunt wildfowl and game, by now armed with airgun or flintlock. It was at this this point, in his late teens, that his 'employment' as a poacher began.[15] The surviving sources do not allow an exact explanation of how he made the connection, or perhaps how someone made it for him, but Gowing sold what he shot to a merchant in Ipswich with contacts in Colchester, Chelmsford and ultimately London.[16] At about this time Gowing also took up another career, at sea. By his own account, from about 1817 until 1827 Gowing worked as a sailor in the coastal trade, chiefly moving coal down the east coast between 'London and the north', and through other east coast ports.[17] He still described himself as a sailor to the census enumerators in 1841.[18] Archer has highlighted the connection that sometimes existed between seasonal seafaring trades and poaching in East Anglia, but Gowing's commitment to poaching was more consistent. Equally there was possibly more to his career as a sailor than the census record reveals.[19] Some later observers insinuated that Gowing had in fact been a smuggler; an accusation that he refuted, although not altogether convincingly. Gowing himself acknowledged that for a time he had worked in what he described as the 'Holland trade', at times a euphemism for the illegal importation of duty-free Dutch gin.[20]

[11] As well as Iken, the estate encompassed numerous other parishes including Chillesford, Sudbourne, parts of Snape, Butley, Tunstall, and crucially the pocket borough of Orford, which up until 1832 returned two parliamentary representatives.

[12] 'An interview with the King of the Poachers', *Reynolds's Newspaper*, 4 May 1873. BPP, 1846, IX, *Report from the Select Committee on the Game Laws*, Part I, Session 1845, Evidence of Frederick Gowing, p. 628.

[13] J. Holcombe, *The autobiography of an Exmoor poacher*, edited by Caractacus (F. Snell) (1901). L. R. Haggard, *I walked by night, being the life and history of the king of the Norfolk Poachers* (1935).

[14] BPP, IX, 1846, Evidence of W. J. Williams, p. 317.

[15] Ibid., Evidence of Frederick Gowing, p. 634.

[16] SRO, 47515, John Glyde (ed.), 'Autobiography of a Suffolk labourer', *Suffolk Times and Mercury*, 2 Nov. 1894 to 16 Aug. 1895. Glyde identified this person as Tom Micklefield, a 'dealer' based in New Street, Ipswich, but in his account in *Reynolds's Newspaper*, 4 May 1873, Gowing identifies only a Mr B, a merchant with places in Ipswich, Colchester and Chelmsford. Of Micklefield I can find no trace, but Gowing was likely referring to Henry and George Bales, game-dealers and gun-makers of the Cornhill, Ipswich, who were originally from London and had offices in Colchester as well as servants in their Ipswich household from parishes close to Snape. *Whites Directory of Suffolk, 1844* (repr. 1970), pp. 105–12.

[17] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 628, 633.

[18] Census and BPP, IX, 1846, Evidence of Frederick Gowing, pp. 628, 633.

[19] Archer, *"By a flash and a scare"*, p. 236.

[20] BPP, IX, 1846, Evidence of Frederick Gowing, p. 633.

Snape, the village and minor port on the river Alde in East Suffolk where Gowing was based from the 1820s, certainly had a deserved reputation for smuggling.[21] It was also an archetypal open parish. Although a small port of growing importance and surrounded by the estates of peers, it was a liminal place, geographically and administratively. Much of the parish consisted of common heathland, marsh and tidal saltings. Landholding was subdivided between small occupiers and there was no dominant landlord. In the early nineteenth century it lacked much in the way of supervision or authority from the centre. It was a community redolent of Thomas Hardy's fictional creation 'Mixen Lane', 'the hiding-place of those who were in distress, and in debt, and trouble of every kind'.[22] In 1835 Assistant Poor Law Commissioner James Kay described it as the 'most disorganised and unruly parish' inhabited by a 'lawless population of paupers, disbanded smugglers and poachers'.[23] Kay was not alone among contemporaries in identifying the relationship between open parishes and poaching. As one Suffolk farmer observed, poachers often originated in 'parishes where the freeholds are divided … where they can be located without being removed from their habitation by some large landowner … and they reside in the vicinity of large game preserves; not on, but in the vicinity of large game preserves'.[24]

It is no surprise perhaps that Snape was one of several Suffolk parishes identified by Nicholas Edsall and others as at the forefront of resistance to the New Poor Law in 1835–36.[25] The circumstances of one such incident convey a sense of the place. On 19 December 1835 County magistrates afforded the parish overseer and relieving officer the protection of three parish and two special constables after they had laid information against a group of paupers following allegations of assault and maltreatment. After escorting the officers back into the parish and safely to their residences, the party of constables took up overnight lodgings in the Crown Inn, Snape's principal hostelry, whose landlord was John Fairweather. Constable Robert Barnes later described how shortly after their arrival the Inn was filled with paupers 'summoned by the discharge of a gun, which signal we heard on our entrance to the village'. Barnes went on to describe a disturbed overnight stay, punctuated by the retort of 'firearms, apparently fowling pieces … discharged under the windows of the Inn'. Barnes also later testified to being warned by Robert Cook, a spokesman for the Snape paupers, 'that if I wanted to go away with a whole skin, then I had better not take one man away, as they did not intend that one man be taken away from the parish'. Barnes later described Snape as 'chiefly inhabited by poachers' and went on, 'I am deliberately of (the) opinion that there are eighty or a hundred guns in this parish including air guns, the wildfowl shooting and poaching on gentlemen's premises is more common in this parish than in any other part of the County'.[26] Efforts to locate a police station in the village following the establishment of the East Suffolk Constabulary in 1840 also met with determined resistance. John Hatton, the Chief Constable, later recalled how

[21] Both of Gowing's former parishes of residence were also associated with smuggling. Iken neighboured Snape on the estuarine river Alde and Aldringham cum Thorpe was a coastal parish encompassing the notorious smuggling route at Sizewell Gap.

[22] T. Hardy, *The Mayor of Casterbridge* (1886). Jones, 'Poacher', p. 840.

[23] *Second Annual Report of the Poor Law Commissioners for England and Wales* (1836), App. B, 'Reports to Central Board from Assistant Commissioners', p. 148.

[24] BPP, IX, 1846, Evidence of J. W. Cooper, p. 475.

[25] N. Edsall, *The Anti-Poor law movement, 1834–44* (1971), p. 36. Archer, *'"By A flash and a scare"'*, p. 104.

[26] *Second Annual Report of the Poor Law Commissioners*, p. 149.

the 'poachers indirectly sent a message to me … that if I sent a policeman there, they would shoot him'.[27] Hatton proceeded regardless and placed two policemen at Snape, although at one stage they were temporarily withdrawn following allegations of physical intimidation, and, 'while the policemen were out on night duty the doors and windows of their residence were … smashed'.[28]

It is apparent from a variety of sources that Frederick Gowing was at the forefront of parochial resistance to outside interference as well as closely associated with some of those named by Constable Barnes. Alongside regular confrontations with the new police, Gowing played a leading role, for which he was charged and arrested, when the villagers of Snape riotously defended the parochial common against an outside party determined to claim its soil, adding credence to Jones's suggestion that poachers were often 'amongst the leaders of popular protests against the New Poor Law, enclosures, evictions and gleaning rights'.[29] Gowing had at least one conviction for poaching alongside Robert Cook.[30] His co-defendant in 1841, when charged with assaulting a policeman, was John Fairweather, the landlord of the Crown Inn, and a man who, after his marriage to Fairweather's daughter Elizabeth in 1848, was also Gowing's father-in-law.[31] It is also apparent from the testimony of Chief Constable Hatton that the decision to locate a police station at Snape in the first place was partly informed by concern about the influence there of what Hatton described as 'a very notorious poacher'.[32] This was, there is no doubt, a reference to Gowing. Although the early rural constabularies often purposefully resisted involvement in the game conflict for fear of antagonizing middle-class ratepayers, the existence of poaching gangs and the conflation of night poaching with other types of crime often provided the spur for intervention and allowed police to publicly reconcile the pursuit of poachers with their responsibilities to the community at large. Hatton acknowledged that in Suffolk, following the introduction of the constabulary in 1840, he had 'at first strictly prohibited the rural police from interfering in the game laws in any way', but subsequently moved 'to interfere' with Gowing's operation in Snape, determining that 'it would be desirable to check night-poaching as much as possible … and perfectly reconciled many of the ratepayers to it'.[33] There are direct parallels here with 1840s Lancashire, where Archer has argued that the real and rhetorical threat of the organized poaching gang served 'a useful function for the policing authorities' in providing a justification for the otherwise controversial involvement of thinly dispersed rural constables in the game conflict.[34] The menace posed by the 'armed' gang, operating at night, would be mobilized again decades later to support the passage of the 1862 Poaching Prevention Act and thereafter the more routine involvement of the police in the 'poaching wars'.[35]

[27] BPP, IX, 1846, Evidence of John Hatton, p. 498.

[28] BPP, IX, 1846, Evidence of Frederick Gowing, p. 641.

[29] *Ipswich J.*, 29 May 1841. BPP, IX, 1846, Evidence of Frederick Gowing, pp. 641–2.

[30] *Ipswich J.*, 27 Jan. 1841.

[31] *Ipswich J.*, 29 May 1841. TNA, HO 27/65, 30 June 1841, p. 175. *Ipswich J.*, 22 July 1848, reports that Frederick Gowing had married Elizabeth ('Eliza') Fairweather on 19 July 1848 at Framlingham, Suffolk.

[32] BPP, IX, 1846, Evidence of John Hatton, p. 498.

[33] Ibid., pp. 497–8.

[34] Archer, 'Poaching Gangs and Violence', p. 32. Archer, '"A reckless spirit of enterprise"', pp. 164–5.

[35] BPP, XLV, 1862, *Memorial to Secretary of State, December 1861, by Chief Constables of counties in England and Wales, on Game Laws*. R. Muge, 'Poverty, protest and sport: Poaching in the East Midlands, *c.*1820–1900' (Unpublished PhD thesis, University of Nottingham, 2017), pp. 107, 182–92.

From about 1827 Gowing pursued poaching as his 'chief employment' and as a dedicated commercial enterprise.[36] Adjacent to his base in Snape in Suffolk lay some of the best shooting estates in England at that time. Chief among them was the vast Sudbourne estate, over 11,000 acres with Sudbourne Hall at its heart. Although cultivated in part, Sudbourne was primarily a sporting estate teeming with rabbits, hares, pheasants, partridges and wildfowl. It was said that 1400 rabbits had once been killed within its environs on a single day. On another occasion, 3000 hares were killed in less than a week and yet, despite this, 'two hundred and forty more, alive and hungry' were reportedly counted in one field in the aftermath of the slaughter.[37] In Gowing's time, the second Marquis of Hertford, Francis Ingram-Seymour-Conway, and more particularly, after 1822, the third Marquis, Francis Charles Seymour-Conway, used the estate to host shooting parties a handful of times each season. 'No money was spared in preserving' game for these occasions and, under the third Marquis, Sudbourne regularly welcomed George IV, Prince Frederick Duke of York and Albany, and the Duke of Wellington.[38] The Marquis, was not, by Gowing's account, a frequent participant in battues, preferring to hunt on the estate alone, often bagging unconventional prey: on one occasion a tenant's domestic donkey and on another a cow.[39] Adjoining the Sudbourne estate was the 17,000-acre estate of the Thelluson family centred on Rendlesham Hall. In Gowing's time the estate was owned by John, William, and latterly Frederick, Thelluson, second, third and fourth Barons Rendlesham respectively. Like Sudbourne, the sporting attractions of the Rendlesham estate ensured patronage, 'not only by many of the first nobility, but by several branches of the Royal Family'.[40] Even in the early 1800s Rendlesham was an estate where over 1000 head of game could be killed in a week.[41] To the west of these two major East Suffolk sporting estates were others including the 7000-acre Campsea Ashe estate of the Shepperd family and the 5000 Suffolk acres of the Duke of Hamilton. A few miles north-east of Gowing's base the Reverend Lancelot Brown at Kelsale preserved 1000 acres and beyond that lay the lands of the Earl of Stradbroke. All were known to Gowing, although by his own account he concentrated his efforts on Sudbourne and Rendlesham.

Gowing normally poached alone, or with one or two regular partners, including the aforementioned John Fairweather, the landlord of the Crown Inn in Snape, as well as fellow parishioners Edgar and Robert Whyte. However, in addition, Gowing also operated at the head of a large, loosely incorporated poaching organization. During the autumn and winter

[36] BPP, IX, 1846, Evidence of Frederick Gowing, p. 634.

[37] Glyde, 'Autobiography of a Suffolk labourer'. W. Morfey, *Painting the day: Thomas Churchyard of Woodbridge* (1986), p. 30

[38] Morfey, *Painting the day*, p. 30. Under the third Marquis of Hertford, Francis Charles Seymour-Conway, Sudbourne Hall was the location for Tory party intrigues. Seymour-Conway was allegedly the model for Lord Monmouth in Disraeli's *Coningsby* (1844) and Lord Steyne in Thackeray's *Vanity Fair* (1847–8). He was said to have lived his later life with a retinue of prostitutes. Charles Greville commented that as 'there has been, so far as I know, no such example of undisguised debauchery displayed to the world as Lord Hertford'. E. Pearce (ed.), *The diaries of Charles Greville* (2005), p. 210.

[39] *Reynolds's Newspaper*, 4 May 1873. Here Gowing attributed these habits to the 'old Marquis' in adding 'I was in his service as a boy'. Chronologically this would suggest Francis Ingram-Seymour-Conway, 2nd Marquis of Hertford, but the likelihood remains that he was in fact referring to the third Marquis.

[40] Morfey, *Painting the day*, p. 30.

[41] Lord Walsingham and Sir R. Payne-Gallwey, *Shooting, field and covert* (1895), p. 16. 1000 game birds and hares were killed on the estate during the last week of the shooting season in January 1807.

months he employed, effectively as sub-contractors, considerable numbers of local labourers as poachers to help fulfil 'orders' for game. Gowing claimed that 'depending on the season' he could find 'perhaps 50 to 60' labourers within Snape and its surrounding parishes willing to work for him, potentially 'after harvest 100 poor men'. Gowing sometimes supplied them with equipment, occasionally even guns, but chiefly he guaranteed to buy the game they brought back, paying by the 'head or brace for what they poached', the amount varying by the quarry and 'whether the orders were for dead or alive'.[42] To outsiders there was no discernible link between Gowing and these men, even though they were said to enjoy the protection of a 'mutual assurance society … to fee counsel in case any of them were apprehended'.[43] This highlights the difficulty that historians often have in attempting to differentiate between those offenders driven to poaching by poverty and those involved in commercial poaching. Although Archer has argued that 'the dividing line between the casual opportunist and the professional was often blurred', at times even this division was illusory and impossible to determine from the kind of court room evidence typically left to historians.[44] Most of those who poached on Gowing's behalf were 'poor men out of employment' motivated by the need to make ends meet and determined to avoid the workhouse.[45] In the event of capture and prosecution, they, perhaps like offenders everywhere, were more likely to emphasize this to magistrates than reveal their participation in an organized criminal conspiracy. The rewards for all concerned were potentially lucrative. Gowing's own largest haul of pheasants in a single night was reportedly 150 birds. Evidence from Leadenhall Market in London from the late 1820s and 1840s confirms that a single pheasant could retail for between 2*s*. and 5*s*., depending on the season and condition.[46] It was quite possible, as Gowing claimed, for any man 'that knows his business' to 'earn a sovereign in half an hour'.[47] In the context of wage levels for rural labourers in this part of England, which were unlikely to exceed £26 to £35 annually, the potential allure of the game coverts is plain. Gowing certainly earned a significant income from poaching, to the extent that, by his late thirties, he was described as 'pretty well to do'.[48] He owned four cottages in Snape by the 1830s, one of which he occupied; the others he rented out.[49]

Gowing was however successfully prosecuted on many occasions and by his own account served six to seven short prison sentences.[50] Yet, for the most part, he avoided gaol. There are several explanations for this. Gowing poached by day and night, although he averred a preference for daytime offending, arguing, justifiably, that the penalties if captured were considerably lighter, declaring that 'by day we did not so much mind being taken, because we could pay

[42] BPP, IX, 1846, Evidence of Frederick Gowing, p. 629.

[43] Hansard, House of Commons, 1845, Third Ser. 78, 27 Feb. 1845, Game Laws, Bright, p. 72.

[44] Archer, 'Poachers Abroad', p. 58.

[45] BPP, IX, 1846, Evidence of Frederick Gowing, p. 629.

[46] BPP, VIII, 1828, *Report from House of Lords Select Committee on the laws relating to Game*, Evidence of Mr A. B. and Mr C. D., pp. 13–18. BPP, IX, 1846, Evidence of George Brooke, pp. 478–9.

[47] BPP, IX, 1846, Evidence of Frederick Gowing, p. 629.

[48] BPP, IX, 1846, Observation of Grantley Berkeley, p. 637.

[49] SCRO, FC123/F1/1–7, Snape Poor Rate Books, 1838–51. Gowing owned the four cottages throughout the period 1838–51. Unfortunately, the rate books do not survive for 1851–61. By 1862 when the rate book series resumes the properties were no longer in Gowing's ownership. Gowing's tenants sometimes acted as defence witnesses on his behalf: *Ipswich J.*, 7 Dec. 1839.

[50] BPP, IX, 1846, Evidence of Frederick Gowing, p. 628. Glyde, 'Autobiography of a Suffolk labourer'.

for that'.[51] He also claimed to avoid confrontation with gamekeepers and 'night-men' and professed to guide those who poached on his behalf similarly, giving them 'directions to go with no bludgeons, and with as small a party as they can, and if they are at all attacked by gamekeepers to escape and get away'.[52] Such sentiments may have been authentic, but they should not conceal the fact that violence was commonplace and deeply rooted in the game conflict in which Gowing was but one participant. Gowing and his associates had convictions for assaults on gamekeepers and policemen and had also been the victims of violence in encounters with local keepers. On one occasion while night-poaching, Gowing was ambushed by three of the Marquis of Hertford's gamekeepers and beaten unconscious. His dog was shot by the keepers and 'they nailed his skin to the top bar of a stile leading to the woods' as a warning to other intruders onto the estate.[53] While Archer has sought to highlight the apparently 'distinctive' levels of violence associated with poaching in northern 'industrial' counties, it is important not to draw too stark a contrast between the experiences of different regions based on rural/urban or north/south dichotomies.[54] Real and symbolic violence was an embedded feature of the game conflict in every area, even if often publicly eschewed by East Anglian professionals like Gowing.

Gowing did enjoy a more tangible advantage in his efforts to avoid gaol, in that for a long time he retained the services of a lawyer, Thomas Churchyard of Woodbridge, to defend him and his confederates in game cases. Churchyard, more commonly remembered as a landscape artist than for his legal practice, made the Game Laws a specialism and so 'frequently defended in poaching cases that he became known as the 'poacher's lawyer'. Well acquainted with the laws relating to Game, Churchyard was said to be 'dangerous in a bad case and irresistible in a good one … able to expose the most unexpected defect in an indictment'.[55] He successfully challenged at least two prosecutions against Gowing and mitigated many others, until at some point in the early 1840s landowners in the area combined to retain him 'over on their side'. One account suggests that the Marquis of Hertford, 'was induced, through his agent, to offer Churchyard a permanent retainer to prosecute all game-cases' that came before local magistrates.[56] This loss possibly represented a significant setback for Gowing and his associates, although he later adopted a contemplative note when musing 'they paid him (Churchyard) more money perhaps'.[57] These details are suggestive of the income that Gowing was potentially generating through his poaching enterprise at its peak during the late 1820s, 1830s and early 1840s. By 1845 he claimed to have paid over £250 in fines during the preceding 18 years, while conceding that 'it may be more, I have not kept an account … I underdo the thing'. Later commentators claimed that by the end of Gowing's poaching career the figure was closer to £300.[58]

[51] *Reynolds's Newspaper*, 4 May 1873.

[52] BPP, IX, 1846, Evidence of Frederick Gowing, p. 632.

[53] *Reynolds's Newspaper*, 4 May 1873. TNA, HO 27/65, p. 175. *Ipswich J.*, 24 Mar. 1832.

[54] Archer, 'Poaching gangs and violence', p. 57.

[55] Glyde, 'Autobiography of a Suffolk labourer', p. 104.

[56] BPP, IX, 1846, Evidence of Frederick Gowing, p. 640. *Ipswich J.*, 7 Dec. 1839. Glyde, 'Autobiography of a Suffolk labourer', p. 104. Morfey, *Painting the day*, p. 133. Morfey argues that Glyde was mistaken on this minor point, and that it was Lord Rendlesham who was responsible for recruiting Churchyard for the game preservers rather than the 3rd Marquis who died in 1842.

[57] BPP, IX, 1846, Evidence of Frederick Gowing, p. 632.

[58] BPP, IX, 1846, Evidence of Frederick Gowing, p. 634. Glyde, 'Autobiography of a Suffolk labourer', p. 65.

There was another reason why Gowing often avoided gaol with a frequency that did not reflect his commitment to commercial poaching. He played the law at its own game. In 1831 the game laws were reformed. The property qualification at the heart of the game code since 1671 was abolished and replaced instead with a licensing system. The annual cost of the £2 game licence lay beyond the reach of many rural workers, but not Gowing. Every year he bought one. A licence alone did not provide a person with the right to kill game; this was still subject to property rights and the subsidiary restrictions of the game laws on hunting on common land or public roads, but it did otherwise permit an individual to have dead or live game in their possession. Gowing called this potential loophole 'the greatest opening in the world for any man'.[59] It allowed an individual to have in their possession, as well as to transport freely, any quantity of dead and live game without fear of prosecution, at least in circumstances where its potentially illegal origin could not be proven. Gowing was often stopped and questioned while transporting game with his pony and cart, but as he highlighted, even if discovered carrying large quantities of partridges, pheasants and hares, a prosecution normally stalled; 'the certificate authorises me to have game in my possession', 'that is my game; who can say it is theirs'.[60]

II

The fact that so much of the detail of Gowing's poaching career can be traced owes something to the survival of the kind of records typically used to reconstruct past offending. He made occasional court appearances, some reported in the provincial press and some also discernible in the surviving judicial records.[61] Gowing and his associates also appear with some regularity in census returns. Gowing's notoriety also led to wider recognition within his county and late Victorian writers, casting nostalgically back, celebrated his reputation.[62] Nonetheless, without one very public intersection with the historical record, Gowing would remain relatively unknown and unknowable. The reason that it is possible to know something of Gowing, or at least a version of him, is that his reputation was cemented by an appearance in June 1845 before a House of Commons Select Committee on the Game Laws. That a criminal, in the eyes of the law at least, should find himself in such venerated surroundings is still in some ways remarkable and quite exactly how it came about is intriguing. However, the origins of the Select Committee itself are transparent enough and derived from the efforts of John Bright, one of the leading parliamentary spokesmen of the Anti-Corn Law League.[63]

In 1843 Bright joined Richard Cobden as one of the League's parliamentary representatives following his election as the Member for Durham. Despite this, the prospects for the repeal of the Corn Laws had seemingly worsened after the return of an even stronger protectionist majority following the Conservative's election victory in 1841. In 1842 only 90 Members supported the

[59] BPP, IX, 1846, Evidence of Frederick Gowing, p. 637. *Bury and Norwich Post*, 23 Oct. 1833, 29 Oct. 1834, 16 Sept. 1835, 28 Sept. 1836, 8 Nov. 1837 and 24 Oct. 1838.

[60] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 634–7. *Reynolds's Newspaper*, 4 May 1873.

[61] *Ipswich J.*, 3 May, 17 May 1828, 17 Mar., 24 Mar., 20 Oct. 1832, 12 Nov. 1836, 1 Nov. 1845, 29 Dec. 1842. TNA, HO 27/48, p. 222.

[62] Glyde, 'Autobiography of a Suffolk labourer'. *Ipswich J.*, 16 Apr. 1870.

[63] W. Robertson, *The life and times of John Bright* (1912), p. 114.

annual repeal motion of Charles Villiers, Member for Wolverhampton and veteran Anti-Corn Law campaigner, compared to 177 in 1840. Nevertheless, and partly because of this, Cobden and Bright renewed the extra-parliamentary campaign for repeal, and from 1843 they increasingly focused their efforts on the rural population. Along with other League speakers, both men toured the countryside armed with a critique of the Corn Laws, fashioned by Cobden, which sought to emphasize how tenant farmers lost the benefits of protectionism through higher rents and through the way in which high wheat prices potentially distorted patterns of food consumption in a manner unhelpful to producers.[64] In Cobden's analysis, protectionism also ultimately acted against the long-term interests of the agricultural sector by inhibiting investment and innovation and thus impeding the efficiency gains that could guarantee the future prosperity of farming in a free-trade environment. By undermining the loyalty of tenant farmers to the Corn Laws, the League's rural mission sought ultimately to mobilize their electoral power against protectionist candidates in County seats; the key battleground if repeal was to be won.[65]

From early 1844, and with support of the League, Bright began to focus on the Game Laws, not only because they offered a potential opportunity to discredit the landed interest, but also as part of the intellectual attack on the Corn Laws.[66] It was Bright's contention that agricultural productivity was significantly undermined by extensive game preservation and he spent months in 1844 and early 1845 collecting evidence to prove it. During this period, he interviewed farmers, poulterers, game-dealers and all associated with the 'game nuisance' and was said to have received and answered, 'from thirty to sixty letters a day on the subject of the Game Laws'. He had experiments conducted to demonstrate that 'four and half rabbits consumed as much food as a sheep' and claimed, based on such calculations, that during the period 1839–42 game had devoured 'as large a quantity of the produce of the soil of England as the whole amount that was imported from abroad'.[67]

On 27 February 1845, over the course of a two-hour speech, preceded by the presentation of petitions from tenant farmers across the country, Bright called for the establishment of a Select Committee into the Game Laws. In moving for the Committee, Bright presented many examples of the damage caused to tenants' crops by the game preserved by their landlords. He also suggested that since that many members of the House were landed proprietors, they should have 'a very strong sympathy with those cultivators of the soil' and there should 'be no objection to examining this part of the question'. Bright also highlighted the other social evils stemming from extensive game preservation and the game laws, arguing that

> Hundreds and thousands of poor people had been fined and imprisoned … there had been the most violent outrages, the most fearful and ferocious encounters between gamekeepers and poachers, ending not unfrequently [*sic*] in the death of one party or the other.[68]

[64] N. McCord, *The Anti-Corn Law League, 1838–1846* (1968), p. 143. K. Robbins, *John Bright* (1979), pp. 53–5. Trevelyan, *Life of John Bright*, pp. 92–7. E. Newman, 'The Anti-Corn Law League and the Wiltshire labourer', in B. A. Holderness and M. Turner (eds), *Land, labour and agriculture, 1700–1920* (1991), p. 92. M. Turner, 'The "Bonaparte of Free Trade" and the Anti-Corn Law League', *Historical J.* 41 (1998), p. 1017.

[65] H. Jordan, 'The political methods of the Anti-Corn Law League', *Political Science Q.* 42 (1927), pp. 58–76.

[66] C. Kirby, 'The attack on the English Game Laws in the Forties', *J. Modern Hist.* 4 (1932), p. 24.

[67] Trevelyan, *Life of John Bright*, pp. 125–6.

[68] Hansard, House of Commons, 1845, Third Ser. 78, 27 Feb. 1845, Game Laws, Bright, p. 55.

Bright's measured and detailed speech attracted much praise, even from political adversaries. The Home Secretary, Sir James Graham, in responding to the motion, declared that 'I have not any fault to find with either the tone or the temper of his speech'. The Prime Minister, Robert Peel, followed in similar fashion, confessing that he 'did not anticipate … so temperate a speech from the Hon. Member for Durham as that which he had made'. Edmond Wodehouse, Member for East Norfolk also admitted that the 'moderation which had been exhibited formed a strong contrast with the temper he (Bright) had displayed on previous occasions'. Wodehouse added that 'he and his friends had no objection to this inquiry' and that 'Nothing … would prove to be more groundless than the statements which were daily made by some Hon. Gentlemen opposite, that the landlords were a selfish set, caring only for themselves, and not for their tenants'.[69] Cobden later reflected that

> Bright did his job admirably and won golden opinions from all men. His speech took the squires quite aback. It has put Bright in a right position, shows he has power and it will draw the sympathy of the farmers to the League. The latter conviction seemed to weigh heavily on the Squires.[70]

Peel sidestepped Bright's principal justification for the Committee arguing that 'evidence of increasing poaching, and the apparent connexion of crime with the game laws, constituted a justifiable reason' for its establishment. At the same time, he advised that it would be 'unwise to entertain … expectations … of any alteration' in the game laws, and further argued that 'prejudices against the game laws arose from the excessive preservation of game in certain districts'. Where 'game existed to a moderate extent', Peel continued, there was 'no great amount of crime, and the existing game laws worked well'. The Prime Minister also rebutted Richard Cobden's contention that it was because of the 'feeling created out of doors' by the League's campaign to bring the question before the house, that 'the Government were reluctantly compelled to grant this Committee'. Peel had, he reported to the Commons, taken the 'opportunity of conferring that very day with a very large portion of agricultural Members and others sitting on the Ministerial side of the House, and there was a unanimous feeling that the inquiry ought not to be resisted'.[71] This was not quite the same thing as support, but elements of Peel's response to Bright's motion were potentially consistent with both his recurrent concern for 'provident precautions against explosions of public feelings' and his unswerving determination not to publicly concede a role to outside pressure, in this case specifically the League, in shaping the parliamentary agenda.[72]

Bright waived the normal privilege of chairing the Select Committee in favour of a member of the government, John Manners-Sutton, under-secretary at the Home Office. Otherwise the 15-man committee was divided fairly evenly between supporters and opponents of game preservation.[73] Critics of its composition accused Bright of nominating 'six influential and active Anti-Corn-Law Members'; but technically Bright's allies on the Committee

[69] Ibid., Graham, p. 80; Wodehouse, p. 116 and Peel, pp. 116–17.

[70] Trevelyan, *Life of John Bright*, p. 127.

[71] Hansard, House of Commons, 1845, Third Ser., 78, 27 Feb. 1845, Game Laws, Cobden, p. 115. Peel, pp. 116–17. *The Times*, 11 Dec. 1858.

[72] E. Cardwell and Earl Stanhope (eds), *Memoirs by the Right Honourable Sir Robert Peel, Part I* (1857), p. 116.

[73] Hopkins, *'The Long Affray'*, p. 217.

also included Radicals and Free-trade Whigs alongside League MPs.[74] For example, John Trelawney, Member for Tavistock and opponent of church rates, Ralph Etwall, gentleman radical and Member for Andover, George Cavendish, Member for North Derbyshire and Edward Pleydell-Bouverie, Member for Kilmarnock. Charles Pelham Villiers, the veteran Anti-Corn Law, campaigner was also included. So, too, was another prominent 'Leaguer', Thomas Milner-Gibson, who, alongside the cotton manufacturer Mark Philips, served as one of the two Members for Manchester. Game-preservers on the Committee included Grantley Berkeley, Member for Gloucestershire and heir presumptive to Berkeley Castle, and in due course the most vocal and combative member of the preservers team. Berkeley was a colourful character even by the standards of the Conservative party of the day. He had a reputation for 'coarse and rakish manners', not to say a fractious and occasionally violent personality. In 1836 Berkeley had been convicted of savagely beating James Fraser, the publisher and proprietor of *Fraser's Magazine* after a critical review of his historical romance, *Berkeley Castle*. A few days after the attack on Fraser, Berkeley fought a duel with the reviewer himself, Dr William Maginn, also the editor of *Fraser's Magazine*, in a secluded meadow near the Harrow Road. These were not isolated incidents. Berkeley was later prosecuted for an assault on a neighbour in a hunting dispute and on another occasion appeared before magistrates charged with cockfighting.[75] He represented quite a contrast with his Quaker adversary. Other defenders of the game laws on the Committee included the Conservative Members Lord George Bentinck, William Forbes Mackenzie, William Cripps, Henry Burroughes, and the peer Lord Clive.[76]

The Committee began hearing evidence on 16 April 1845 and for the following three months heard testimony from over 30 witnesses, the majority tenant farmers called by John Bright and Thomas Milner-Gibson. The Committee heard a litany of complaints about constraints on cropping patterns, restrictive tenancy agreements, the impact of surveillance by gamekeepers, and the loss of valued employees following minor infractions of the game laws. However, the chief concern that emerged from farmers' evidence was the damage caused by game and rabbits to crops and grazing. George Hayward of Maresfield in Sussex, tenant of a 200-acre farm, for which he paid £150 per year, spoke of damage to his crops in 1844 independently assessed at £128 and of entire fields of root crops devastated by hares and rabbits.[77] John Bell of Salisbury estimated annual damage at £416 on the farm he rented for £620 from the Countess and Earl Nelson, the latter a supporter of the protectionist cause in the Lords.[78] James Nowlson, a tenant farmer and agricultural assessor from Hertfordshire, reported damage running at a cost of between £2 and £6 per acre and spoke of whole fields of wheat destroyed by game.[79] Some farmers admitted turning a blind eye to poaching. Others confessed to providing practical encouragement to poachers to reduce the populations of

[74] Hansard, House of Commons, 1845, Third Ser. 78, 10 Mar. 1845, Game Laws, C. Berkeley, p. 625.

[75] ODNB, 'Berkeley, (George Charles) Grantley Fitzhardinge (1800–81)'.

[76] Clive, who succeeded to the earldom of Powis in 1839, died in 1848 following a shooting accident on his Powis Castle Estate. ODNB, 'Herbert, Edward, second earl of Powis (1785–1848)'.

[77] BPP, IX, 1846, Evidence of George Hayward, pp. 105–28.

[78] BPP, IX, 1846, Evidence of John Bell, p. 169.

[79] BPP, IX, 1846, Evidence of Frederick Gowing, p. 628.

winged and furred game predating on their crops. As William Blatch, a tenant farmer and land-valuer from Hampshire put it, the poacher 'is the only friend he (the farmer) has as to getting rid of game'.[80]

III

This was the background to the appearance of Frederick Gowing before the Committee on 25 June 1845. The participation of a convicted poacher in the proceedings caused a minor sensation, although Gowing was no surprise to Bright. The pair had met approximately six months prior as Bright prepared his case for the establishment of the Committee.[81] Some aspects of Gowing's appearance at the House of Commons were unusual though. Unlike most witnesses he claimed no expenses for his travel, nor for the overnight stay in London that his attendance presumably required. That said, Gowing was no stranger to the city. He had been a regular visitor to the capital since at least the early 1830s and, as already acknowledged, had visited London some time prior to February 1845 for an initial meeting with Bright. Gowing's evidence to the Committee was wide-ranging, detailed and in part biographic. Defenders of the game laws on the Committee, particularly Grantley Berkeley, sought to undermine his credibility as a witness, highlighting both suspicions about the true nature of Gowing's early career at sea and his later clashes with the police, but even these exchanges were tempered by discussions which revealed the shared interests of poacher and preserver in rearing and shooting game.[82]

Gowing's testimony reinforced that already provided to the Committee regarding the damage that game caused to crops and the complicity that existed between tenant farmers and poachers; 'the farmer's friends'. In other responses Gowing highlighted a range of perspectives on offending which have become familiar to historians. He cited the low expectations that poachers had of the justice system, when cases at petty sessions were usually heard by game-preserving magistrates. He highlighted the community support that poachers normally enjoyed and provided a determined argument that poaching was not, in any case, a crime; 'a poacher is not a thief … a thief is not a poacher and poaching is not thieving'. Gowing also testified to the role of low wages and unemployment in motivating farmworkers to offend, and in a related point argued that the New Poor Law, and particularly the rigorous implementation of the workhouse test, had increased the willingness of married labourers to resort to seasonal poaching as families sought to avoid admission to the 'Bastille'. In this context Gowing highlighted a potentially interesting gender dynamic to offending, or at least revealed his own gendered assumptions, arguing that while labouring men were potentially more inured to periods of temporary incarceration within a workhouse or prison, the admission and separation of entire families within the workhouse was often intolerable for wives and mothers. Gowing claimed that when an admission order was issued it was common that 'the wife would refuse to go' and husbands would turn to poaching to avert the distress and humiliation of family separation within the workhouse.[83]

[80] BPP, IX, 1846, Evidence of William Blatch, p. 193.
[81] Trevelyan, *Life of John Bright*, p. 126.
[82] Hopkins, *'The Long Affray'*, p. 223. BPP, IX, 1846, Evidence of Frederick Gowing, p. 637.
[83] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 629–30.

Some of these insights and perspectives were possibly familiar to contemporaries. They also serve to reinforce some of the existing understandings that historians have of poaching. However, other sections of Gowing's testimony were unusual and potentially explosive given the political context for the 1845 Committee. They also help to extend our understanding of offending, particularly in respect of the multi-faceted nature of the black market in game and the ambiguous and contradictory relationship that sometimes existed between poachers and preservers. In evidence about the trade in dead game, killed in season for consumption, there was little that earlier Select Committees had not highlighted about how poached game flowed into urban centres in the south and east of England.[84] Gowing described a mature black-market industry which efficiently distributed vast numbers of dead pheasants, partridges, hares and rabbits, frequently utilizing an existing network of pig-, poultry- and game-dealers, through to provincial markets and the principal London market of Leadenhall. However, the testimony that Gowing provided about the black market in live game was altogether new and potentially embarrassing for the landed interest. What he described was an illicit trade in live birds, leverets and eggs in which gamekeepers and game-preserving landowners were often highly complicit.

Shortly after the shooting season ended in late winter, landowners set their minds to enhancing the stock of game on their estates and according to Gowing, despite the normal enmity that existed between preservers and poachers, it was to the poaching community that game-preservers routinely turned for their supply. As Gowing put it, 'directly the season goes out for dead game I have my orders in for live'.[85] Other witnesses to the Committee substantiated Gowing's description of the contradictory and ambiguous relationship that often existed between poaching and game preservation, reporting that keepers routinely bought 'eggs or game from poachers for the purpose of stocking preserves'.[86] In written evidence to the Committee, the Chaplain of Norwich Gaol claimed that, 'there is reason to believe that some of our gamekeepers are in the habit of giving encouragement to poachers'. Captain William Williams, a prison inspector, testified that poachers were 'frequently applied to by keepers for eggs and for birds for stocking their preserves whenever there is a falling off of game'.[87] Some of this business was arranged locally, but the illegal trade in live game, mirroring that in dead, was also conducted on a regional and national basis. Game dealers questioned by the Committee reported how live pheasants and partridges along with eggs and leverets came up to London for the 'purpose of supplying gentlemen's manors'. This trade, in which there was a 'great deal done', was said to be, with 'hardly any exception', supplied by poachers. Live game travelled by the same distribution networks as dead, often conveyed by those 'who regularly deal in live fowls', with significant business conducted in the London markets of Leadenhall and Newgate. The trade in live game was apparently even more clandestine than that in dead with one dealer reporting that 'there is a secrecy about it and in every way that it comes; you see but little of it'. Most of the live game and eggs entering London was said to originate in East Anglia, with an 'immense quantity' supplied from Suffolk.[88]

[84] BPP, VIII, 1828, (Evidence of Mr A. B. and Mr C. D.), pp. 17–22.

[85] BPP, IX, 1846, Evidence of Frederick Gowing, p. 630.

[86] BPP, IX, 1846, Evidence of William Blatch, p. 234.

[87] BPP, IX, 1846, Evidence of W. J. Williams, pp. 308–19.

[88] BPP, IX, 1846, Evidence of George Brooke, p. 481.

This testimony reinforced Gowing's claims about the scale of a trade that foreshadowed the emergence of commercial game farming. Birds and eggs were often poached directly from one preserved estate to supply the requirements of another, although Gowing also reared stocks of live game birds in purpose-built sheds at his Suffolk base.[89] On at least one occasion, after a local magistrate witnessed him loading a hamper of live pheasants and partridges onto a coach bound for London, Gowing successfully escaped prosecution for the illegal possession of game after producing witnesses who testified that pheasants and partridges had been kept at his premises in a state of 'domestication' for many years. Gowing potentially had access to several sites for keeping and rearing game in his immediate neighbourhood beyond the limited space afforded by his cottage garden. More importantly perhaps, in winning the case, resolved only after local magistrates sought guidance from an eminent Kings Counsel who pointed out that convicting Gowing would potentially leave any 'nobleman removing tame pheasants from one country seat to another … liable to the penalty', Gowing established a precedent for defence whenever caught in possession of live game.[90] In combining poaching and game-rearing Gowing was pioneering, but not unique.[91] The scale of Gowing's operation was however seemingly notable. He claimed to have stocked 'a great deal of Essex myself' and to have dispatched 'poached' live game to estates throughout Britain, as far as Ireland and Scotland.[92]

The drivers behind the trade in live game were ultimately those that contributed to the game conflict itself. Game, for landowners, was a cultural obsession. The sport it provided and the status it conveyed were of mutually reinforcing significance. Game was not only, as Cobbett once observed, 'the great business in the countryside', but was also the 'basis of a common culture binding the aristocracy to the landed gentry'.[93] Moreover, the decades 1820–50 witnessed a series of interrelated changes in game shooting and preservation, coincident with Gowing's poaching career, which undoubtedly stimulated the trade in live game and eggs; the spread of the battue system of shooting, a growing mania for larger bags and the increasing adoption of the pheasant, which was beginning to supplant the native partridge as the ubiquitous 'British' game bird.[94] The numbers of game killed on sporting estates increased significantly between the end of the Napoleonic Wars and the 1840s, a decade later identified by late Victorian sporting writers as the period when 'the days of heavy bags' became more commonplace, even outside trend-setting East Anglian estates such as Rendlesham, Sudbourne or Holkham.[95] Witnesses before the 1845 Select Committee spoke of provincial estates where 350 head were killed daily.[96] Bigger bags naturally required larger populations of game and such an expansion necessitated that more birds were reared to augment rigorously nurtured

[89] *Ipswich J.*, 7 Dec. 1839. See also *Ipswich J.*, 3, 17 May 1828. BPP, IX, 1846, Evidence of John Hatton, p. 498.

[90] *Ipswich J.*, 7 Dec. 1839, ruling of Fitzroy Edward Kelly KC. SRO, IR 29/33/358, Tithe apportionment of Snape, Suffolk, holdings of Frederick Gowing and John Fairweather. BPP, IX, 1846, Evidence of William Storey, p. 634.

[91] BPP, IX, 1846, Evidence of William Storey, pp. 380–1.

[92] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 630–1.

[93] Hopkins, *'The Long Affray'*, pp. 94, 163.

[94] Walsingham and Payne-Gallwey, *Shooting*, pp. 17–18.

[95] Ibid., pp. 12–17.

[96] BPP, IX, 1846, Evidence of John Blatch and Robert Richardson, pp. 101, 733.

wild breeding populations. Booming populations of ruthlessly preserved pheasants, partridges and hares attracted commercial poachers to the coverts, but the maintenance of artificially high populations of game also placed increasing pressure on that oft-maligned rural worker, the gamekeeper. Although the occupation of gamekeeper was relatively 'privileged' and well remunerated, particularly following the 'advent of strict game preservation', it was also highly precarious if sufficient birds were not produced for the guns.[97] In these circumstances it is unsurprising that gamekeepers seeking to maintain increasingly populous game stocks were drawn into clandestine dealings with the poaching fraternity. As one witness to the Select Committee reported, 'where there is an obvious decrease of game … and the keeper is under a master who holds him responsible for keeping up the quantity of game … the keeper, rather than subject himself to reproof or dismissal, would resort to those means to supply the deficiency'.[98]

For John Bright, who had organized Frederick Gowing's appearance before the 1845 Select Committee, the most important element in the Suffolk poacher's revelations about the clandestine dealings in live game was the identity of those ultimately driving this criminal trade. Chief among his clientele, Gowing claimed, were 'noblemen, Members of Parliament, Clergymen, Magistrates and other gentlemen of property'. Gowing reported sometimes dealing directly with such 'gentlemen', although more commonly delivery arrangements and payment were made through gamekeepers, valets and other servants. Gowing testified that 'pretty well all' live game went to noblemen and other landed gentlemen since 'poor men cannot afford to buy them'.[99] These claims were echoed by a Leadenhall game dealer who asserted that, 'I am afraid that it is very generally the gentry themselves who are the cause of the law being broken, for if they did not buy live game and game eggs, certainly poaching would not be carried on to the extent that it is'.[100] During the Committee proceedings Gowing was challenged by Berkeley to name some of the noblemen with whom he had dealt with directly in the business of live game. In response, he named two peers, both deceased, whose names were redacted from the Select Committee minutes. Under further questioning he identified another 'gentleman', also deceased, whose manor Gowing claimed to have entirely stocked, there being 'no game upon it when I (first) went'. Those still living he refused to name publicly, although he did offer to identify some of his landed clients to 'one of the gentlemen of the Committee, in confidence and in private'. At this point in the proceedings Gowing was directed to withdraw from the Committee room and after a short period was recalled. Berkeley restated the Committee's request to 'know the names of the parties … noblemen, Members of Parliament, magistrates and clergymen' to which Gowing had referred. For a second time Gowing refused, arguing that

> suppose you were one of the parties for instance, or any gentleman in the Committee here, they would not like me to expose them … and in consequence of that I should not think I was right in doing so; and therefore, I beg to say that I should not tell.[101]

[97] P. B. Munsche, 'The gamekeeper and English rural society', *J. British Studies* 20 (1981), pp. 101–03.

[98] BPP, IX, 1846, Evidence of W. J. Williams, p. 309.

[99] BPP, IX, 1846, Evidence of Frederick Gowing, p. 638.

[100] BPP, IX, 1846, Evidence of George Brooke, p. 486.

[101] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 631–8.

Bright's Select Committee into the Game Laws heard a further ten witnesses before the end of the parliamentary session of 1845 and further hearings followed between February and May 1846, when thirty more individuals were questioned. The Committee finally published its recommendations and report in August 1846, with two volumes of accompanying evidence. Despite confirmation of both the damage caused to agriculture by game and the social consequences of the game conflict, there was to be no significant change in the law, just as Peel had predicted eighteen months previously. Minor recommendations aside, including the abolition of cumulative penalties for poaching offences, the Report restated the status quo or simply stated the obvious. Rabbits and hares were adjudged to cause more damage to agricultural crops than winged game. The Report also concluded that 'great facilities still exist for the disposal of stolen game'. Stretching credulity in the opposite direction the Committee found that 'the tenant (farmer) has at all times the right to restrict game to himself', or alternatively, 'to reject the tenancy if the proprietor of the lands insists on a reservation being made of the game'.[102] The first point ignored the fact that most landlords expressly reserved 'rights to game' in tenancy agreements. The second just told farming tenants what they could do if they did not like it. The wider impact of the Select Committee on the immediate fortunes of the Anti-Corn Law League was also minimal, although it has been argued that the League's agitation against the game laws kept 'the aristocracy on the defensive at a critical moment' and thus contributed to the wider agitation against protectionism. It has also been suggested that Bright's 'campaign over the game nuisance made tenant farmers more likely to listen to his advocacy of free trade', although to Bright's own frustration the natural affiliation between farmers and landlords proved difficult to erode.[103] A few years later, in March 1848, Bright attempted to introduce a Private Member's Bill to abolish the game laws but it came to nothing. Tenant farmers would have to await the 1882 Ground Game Act before limited rights to control the game predating on their crops were granted in law.[104] Although he continued to speak for the total abolition of the game laws for the remainder of his parliamentary career, Bright, exasperated by what he perceived as the political timidity of tenant farmers in the aftermath of the Committee, turned his 'attention to other questions … leaving … game law abolition, to some time of calamity'.[105]

IV

Following his appearance before the Select Committee into the game laws, Fredrick Gowing returned home to Suffolk and, as several court appearances attest, to the business of poaching.[106] However, what ultimately happened to Gowing years after his brief appearance

[102] BPP, IX, 1846, *Report from the Select Committee on the Game Laws*, Part II, pp. iii–v.

[103] Kirby, 'Attack on the English Game Laws', p. 36.

[104] J. H. Porter, 'Tenant right: Devonshire and the 1880 Ground Game Act', *AgHR* 34 (1986), pp. 188–97. J. Fisher, 'Property rights in pheasants: Landlords, farmers and the Game Laws, 1860–1880', *Rural Hist.*, 11 (2000), pp. 165–80.

[105] Bright went so far as to fund the publication of an abstract of the Committee's findings for public consumption. R. G. Welford, *The influences of the Game Laws, being classified abstracts of the evidence taken by the Committee of the Game Laws, with observations and notes* (1846). H. J. Leech (ed.), *The public letters of the Rt. Hon. John Bright* (1895), p. 200.

[106] *Ipswich J.*, 2 Jan., 20 Jan. 1847. Following the

in the national spotlight in 1845 is illuminating. Information derived from census returns confirms that Gowing remained in the Suffolk village of Snape for a further decade. In 1849, for example, his wife Elizabeth, bore a second child, a son named Thomas, born in Snape. In 1851 a further son followed, Frederick, also born in Snape. Three years later, another son Charles followed, born in late 1854, again in Snape. Charles was baptized in Snape the following year, on 1 April 1855, simultaneously with his two elder brothers and sister Elizabeth.[107] However, these collective baptisms heralded the family's departure from Snape. Immediately afterwards they moved away from Suffolk, and no small distance either, north-westward to Warwickshire.[108] The timing and direction of this migration can be identified with confidence. In 1857 Frederick and Elizabeth Gowing had another son, John. This time the birthplace was the parish of Snitterfield in Warwickshire. By 1859 the family included a further son, George, also born in Snitterfield. Furthermore, Frederick Gowing, once described as the 'greatest poacher in England', was now a gamekeeper. The Gowing's immediate neighbours in Snitterfield were also, quite literally, familiar. They were Henry Fairweather, also now a gamekeeper, and his wife Lydia, both formerly of Snape in Suffolk.[109] Henry Fairweather was the son of John Fairweather, previously the landlord of the Crown Inn in Snape and Gowing's father-in-law and former poaching confederate. Indeed, John Fairweather himself also later joined his son and old poaching partner in Snitterfield for a short period prior to his death in November 1879.[110] From April 1855 onwards Frederick Gowing was a gamekeeper in Warwickshire working and living alongside his brother-in-law, also now a gamekeeper. Gowing had changed sides in the game conflict and Henry Fairweather had made a similar transition.[111]

Poachers who turned gamekeeper were not uncommon. As Munsche has observed, 'the line between gamekeeper and poacher was indeed thin'.[112] Game-preservers often knowingly recruited individuals with a background in offending based on assumptions that such men had useful knowledge of the habits of poachers and thus 'set a thief to catch a thief'.[113] Gowing had himself highlighted this phenomenon in his evidence before the Select Committee in 1845

conviction of Edgar Whyte for night poaching on the Sudbourne Estate, Frederick Gowing appeared before magistrates to claim that Whyte had been wrongfully convicted and that it was he (rather than Whyte) who had been seen by gamekeepers on the night in question. Thomas Churchyard represented the Marquis of Hertford. SCRO, A609/11, Ipswich Gaol Book, p. 19. Gowing was imprisoned for 3 months in November 1850 after being convicted of night poaching.

[107] C. D. Rogers, *The family tree detective: A manual for analysing and solving genealogical problems in England and Wales, 1538 to the Present Day* (1983), p. 66. Collective baptisms commonly occurred when a family moved parish.

[108] SCRO, FC 123/D1/6, Snape Parish Register of Baptisms 1813–93.

[109] Henry Fairweather was born in Wacton, Norfolk in 1830 and moved to Snape in Suffolk with his family shortly thereafter. Lydia Fairweather (née Taylor) was born in Snape in 1828.

[110] Warwickshire County Record Office (WCRO), DR 264/7, Snitterfield Parish Register of Burials, 1868–1930, p. 21. John Fairweather appears to have remained in Snape in Suffolk until the death of his wife Maria in the early part of 1879. He died in Snitterfield in Warwickshire in Nov. 1879.

[111] Prior to moving to Warwickshire, Henry Fairweather was described as a 'dealer' in the 1851 census. He married Lydia (née Taylor) in Suffolk in 1856 which might suggest that he and his new wife followed rather than accompanied the Gowing family to Snitterfield, or that he returned temporarily to Suffolk to marry.

[112] Munsche, 'Gamekeeper', p. 101.

[113] BPP, IX, 1846, Evidence of George Brooke, p. 485. Munsche, 'Gamekeeper', p. 102.

when responding to questions about collusion between the two groups.[114] Other witnesses had also acknowledged the fluidity and correlation between the professions of poacher and gamekeeper. John Houghton, a farmer and land agent, with properties in Berkshire, Buckinghamshire, Middlesex, as well as Donegal in Ireland, argued that, 'generally speaking, gamekeepers are persons who have been poachers'.[115] John Blatch, a Hampshire farmer and land-valuer, reflected that 'because the best poachers make the best keepers; they are generally employed as keepers'. He went on to report that his own farmland was currently keepered by 'a most notorious poacher, who has been so for years'.[116] The frequency with which poachers moved into employment as gamekeepers highlights the degree to which the two groups shared the same necessary skills and insights into the habits and management of game. Furthermore, as well as 'similarities between the activities of keepers and poachers', there were other, cultural parallels between the two occupations. Both gamekeepers and professional poachers operated on the margins of society, often both physically and figuratively apart from the wider community and outside the regular diurnal rhythms of labouring work.

Gowing's transition to gamekeeper was therefore more representative than it might seem. However, the identity of the individual who employed him is both noteworthy and revealing. Snitterfield was the nucleus of the expanding Warwickshire estate, soon to be centred on Welcombe House, of Mark Philips, cotton merchant and manufacturer. He was one of the first two Members of Parliament for Manchester after the 1832 Reform Act and a prominent supporter of the Anti-Corn Law League.[117] Philips's counterpart in Manchester for much of this time, both as parliamentary representative and fellow 'free-trader' was Thomas Milner-Gibson, who represented the City alongside Philips after 1841. Milner-Gibson had also served alongside John Bright on the Select Committee into the game laws in 1845–46. The close association between Philips, Bright and Milner-Gibson continued long after Corn Law repeal had been achieved. When Mark Philips stood down as one of Manchester's 'free-trade' Members in 1847 and retired to his Warwickshire estate, it was Bright who was selected to replace him. Shortly afterwards Bright and Milner-Gibson were both elected, re-elected in the case of the latter, for the City unopposed. Furthermore, as the surviving diaries of Mark Philips confirm, in the decade following his retirement from the Commons, he continued to regularly meet both Bright and Milner Gibson, often as dining companions in Manchester or London.[118]

Frederick Gowing met Mark Philips at Snitterfield on 7 March 1855 and agreed to serve as his gamekeeper for the relatively generous sum of 30*s*. a week. A month later, on 9 April 1855, Gowing returned to the Philips estate with his family and assumed his new role.[119] It is almost certain that this appointment had its origins in connections forged a decade earlier. Philips,

[114] BPP, IX, 1846, Evidence of Frederick Gowing, pp. 631–2.

[115] BPP, IX, 1846, Evidence of John Houghton, p. 95.

[116] BPP, IX, 1846, Evidence of William Blatch, p. 222.

[117] J. R. Hodges, *Welcombe House: The story of a Victorian calendar house* (2016), p. 56. The Philips family acquired the Snitterfield estate in 1815. Mark Philips inherited this property on the death of his father in 1845 and purchased the adjoining Welcombe estate in the same year. Philips resided at Park House, Snitterfield until the completion of Welcombe House on the adjoining estate in 1870.

[118] Manchester Central Library (MCL), M571/2–3, Diaries of Mark Philips, 1846–63.

[119] MCL, M571/2, Diary of Mark Philips 1855, March–April. WCRO, QS12, Occupational and Quarter Sessions records; Warwickshire Gamekeepers' Deputations, 2 May 1855.

as one of Bright and Milner-Gibson's fellow parliamentary 'leaguers', would have certainly been aware of Gowing through his appearance before the 1845 Committee and might have had direct dealings with him at the time. It is not possible to determine exactly who initiated Gowing's meeting with Philips a decade later and the resultant move to Warwickshire. It might have followed an appeal from Gowing or an invitation from Philips. It might also have involved the subvention of Bright or Milner-Gibson.[120] There are certainly any number of reasons why the Suffolk poacher, just after his fiftieth year, with a wife and four young children, might have wanted away from his old life ten years after his appearance before the Select Committee, although an absence of precise evidence means that they remain speculative. Snape was certainly changing significantly by the 1850s following a sizeable investment in the village by the Garrett family resulting in the development of the port and the construction of new associated quayside granaries. These enterprises soon 'dominated the life of the village' and 'most of the men and boys' were employed there.[121] There are indications too that the rural police were not only increasingly well established, but that they had enjoyed some success in disrupting parts of Gowing's wider network.[122] John Fairweather, landlord of the Crown Inn, was subject to two prosecutions during the early 1840s for 'suffering persons of notoriously bad character … well known to be poachers' to 'assemble and meet … during the hours of morning divine service'.[123] By 1843 Fairbrother had relinquished his tenancy of the Inn following the payment of fines and sureties amounting to £16 and a subsequent sheriff's judgement, which appears to have prompted the sale of most of his household effects.[124] Fairweather's misfortune seems to have had little short-term impact on Gowing's poaching activity, but the more general point that Snape, like other notorious poaching villages of the 1830s and 1840s, was probably becoming more ordered and orderly by the beginning of the mid-Victorian period as a consequence of economic, cultural and generational change as well as more effective policing is germane.[125] Nonetheless, whatever personal or circumstantial factors prompted Gowing to change course and move away from Snape and Suffolk, one thing is certain. He was not forgotten by those Manchester free-traders whom he had served as a witness in Bright's enquiry into the game laws a decade earlier. Indeed, it is entirely possible that Gowing's later employment on the Philips estate in Warwickshire represented the fulfilment of an undertaking to this effect given by prominent Leaguers in 1845.

[120] Thomas Milner Gibson may well have been the original and principal link between Gowing and the Anti-Corn Law League. Although associated with the parliamentary constituency of Manchester between 1841 and 1856, Milner Gibson was a 'Suffolk Squire', also a magistrate and later Lord Lieutenant for the County. His family seat, Theberton Hall in Suffolk was in a parish virtually adjacent to those which Gowing inhabited. The probability that Milner Gibson knew of Gowing, even prior to 1845, is strengthened by the relationship which had developed during the early 1840s between Milner Gibson and John Hatton, the Chief Constable of the Eastern Division of Suffolk in the 1840s. ODNB, 'Gibson, Thomas Milner (1806–84)', BPP, IX, 1846 (Evidence of John Hatton), p. 498.

[121] R. A. Irving, *Snape: The short history of a Suffolk village* (1966), p. 31.

[122] BPP, IX, 1846, Evidence of John Hatton, p. 503.

[123] *Ipswich J.*, 20 Feb., 22 May 1841.

[124] *Ipswich J.*, 28 Aug. 1841. SCRO, FC123/F1/1–7, Snape Poor Rate Books, 1838–51. Fairweather remained the landlord of the Crown Inn until at least April 1842. The records are interrupted until June 1843 by which time Fairweather had been replaced as the occupant by Robert Rouse, the freehold owner of the Inn, also a neighbour of Gowing and Fairweather.

[125] Jones, 'Poacher', p. 860.

Frederick Gowing died at the age of 86 in January 1891, less than a year after the death of Robert Needham Philips, who had inherited the Welcombe estate from his younger brother Mark in 1873.[126] On the eve of Gowing's death 'the vast estates' centred on Welcombe House were producing 'about 6,000 rabbits … annually, in addition to a large quantity of other game', although it was said that 'not a single head was ever sold; the entire produce of the guns being appropriated to Mr Philips' own domestic requirements and those of his friends and tenants'.[127] In 1890 control of the estate passed to Robert Needham Philips's eldest daughter Caroline and her husband Sir George Otto Trevelyan, their second son Robert being named as heir.[128] By this point the estate encompassed approximately 3800 acres, comprising 21 farms and 400 acres of woodland.[129] Henry Fairweather remained in the employment of the Trevelyan family until his death in 1898, although he was described from 1891 not as a gamekeeper but as 'Lady Trevelyan's land agent'.[130] His wife Lydia remained in Snitterfield until her own death in 1911, as did Frederick Gowing's widow, Elizabeth, who died shortly afterwards in 1912. Both women were recorded in late age as living on 'private means'. Certainly, Henry Fairweather left his wife and several of Gowing's children generously endowed from an estate valued at over £3800 at his death.[131] Two of Frederick and Elizabeth Gowing's surviving sons followed their father's later career path, working as gamekeepers in Cheshire, Leicestershire and Surrey.[132]

V

The later life of Frederick Gowing, and the destiny of his immediate and wider family, was ultimately shaped by his appearance before the Select Committee into the game laws in 1845 and his subsequent transition from poacher to gamekeeper. More significantly, the testimony that Gowing supplied to the Committee is important to the historian of poaching crime for several reasons. It provides further evidence of just how far reaching the illegal trade in game was in the late Georgian and early Victorian period. It also highlights how a good deal of poaching crime was ultimately commercial in one form or another. This was a trade in which most of the population, encompassing all classes, were in some way complicit. A minority like Gowing, were suppliers, but many more were consumers or tacitly acknowledged it as part of everyday life. Gowing's experience also reveals how commercial poaching enterprises were potentially structured and organized, encompassing often both full-time or regular professionals, and part-time offenders, who were often poor labourers operating effectively as sub-contractors. This is not to suggest that Gowing was a typical example of a poacher. He

[126] WCRO, DR 264/7, Snitterfield Parish Register of Burials, 1868–1930, p. 42.

[127] *Cornwall Gazette*, 13 Mar. 1890.

[128] *The Times*, 1 Mar. 1890, 27 Jan. 1928 and 23 Oct. 1928. The couple's third son, the historian G. M. Trevelyan and author of *The Life of John Bright* (1913) was born at Welcombe House in 1876.

[129] WCRO, CR1596/Box 82/48, Welcombe Hotel Sale Particulars, Nov. 1929.

[130] Census, 1891. WCRO, DR 264/7, Snitterfield Parish Register of Burials, 1868–1930, p. 55.

[131] WCRO, CR2028/25/2, Documents relating to probate and estate of Henry Coling Fairweather, land steward of Snitterfield, 1879–1911. National Probate Index, Will of Henry Coling Fairweather of Snitterfield, Warwickshire, land steward, died 5 July 1898, Probate Birmingham, 19 Nov. 1898.

[132] John Gowing became gamekeeper to the Bromley-Davenport family at Capesthorne Hall, Cheshire. Thomas Gowing was a gamekeeper initially at Gumley in Leicestershire and then Kingswood in Surrey.

was not, even though much of the evidence he provided to the Committee reinforces what historians already understand about poaching crime, particularly in terms of the economic basis to much offending as well as popular attitudes to both the game laws and offenders.

One original dimension to Gowing's testimony was the evidence he provided, alongside other witnesses before the 1845 Select Committee, about the trade in live game. This sector of the black-market in game was ultimately driven by demand from game-preserving landowners and seemingly developed apace in the decades after 1820 in response to the vogue among sportsmen for ever larger populations and bags of game. Gowing's specialist trade in the provision of eggs and live game anticipated the innovations and investment in the artificial rearing of game subsequently pioneered on East Anglian estates such as Euston and Elveden and the later development of a legitimate game-rearing industry that eventually emerged to supply British sporting estates.[133] Gowing's experience also highlights the liminal world often inhabited by both poachers and gamekeepers and the paradoxical relationship that sometimes existed between the two participant groups in the 'long affray'. Although this relationship was primarily adversarial and often characterized by great bitterness, there were examples of collaboration and complicity, particularly in relation to the trade in live game. Boundaries between the two occupations were sometimes fluid and frequently crossed. A longitudinal approach can help highlight such intrinsic complexity. Gowing's career provides one of the more striking examples of the frequently interchangeable status of gamekeeper and poacher, but his change of 'calling' was not, by the standards of the time, extraordinary.[134]

Finally, Gowing's experience also provides an original perspective on a frequently overlooked facet of the wider campaign to repeal the Corn Laws. Bright's attack on the game laws further highlights how the campaign against the Corn Laws intersected the boundaries of town and country, industry and agriculture, around which popular perceptions of the struggle for repeal are often framed and imagined. Agitation over the game question was on one level a tactical expedient to embarrass the landed interest and to maintain campaigning momentum at a time when support for repeal in parliament was weak, but it nonetheless embodied a coherent critique of the economic and moral rationale for protectionism. It was central to the League's campaign to weaken support for the Corn Laws within rural constituencies and sought specifically to undermine the electoral loyalty of tenant farmers to landlord candidates. Understandably perhaps, the 'game nuisance' often seemed an issue with a greater potential to unify tenant farmer opinion and to divide agricultural from landed interests than that of repeal itself.

[133] A. Durie, 'Game shooting: An elite sport, *c.*1870–1980', *Sport in History* 28 (2008), pp. 431–44. J. Martin, 'British game shooting in transition, 1900–1945', *Agricultural Hist.* 85 (2011), pp. 209 and 215; id., 'The transformation of lowland game shooting in England and Wales since the Second World War: The supply side revolution', *Rural Hist.* 22 (2011), pp. 207–26.

[134] Munsche, 'Gamekeeper', p. 102. See also the experiences recounted by Holcombe, *Exmoor poacher* (chs 7–9) and Haggard (ed.), *I walked by night* (chs 12–13).

From the hungry 1840s to the dear 1850s: the case of Belgium's food price crisis, 1853–56

by Wouter Ronsijn and Eric Vanhaute

Abstract

This paper investigates the 1853–56 food crisis in Europe. It argues that this was not a classic famine triggered by a far-reaching decline in food availability. Instead, it was one of the first instances of a 'food price crisis' on an international scale: a crisis instigated by high prices obstructing access to food for large parts of the population. This crisis stemmed from new forms of vulnerability resulting from the internationalization of supply chains, the proletarianization of labour and the commercialization of goods and services. As such, it mainly affected market-dependent urban populations. We conclude by drawing parallels with the contemporary global food system.

'[W]hy was there apparently no crisis in the mid-1850s at all comparable to that in the late 1840s?', asked Peter Solar in his contribution to a collection of essays on the impact of the potato blight in Europe published in 2007.[1] In terms of food price levels and decline of purchasing power, the 1850s were as severe as the 1840s, if not worse. Solar pointed out that throughout north-west Europe, annual mean wheat prices from 1853 to 1856 were as high as those of 1847 and moreover remained so for several consecutive years. Yet the 'hungry fifties' did not become as familiar a phrase as the Hungry Forties. Whether that means that the food crisis of the later decade was less devastating and if so, why, is uncertain. Few scholars have turned their attention to the 1850s (the work of Laurent Herment is a recent exception), and much of what we know comes from passing references.[2] With this paper, we want to draw attention to this episode in western European history. We investigate whether it really had less impact than the Hungry Forties and offer an explanation as to why this might have been the case. We do this by focusing on the case of Belgium.

Previous studies have indicated that, if the overall impact of the 1850s food crisis was mild, it wasn't mild at all for those who lived through it. Chevet and Ó Gráda believe that the four years from 1853 to 1856 were 'without contest' as dramatic as 1846, yet Alfani and Ó Gráda's recent overview of famines defined as killing events includes the 1840s but not the 1850s.[3] In

[1] Peter M. Solar, 'The crisis of the late 1840s: what can be learned from prices?', in Cormac Ó Gráda, Richard Paping and E. Vanhaute (eds), *When the potato failed. Causes and effects of the 'last' European subsistence crisis, 1845–1850* (2007), p. 82.

[2] Laurent Herment, 'Les communautés rurales de Seine-et-Oise face à la crise frumentaire, 1853–1856', *Histoire et Mesure* 26 (2011), pp. 187–220.

[3] Jean-Michel Chevet and Cormac Ó Gráda, 'Revisiting "Subsistence Crises": The characteristics of

one of the few case studies, Laurent Herment stated that the food crisis in the surroundings of Paris was severe because of high prices, the size of the harvest deficits, the duration of the crisis and the disruption of the grain trade by the Crimean War. Urban populations suffered but rural populations were barely touched.[4] In his study of per capita food intake in the Netherlands, Merijn Knibbe calculated that cereal consumption in the 1850s did not decline substantially. By contrast, the consumption of animal products declined, causing the biological standard of living to reach its nineteenth-century nadir in the 1850s.[5] The incidence of food riots in England, France, Belgium and Sweden further testifies to distress in this decade.[6] Several authors have highlighted the international dimension of the crisis, pointing to the impact of the Crimean War, but also suggesting a link between the drop in European grain prices after 1856 and the US financial Panic of 1857.[7]

Solar gives several reasons why the 1850s appears to have had a milder overall impact: wheat prices were similar but peaks in potato prices were less pronounced in the 1850s than in the 1840s. Much of the vulnerable population had already been eliminated during the 1840s crisis, markets may have been more efficient after the repeal of the Corn Laws, and governments may have learnt how to handle such crises after the experience of the 1840s.[8] Likewise, Herment emphasizes the efforts of the French government to alleviate distress: it reacted quickly, encouraged local administrations to take action and supported public works to provide the poor with an income.[9]

Our main argument is that the 1840s and 1850s food crises, beyond similarities in mean annual price levels, were very different in nature. The 1840s witnessed what we call a 'famine crisis', whereas the 1850s crisis constituted one of the first 'food price crises' on an international, perhaps even global scale. The first type of crisis is caused by a substantial food availability decline affecting broad groups of society. By contrast, the latter type of crisis is the result primarily of disruptions in trade rather than output, affecting primarily the market-dependent population: wage labourers, small artisans and people in retailing professions, i.e. those groups not directly involved in food production and not having direct, non-market-mediated access to food. While both types of crises might have a similar effect on prices, they will have a different impact on different groups in society.

demographic crises in France in the first half of the 19th century', *Food and Foodways*, 12 (2004), p. 191; G. Alfani and Cormac Ó Gráda, 'Famines in Europe: an Overview', in Guido Alfani and Cormac Ó Gráda (eds), *Famine in European History* (2017), pp. 1–24.

[4] Herment, 'Les communautés rurales de Seine-et-Oise'.

[5] Merijn T. Knibbe, 'De hoofdelijke beschikbaarheid van voedsel en de levensstandaard in Nederland, 1807–1913', *Tijdschrift voor Sociale en Economische Geschiedenis*, 4 (2007), pp. 78–9.

[6] John Bohstedt, *The politics of provisions: food riots, moral economy, and market transition in England, c.1550–1850* (2010), pp. 251–3; Roger Price, *The modernization of rural France: Communications networks and agricultural market structures in nineteenth-century France* (1983), p. 146; Wouter Ronsijn, 'De "laatste" voedselrellen. Voedseloproer in de jaren 1850 in Vlaanderen: een casestudie van Sint-Niklaas', *Tijdschrift voor Sociale en Economische Geschiedenis*, 6 (2009), pp. 80–108; G. Fridlizius, 'The Crimean War and the Swedish economy', *Economy and Hist.*, 3 (1960), pp. 96–7; Christian Petersen, *Bread and the British economy, c.1700–1870* (1995), p. 207.

[7] James L. Huston, 'Western grains and the Panic of 1857', *Agricultural Hist.* 57 (1983), pp. 14–32; see also Charles W. Calomiris and Larry Schweikart, 'The Panic of 1857: Origins, transmission, and containment', *JEcH* 51 (1991), pp. 807–34.

[8] Solar, 'Crisis of the late 1840s', p. 85.

[9] Herment, 'Les communautés rurales de Seine-et-Oise', pp. 201–05.

I

By the middle of the nineteenth century, the classic, localized form of *famine crisis* had been in retreat in Europe for several centuries. Traditional famines have been mostly described as local crises characterized by sudden drops in food supplies and by excess mortality. They are almost always linked to natural disasters (rain, temperature), ecological shocks (eruptions, blights, plagues) and/or manmade calamities (war), reducing food supplies and/or disturbing food supply mechanisms.[10] England and Northern Italy witnessed their last severe famines in the seventeenth century. Eighteenth- and nineteenth-century mortality peaks in France and the Low Countries were modest by comparison with those of previous centuries, even in the crisis years of 1740–41, 1794–95, 1816–18 and 1845–48. It appears that the Western European story of famine ended in 1845–48 with a 'big bang': the Irish Famine, measured in share of the population lost, was one of the most devastating food crises in world history.[11]

During the second half of the nineteenth century, Europe saw a massive increase in food availability. This coincided with more food security, declining relative food prices and a shrinking agricultural population. These developments mark the onset of the first global food regime into which food producers worldwide were integrated.[12] The extension and commodification of food chains and the delinking of production from consumption generated an unprecedented flow of cheap foodstuffs to Europe and brought an end to classic famine crises in this part of the world.

However, the commercialization of food and labour in the globalizing food regime also created new vulnerabilities, making much larger sections of the population than previously sensitive to *food price crises*. These new vulnerabilities included a dependence on wages and on international market conditions. New forms of food entitlement, from direct to indirect market-mediated access, thoroughly changed the political economy of food provisioning. Negotiations related to food supplies and food prices used to be part of the local moral economy based on a twofold principle: a right to food, and a social contract of reciprocal accountability.[13] Our prime argument is that within a context of extending markets and food chains, a decline in community reciprocities created a new vulnerability to food price shocks, affecting first and foremost expanding market-dependent urban populations.[14]

In this article we argue that high prices from 1853 to 1856 marked an international food price crisis, as distress was much more the result of the price and distribution of food than of its availability. The relationship between prices and supplies during this crisis differed from famine crises in two respects: high prices without severe shortages, and a peculiar pattern in the movement of grain prices. There were no profound shortages of staple food in the 1850s in the countries surrounding the North Sea. Potatoes gradually became more resilient to blight, and cereal deficits on local and national levels were complemented by imports. What mattered

[10] Cormac Ó Gráda, *Famine: A short history* (2009), pp. 6–7.

[11] Alfani and Ó Gráda, 'Famines in Europe: an overview'.

[12] Philip McMichael, *Food regimes and agrarian questions* (2013).

[13] Bohstedt, *Politics of provisions*.

[14] Raj Patel and Philip McMichael, 'A political economy of the food riot', *Rev. Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations* 32 (2009), pp. 9–35.

for consumers were the rising cost of food and their declining purchasing power. What was new in the 1850s was that food entitlement through markets became the prime arena for the struggle for food security. In several respects the 1853–56 food crisis established a new model. Starting in the late 1840s, the international grain market became a major determinant of price for the domestic markets in the North Sea area. Earlier, imports had been important for parts of this region, such as Flanders in the late Middle Ages and Holland in the early modern period, but from the middle of the nineteenth century they became vital for large parts of Europe.[15] In addition, as imports increased, local agricultural producers were able to turn away from basic food production towards specialization, or to abandon agriculture altogether. This is connected to the intertwined processes of urbanization, proletarianization and industrialization, swelling the ranks of the wage-dependent population.[16] Last but not least, this was an international crisis: it affected most industrializing nations and surpassed the geographic limits of earlier famine crises.

On this occasion, our focus is on Belgium, the first industrialized nation outside England, though we expect our findings will also apply to other industrializing and urbanizing regions in Great Britain and northern France. We compare the causes and effects of the crisis years of the 1850s (which we claim constituted a modern food price crisis) with the crisis of the 1840s (which was mainly a classic famine crisis). We will follow two lines of reasoning. Firstly, we measure the extent of the decline in food availability and the rise of food prices in Belgium in the 1840s and 1850s. During a food price crisis, we expect the decrease in food supplies to be much smaller compared to the famine years in the 1840s. Since food price crises are triggered by market disruptions and price peaks, the link with (substantial) food shortages at the micro- and macro-level should be much less stringent than in classic supply crises. Secondly, we compare the impact of the crises of the 1840s and 1850s on urban and rural populations, focusing on the incidence of food riots, and on shifting levels of mortality, natality and poverty. We assume that the proportion of market-dependent households, buying most of their food, is larger in urban than in rural regions, and vice-versa for the proportion of households with other entitlements to food, i.e. (partial) self-sufficiency and reciprocal credit relations. We expect that the 1840s famine affected both types of households, through the price mechanism as well as the physical absence of food, whereas the 1850s food price crisis would affect mainly the market-dependent population, as supplies were available but prices high. Looking at the experiences of towns and countryside in the 1840s and 1850s is an indirect way of looking at the experiences of these different groups of households. We expect urban areas in the 1850s to have suffered more than rural areas.

The remainder of this article is divided into three parts. First, we look at the proximate causes of the 1850s food crisis: harvest results, price developments, and distortions to the international grain trade during the Crimean War. Next, we explain why Belgium had become vulnerable to international food price crises in the mid-nineteenth century by focusing on

[15] Milja van Tielhof, *The 'mother of all trades': The Baltic grain trade in Amsterdam from the late sixteenth to the early nineteenth century* (2002); Paul Sharp and Jacob Weisdorf, 'Globalization revisited: Market integration and the wheat trade between North America and Britain from the eighteenth century', *Explorations in Economic Hist.* 50 (2013), pp. 88–98.

[16] Jan de Vries, *European Urbanization, 1500–1800* (1984).

population growth and market-dependency. Finally, we analyse the effects of this outburst of a food price crisis by looking at food availability, food riots, poverty levels and demographic patterns. We conclude by drawing some parallels with the present-day, global food system.

II

In July 1853, at the start of a new harvest year, wheat prices began to rise in the North Sea area (see Figure 1). This was the onset of the food crisis of the 1850s, three years of sustained high grain prices, which ended only in late 1856. Starting in the summer of 1853 at about 20 francs per hectolitre, wheat prices rose to 30 francs by the end of the year and continued to fluctuate between 25 and 35 francs until the end of 1856, when prices returned to previous levels. From 1854 to 1856, mean annual prices equalled those of 1847.

A comparison with price developments in earlier crises indicates that this was not a classic famine. First, the duration of the period of sustained high prices was much longer (see Figure 2). Secondly, the seasonal price development was markedly different. In a famine crisis, prices generally followed the *soudure*-pattern, at least in the Southern Netherlands.[17] For example, after the harvest failures of 1739, 1816 and 1846, prices in the market of Sint-Niklaas, Belgium, gradually soared until the following winter, reached peak levels between May and June, and consistently declined and even collapsed after the harvest months (see Figure 3). Prices recorded at the same market between 1853 and 1855 show an entirely different rhythm: they rose much earlier in the agricultural year and remained high for much longer. The only exception was a period of low prices in September 1854 following on episodes of market riots.[18]

Even though price levels were comparable, harvest deficits were generally less dramatic in 1853–56 than in the 1840s, although differences between regions in the North Sea area were considerable (see Table 1). In 1846, particularly rye yields fell far below normal levels. In 1853 and 1855 wheat yields were deficient, although not as much as rye yields had been in the 1840s. The German areas did comparatively well in 1853 but were struck harder in 1855. In most countries, both 1846 and 1853 were followed by abundant harvests. In England, 1847 was below average but the bumper harvest of 1854 made this an *annus mirabilis* according to contemporary accounts.[19] Only in France were yields in 1854 probably insufficient to make up for the previous year's losses.[20] These harvest outcomes did not have a straightforward effect on price levels. Although the 1847 wheat harvest was below average in England, prices collapsed in the second half of that year. By contrast, the 1854 bumper harvest failed to have the same effect.

[17] *Soudure* refers to the pattern of rising prices before the harvest and falling prices after the harvest. Gérard Béaur has recently shown that this pattern was less common than previously believed: Gérard Béaur, 'La "soudure" n'est plus ce qu'elle était. Contribution à l'étude du mouvement saisonnier du marché du blé et du marché de la terre d'après le cas de la région de Chartres au XVIIIe siècle', in Jean-François Chauvard and Isabelle Laboulais (eds), *Les fruits de la récolte* (2007), pp. 93–107.

[18] Ronsijn, 'De "laatste" voedselrellen'.

[19] Petersen, *Bread and the British economy*, p. 206.

[20] Herment, 'Les communautés rurales de Seine-et-Oise', pp. 198–201; Toshio Horii, 'La crise alimentaire de 1853 à 1856 et la Caisse de la Boulangerie de Paris', *Revue Historique*, 272 (1984), pp. 375–7.

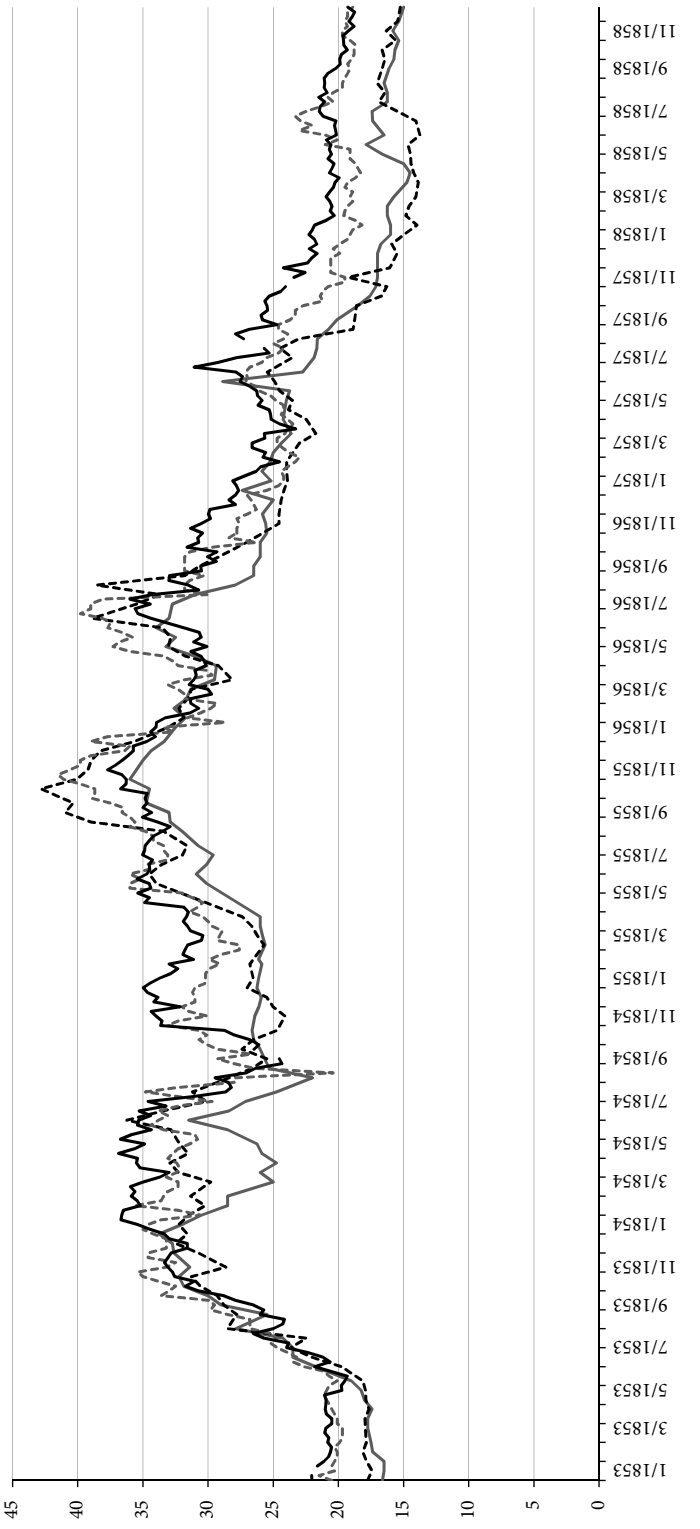


FIGURE 1: Weekly and bi-weekly wheat prices in England, France and Belgium 1853–1858

Note: Weekly prices for London and Sint-Niklaas, bi-weekly for Chartres and Dieppe, in francs per hectolitre.
Source: England (London): Coffman and Pryor, Corn Returns Online (www.cornreturnsonline.org), accessed 19 Mar. 2014; France (Chartres, Dieppe): David S. Jacks, 'Market Integration in the North and Baltic Seas, 1500–1800', *J. European Economic Hist.* 33 (2004), pp. 285–329; id., 'Intra- and international commodity market integration in the Atlantic economy, 1800–1913', *Explorations in Economic Hist.* 42 (2005), pp. 381–413; online data collection (www.sfu.ca/~djacks/index.html); Belgium (Sint-Niklaas): Wouter Ronsijn, 'De donderdagmarkt van Sint-Niklaas, 1720–1900', *Koninklijke Oudheidkundige Kring van het Land van Waas*, 115 (2012), pp. 111–56.

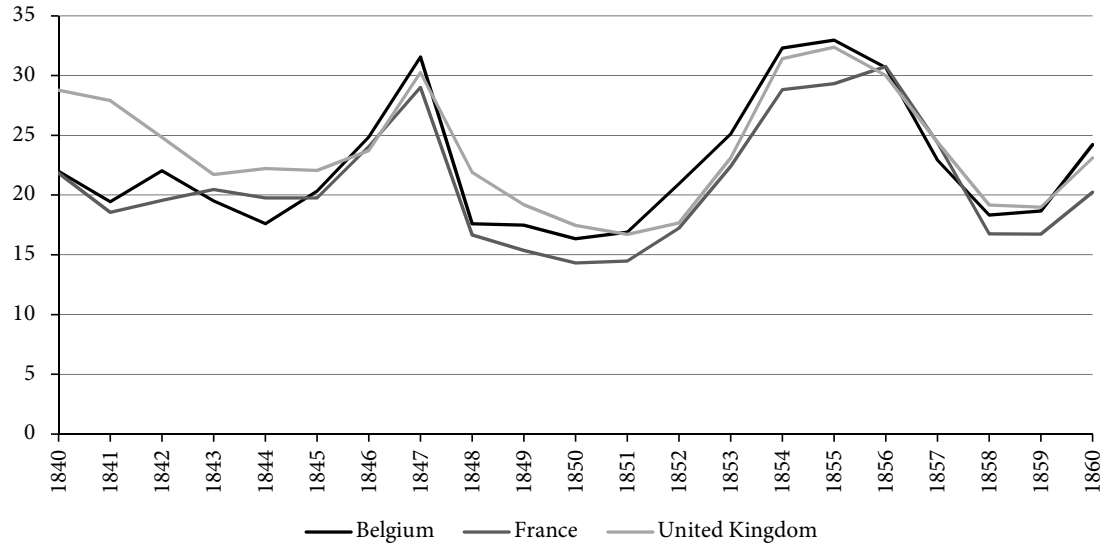


FIGURE 2: Annual mean wheat prices in the United Kingdom, France and Belgium, 1840–1860

Note: Prices are national averages per year in franc per hectolitre.
Source: Belgium: Jean Gadisseur, *Le produit physique de la Belgique, 1830–1913* (1990), pp. 756–7; France: Ernest Labrousse *et al.*, *Le prix du froment en France au temps de la monnaie stable (1726–1913)* (1970), pp. 9–11; United Kingdom: B. R. Mitchell and Phyllis Deane, *Abstract of British Historical Statistics* (1962), pp. 488–9.

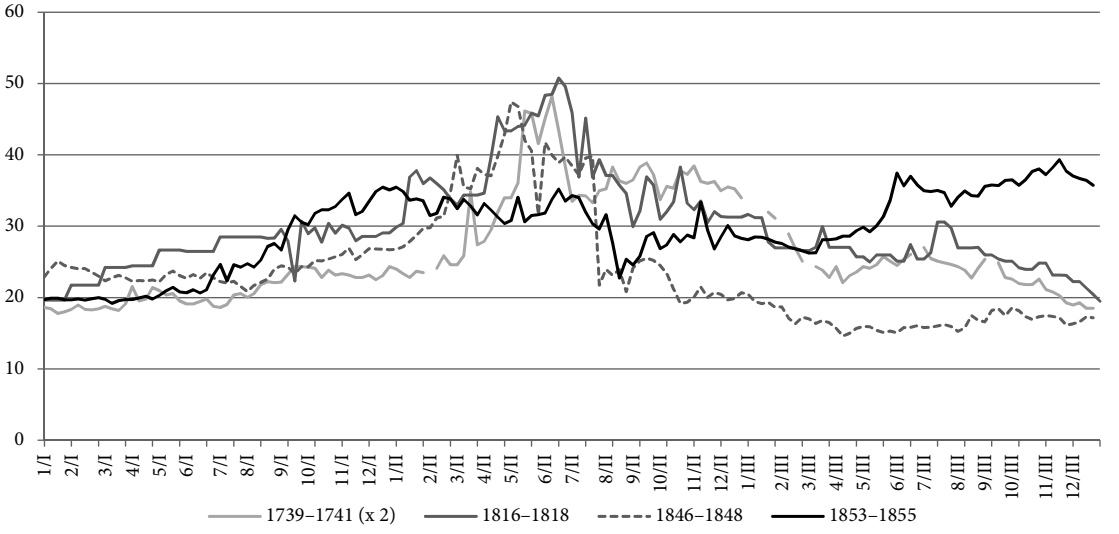


FIGURE 3: Weekly wheat prices during four major subsistence crises in Sint-Niklaas, Belgium, eighteenth and nineteenth century

Note: Weekly prices in franc per hectolitre. Prices of 1739–1741 have been multiplied by two for comparability with nineteenth-century price levels.
Source: Wouter Ronsijn, 'De donderdagmarkt van Sint-Niklaas, 1720–1900', *Koninklijke Oudheidkundige Kring van het Land van Waas*, 115 (2012), pp. 111–56.

TABLE 1: Harvest results wheat and rye, 1840s and 1850s

Wheat	*Coefficient of variation*	*Z-scores*					*Index (average for 1846–1859 = 100)*				
		1846	*1847*	*1853*	*1854*	*1855*	*1846*	*1847*	*1853*	*1854*	*1855*
Belgium	0.13	–0.75	1.29	–1.66	1.21	–1.49	91	116	79	115	81
England	0.13	–0.60	–0.49	–1.83	1.22	–0.51	92	94	77	116	93
Seine-et-Oise	0.13	–1.50	0.97	–1.95	–0.19	–0.32	81	112	76	98	96
Seine-et-Marne	0.15	–1.97	1.07	–1.53	0.52	–0.74	71	116	77	108	89
Oise	0.17	–1.25	1.10	–1.46	0.52	–1.85	79	118	75	109	69
Ille-et-Vilaine	0.13	–0.28	2.16	–0.53	–1.20	–1.09	96	129	93	84	86
Morbihan	0.19	–1.71	1.28	–1.71	0.43	–1.11	67	125	67	108	78
Prussia	0.14	–1.20	1.28	–0.48	0.64	–2.40	83	118	93	109	67
Saxony	0.13	–0.67	–0.08	–1.01	–0.54	–1.70	92	99	87	93	79
Unweighted average	0.14	–1.10	0.95	–1.35	0.29	–1.25	83.6	114.1	80.4	104.4	82.0

Rye	*Coefficient of variation*	*Z-scores*					*Index (average for 1846–1859 = 100)*				
		1846	*1847*	*1853*	*1854*	*1855*	*1846*	*1847*	*1853*	*1854*	*1855*
Belgium	0.24	–2.36	1.53	–0.45	0.77	–0.91	44	136	89	118	78
England											
Seine-et-Oise	0.17	–2.34	1.27	–0.95	0.20	–0.27	59	122	83	104	95
Seine-et-Marne	0.15	–1.77	0.68	0.23	1.37	–0.76	73	110	104	121	88
Oise	0.15	–2.05	0.31	–1.02	0.68	–0.86	70	105	85	110	87
Ille-et-Vilaine	0.24	–0.87	0.14	–0.16	–0.48	–2.52	80	103	96	89	40
Morbihan	0.22	–2.50	1.19	–1.50	0.39	–0.39	45	126	67	109	91
Prussia	0.19	–1.92	1.97	–0.31	0.53	–1.38	64	137	94	110	74
Saxony	0.17	–1.31	1.91	–0.32	–0.27	–0.68	78	132	95	95	88
Unweighted average	0.19	–1.89	1.13	–0.56	0.40	–0.97	64.13	121.38	89.1	107.0	80.1

Note: Authors' calculations based on results of 14 harvests from 1846 to 1859. The Z-scores express how many standard deviations one particular observation differs from the series mean, and are an indicator of the exceptionality of that observation.

Sources: Belgium: Jean Gadisseur, *Le produit physique de la Belgique 1830–1913* (1990), p. 532; France: data courtesy of Laurent Herment; England: M. J. R. Healy and E. L. Jones, 'Wheat Yields in England, 1815–59', *J. of the Royal Statistical Society.* Series A (General), 125 (1962), pp. 574–79; Prussia and Saxony: Ernst Engel, 'Die Getreidepreise, die Ernteerträge und der Getreidehandel im preussischen Staate', *Zeitschrift des Königlich Preussischen Statistitsche Bureaus*, 1 (1861), pp. 249–89.

How yields affected food availability depended on the share of wheat and rye in regional output structures. The 1850s production deficits probably struck rye-producing areas such as Saxony and Prussia, which harvested two to three times more rye than wheat, less hard.[21] Wheat-producing areas such as England and France, the latter growing three times more wheat than rye, were probably struck worse. Still, domestic production may still have covered 90 per cent of Britain's needs during the 1850s crisis, partly through an extension of the area under wheat.[22] Belgium held an in-between position, producing slightly more rye than wheat.[23] In Belgium, per capita bread grain output (wheat, rye, maslin, and spelt) net of grain reserved for seed from 1848 to 1852 was about 208kg on average. In 1846, it was 135kg; in 1853 and 1855, it was 171kg and 158kg respectively.[24] Deficits were therefore smaller in the 1850s.

Furthermore, total food availability in 1845 and 1846 had suffered heavily from the potato blight, which made its first devastating appearance in these years. In 1845, the blight destroyed 70 per cent of the potato harvest in the Netherlands and almost 90 per cent in Belgium; in 1846 it destroyed about 80 to 90 per cent in the Scottish Highland and Ireland.[25] After the mid-1840s, potato yields slowly recovered, reaching 'normal' levels again by the mid-1850s.[26] Potato prices rose both in the years 1846–47 and in 1854–55. In the 1840s, the price peak stood out more clearly, though the absolute price level in Belgium in the 1850s was similar.[27]

Therefore, in most areas including Belgium, deficits in the 1850s were rather modest compared to the 1840s, and cannot explain the general nature and longevity of high prices from 1854 to 1856. Three immediate factors help to explain why prices started to rise almost simultaneously with the harvest of 1853.[28] Firstly, the weak harvests of 1853 made clear that demand for grain imports in wheat-producing countries like France and England would rise. This almost instantly triggered more orders and higher ship freight rates. Secondly, after it had become clear that international demand would rise, rumours of an impending war in the Black Sea area in June 1853 generated uncertainty about the shipment of grain from Russia, a prime supplier of European markets. This created a sense of urgency and, as a result, imports were negotiated much earlier. Quoting Klovland, a 'scramble for wheat' started, further raising freight rates.[29] Third, the uncertainty created by the threat of war also elevated insurance rates.

[21] Maurice Block, *Statistique de la France comparée avec les autres états de l'Europe. Tome Deuxième* (1860), pp. 40, 48–9; Ernst Engel, 'Die Getreidepreise, die Ernteerträge und der Getreidehandel im preussischien Staate', *Zeitschrift des Königlich Preussischen Statistitsche Bureaus*, 1 (1861), pp. 277, 282–3.

[22] Petersen, *Bread and the British economy*, pp. 166, 175–6.

[23] Table 2; Martine Goossens, *The economic development of Belgian agriculture: a regional perspective, 1812–1846* (1993), p. 146.

[24] Based on output estimated by Jean Gadisseur, *Le produit physique de la Belgique, 1830–1913: Présentation critique des données statistiques. Introduction générale. Agriculture* (1990), p. 612.

[25] Eric Vanhaute *et al.*, 'The European subsistence crisis of 1845–1850: a comparative perspective', in Ó Gráda *et al.* (eds), *When the potato failed*, p. 22.

[26] Gadisseur, *Le produit physique*, p. 536.

[27] Solar, 'Crisis of the late 1840s', pp. 82, 85; Ronsijn, 'De "laatste" voedselrellen', p. 91.

[28] Jan Tore Klovland, 'New evidence on the fluctuations in ocean freight rates in the 1850s', *Explorations in Economic Hist.* 46 (2009), pp. 274–8; Adrian Leonard, 'Risk, uncertainty, and market pricing: marine insurance in peacetime and war (paper presented at the Datini – ESTER Advanced Seminar 'The Market and its Agents', Prato, 2–4 May 2014)', pp. 18–19; Price, *Modernization of rural France*, pp. 35, 64, 66; Vassilis Kardasis, *Diaspora merchants in the Black Sea: the Greeks in southern Russia, 1775–1861* (2001), p. 121.

[29] Klovland, 'New evidence on the fluctuations in ocean freight rates', p. 277.

Together these elements made grain shipments more expensive. Grain prices kept on rising during and after the harvest of 1853.

Although freight rates declined once hostilities had broken out, grain prices remained high. The war itself had a direct impact on Western European grain markets as a consequence of the Allies' blockade of Black Sea and Baltic ports, and of Russia's prohibition of grain exports.[30] Russia prohibited exports from the Black Sea and Azov in February 1854 and from Baltic ports at the end of 1855. All embargoes on exports were lifted in the spring of 1856. During the war, Western European grain markets were cut off from the large volumes of Russian grain that could have helped cover western deficits. Only small amounts of Russian grain reached Western Europe through smuggling or via overland routes through Prussia and Austria. Export statistics from Russia and data from importing countries confirm that the trade in Russian grain came to a standstill in 1854 and 1855.[31] National deficits in the North Sea area were made good, except perhaps in France, by drawing on supplies from elsewhere including Prussia and, increasingly, Sweden and the United States.[32] Still, the cessation of Russian imports was clearly a major cause for concern. Prices only started declining in 1856, when the conflict was over and imports from Russia resumed.

In the crisis years, the Belgian government regularly turned to the provincial governors and their regional consultative bodies for advice on the causes of the high price of grain and on possible remedies.[33] In correspondence at the start of the food crisis, the alarming rise in prices during the harvest months of 1853 was attributed to speculation and increased exports to France, where shortages were believed to be much larger. The resulting rising food prices reduced the purchasing power of the labouring classes, reducing the demand for manufactured products, which created more unemployment, and hence exacerbated the effects of grain being expensive. One year later, in September 1854, the Minister of the Interior noted a new rise in grain prices, which he rightly believed did not reflect the actual yields of the grain crops.[34] Among other reasons, he pointed to stocks from the 1853 harvest running out. While the harvests of 1854 seemed excellent, they had not become available in the markets yet partly because the farming population was still too busy harvesting. This time, the international situation was identified as the main cause for high prices: the closure of the Baltic and Black Sea ports and a meagre harvest in the US reduced imports. Others regarded exports, which were still permitted, as the main reason for rising market pressures. However, the governor of East

[30] Valerii L. Stepanov, 'The Crimean War and the Russian economy', *Russian Studies in Hist.*, 51 (2012), pp. 19, 21–3; Olive Anderson, 'Economic warfare in the Crimean War', *Economic Hist. Rev.* 14 (1961), pp. 35, 38; Kardasis, *Diaspora merchants*, p. 121; John E. Cairnes, 'The effect of war on prices', *Dublin Statistical Society* 1 (1856), pp. 231–2.

[31] O. Terner, *Vneshnej torgovli Rossii s 1853 po 1856 g.* (Sankt Peterburg, 1858), pp. 63, 69, 75, 80; B. R. Mitchell and Phyllis Deane, *Abstract of British Historical Statistics* (1962), pp. 100–01; Kardasis, *Diaspora merchants*, pp. 122–6.

[32] John Bennet Lawes and Joseph Henry Gilbert, 'Home produce, imports, consumption, and price of wheat, over forty harvest-years, 1852–53 to 1891–92', *JRASE*, third ser., 4 (1893) Appendix, Table I; Price, *Modernization of rural France*, pp. 65–66, 302; Fridlizius, 'The Crimean war and the Swedish economy', pp. 70–2; Yves Segers, *Economische groei en levensstandaard. De ontwikkeling van de particuliere consumptie en het voedselverbruik in België, 1800–1913* (2003), p. 497; Sharp and Weisdorf, 'Globalization revisited'.

[33] Public Records Office, Ghent (hereafter PROG), provincial archives East Flanders 1870–1900 (hereafter EF 1870–1900), 4A/355.

[34] PROG, EF 1870–1900, 4A/355, 23 Sept. 1854.

Flanders wrote that more was to be expected from the news of the taking of Sebastopol than from any customs measures to ease distress.[35] The disturbance of the international grain trade due to the war continued in the following years, bankrupting several merchant companies. For this reason, the Ghent Chamber of Commerce believed in October 1856 that prices would only drop when trade was restored and Russian grain once again arrived in Belgian ports.[36]

The Belgian government was slow to respond to the likelihood of higher prices and a probable decline in food availability after the mediocre harvest of 1853. Import duties on foodstuffs were lifted fairly promptly in August, but food exports continued to be permitted except for potatoes, whose export was banned in October. An export prohibition on cereals was only enacted at the end of November 1854, after a wave of food riots. The nature and timing of these measures is very close to the parallel measures taken in France.[37] The Belgian export prohibition remained in place until June 1857 and free, untaxed imports were permitted until the following December. In contrast to previous decades, the 1850s were characterized by sharp disagreements on customs policies between supporters of a free-trade regime, who often had interests in the expanding industrial sector, and prohibitionists, who were usually connected to agriculture and landed property. The correspondence on this question between the government and the provincial governors, testifies to this division of opinion and their uncertainty about how to proceed.[38] Their indecision stands in sharp contrast to the swift reaction of the Belgian government after the first upsurge of the potato blight in September 1845. On that occasion, the government immediately proclaimed the tariff-free import of grains, potatoes and other foodstuffs, whilst simultaneously forbidding their export together with that of bread and other baked products. These laws remained in force until the beginning of 1850. At the same time, the national government started to buy food from foreign countries.[39]

III

The proximate causes for sustained, high grain prices in the 1850s were modest harvest failures inside and outside the North Sea area and the dislocation of the international grain trade by the war in the Black Sea area. However, this does not explain the local impact of this crisis. It is clear that in this period, Belgium became more sensitive to shocks in the international grain trade. This was the result of two interrelated trends: a growing population and an increasing number of market-dependent households.

In the century between 1750 and 1850, the population of the southern Netherlands/Belgium doubled to more than 4.4 million inhabitants. After 1850, population growth continued at

[35] PROG, EF 1870–1900, 4A/355, 3 Oct. 1854.

[36] PROG, EF 1870–1900, 4A/355, 13 Oct. 1856.

[37] In France: imperial decrees of 18 Aug. 1853 and 29 Nov. 1854.

[38] Pascale Delfosse, *La politique agricole de l'État belge en période de crise au XIXe siècle: les rapports de force dans une société en transition vers le capitalisme industriel* (1983), pp. 22–4; id., 'État, crises alimentaires et modernisation de l'agriculture en Belgique (1853–1857)', *Revue du Nord*, 72 (1990), pp. 73–4, 83–93; Maarten F. Van Dijck, *De wetenschap van de wetgever. De klassieke politieke economie en het Belgische landbouwbeleid, 1830–1884* (2008), pp. 327–29, 333–34.

[39] Eric Vanhaute, '"So worthy an example to Ireland": the subsistence and industrial crisis of 1845–1850 in Flanders', in O'Grada, Papping and Vanhaute (eds), *When the potato failed*, p. 138.

a slightly slower pace, almost reaching 6.7 million inhabitants by 1900.[40] The share of the urban population remained constant up to about 1850. Measured as the proportion of the population living in municipalities of 5000 inhabitants or more, the degree of urbanization stagnated at around 20 per cent from 1750 until 1850.[41] In absolute numbers, much of the growth occurred in the countryside. In 1846, compared to 1806, there were 1.35 million additional mouths to feed: about 1 million in the countryside, and 0.35 million in the towns.[42] Due to land scarcity and unequal access to land, most of the people in the countryside did not produce enough food to support themselves and had to enter the food market for at least some of their sustenance.

Belgian agricultural output did not keep up with population growth after 1800, making the country increasingly dependent on food imports. In the first half of the nineteenth century, agricultural output grew but lagged behind population. As a result, per capita agricultural production declined.[43] In response, the focus of agriculture shifted towards basic food production: the production of industrial crops declined to the benefit of both potatoes and bread grains. The simultaneous rise in the production of more highly valued wheat and cheaper potatoes indicates a polarization in consumption patterns. Growing tensions in agricultural production and output affected towns in particular. Segers calculated that urban per capita food consumption dropped in the first half of the nineteenth century, not only in industrial centres but also in smaller towns.[44] According to Scholliers, around the middle of the nineteenth century, average food consumption was notably more modest in the towns than in the countryside.[45] Agricultural progress after 1850 was piecemeal; Blomme labels the third quarter of the nineteenth century as 'sluggish growth ending in straightforward stagnation during the 1870s'.[46] Growth in output further slowed down, and although acreage for industrial and fodder crops increased, there was no fundamental change in the agricultural production structure before the last quarter of the century.[47] Up to the 1840s, a Malthusian supply crisis was averted by a growing reliance on potatoes, which could feed twice as many people per hectare than cereals. The outbreak of the blight in September 1845 revealed the population's growing dependence on potato consumption. After the 1840s, no comparable food crisis occurred due to the absence of combined harvest failures such as in 1845 and 1846, and because of increased cereal imports.[48]

[40] Guy Dejongh and Yves Segers, 'Een kleine natie in mutatie. De economische ontwikkeling van de Zuidelijke Nederlanden/België in de eeuw 1750–1850', *Tijdschrift voor Geschiedenis*, 114 (2001), pp. 173–4.

[41] Dejongh and Segers, 'Een kleine natie in mutatie', p. 174; Goossens, *Economic development of Belgian agriculture*, p. 372.

[42] Ibid., p. 364.

[43] Martine Goossens, 'Belgian agricultural output, 1812–1846', *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 34 (1993), pp. 227–73.

[44] Yves Segers, 'Oysters and rye bread. Polarising living standards in Flanders, 1800–1860', *European Rev. of Economic Hist.* 5 (2001), pp. 301–36.

[45] P. Scholliers, 'From the 'crise des Flandres' (1840s) to Belgium's 'question sociale' (1880s): nutritional landmarks of transition in industrializing Europe', *Food and Foodways* 5 (1992), p. 158.

[46] Jan Blomme, *The economic development of Belgian agriculture, 1880–1980. A quantitative and qualitative analysis* (1993), p. 32.

[47] Jan Blomme, 'Produktie, produktiefactoren en produktiviteit: De Belgische Landbouw 1846–1910', *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 24 (1993), pp. 275–93.

[48] Goossens, 'Belgian agricultural output', pp. 240–2, 248; Segers, 'Oysters and rye bread'; Blomme, 'Produktie, produktiefactoren en produktiviteit', pp. 281–2.

As a result of rapid demographic growth and lagging agricultural production, the southern Netherlands/Belgium shifted from being a grain-exporting to a grain-importing region. In the second half of the eighteenth century, the southern Netherlands exported about 5 to 7 per cent of its annual harvest of bread grains and buckwheat. These exports continued during the period when the region was annexed to France; in those years, large amounts of grain were transported to the French interior.[49] It was probably the crisis of 1817 and the ensuing agricultural depression of the 1820s that ended grain exports from the southern Netherlands. During this depression, Western Europe was flooded with eastern European and Russian grain, while also facing domestic overproduction. In response, domestic output declined.[50] In the late 1820s, domestic production recovered and expanded, but food imports soon became necessary on a structural basis, particularly from the 1840s onwards. Still, the overall volume of imports remained modest (see Table 2). During the price crisis of the 1850s, the volume of imports into Belgium amounted to about 11 per cent of the volume of the domestic bread grain harvest: 15 per cent for wheat, spelt, and maslin and 5 per cent for rye. In other words, 90 per cent of the bread grain needed for domestic use was still provided by domestic production.

Nonetheless, growing imports strengthened the impact of the international grain trade on local and national supplies and prices, and reinforced the integration of markets. But why and how did high prices affect large parts of the population? The second cause of increasing sensitivity in Belgium to shocks in the international grain trade was the unprecedented growth of a market-dependent population.[51] In the middle of the nineteenth century, one in three Belgian households had no access to land, compared to less than one in five around 1800.[52] On top of that, almost half of the agricultural holdings measured less than one hectare and a majority of those holdings were held by lease for rapidly increasing rents. In other words, about two-thirds of all Belgian families had to acquire at least a portion of their nutritional needs via extra-household supplies. In addition, this was a period of accelerated industrialization with the number of wage labourers growing much faster than the total population. It is clear that the proportion of the population that was partly or predominantly dependent on wage earnings to secure access to food increased sharply, decreasing the proportion of households with other kinds of entitlements such as auto-consumption, local credit relations and payments in kind.

[49] Chris Vandenbroeke, 'Landbouw in de Zuidelijke Nederlanden, 1650–1815', *Algemene geschiedenis der Nederlanden,* 8 (1979), pp. 83–4; Chris Vandenbroeke and W. Vanderpijpen, 'Landbouw en platteland in de Zuidelijke Nederlanden 1770–1844', *Algemene geschiedenis der Nederlanden,* 10 (1981), pp. 187–8; Willy Vanderpijpen, 'De landbouw en de landbouwpolitiek in het Leie- en Scheldedepartement (1794–1814)' (unpublished PhD thesis, Brussels University (VUB), 1983), pp. 203–92.

[50] Goossens, 'Belgian agricultural output', p. 245; Goossens, *Economic development of Belgian agriculture*, pp. 161–5, 202–05; Jan Bieleman, *Boeren in Nederland. Geschiedenis van de landbouw, 1500–2000* (2008), pp. 148–9; Phil Kint, *Prometheus aangevuurd door Demeter. De economische ontwikkeling van de landbouw in Oost-Vlaanderen, 1815–1850* (1989), pp. 138–9.

[51] G. L. de Brabander, *De regionaal-sectoriële verdeling van de economische activiteit in België (1846–1979): een kritische studie van het bronnenmateriaal* (1984); Hilde Greefs and Bruno Blondé, 'The growth of urban industrial regions: Belgian developments in comparative perspective, 1750–1850', in Jon Stobart and Neil Raven (eds), *Towns, regions and industries: urban and industrial change in the Midlands, c.1700–1840* (2005), pp. 210–27.

[52] Eric Vanhaute, 'Rich agriculture and poor farmers: Land, landlords and farmers in Flanders in the eighteenth and nineteenth Centuries', *Rural Hist.* 12 (2001), pp. 19–40.

TABLE 2: Bread grain production, imports and market trade in Belgium, 1840s and 1850s

Average production	*Wheat, spelt, and maslin*	*Rye*	*Total*
1846	6,493,396	5,293,191	11,786,587
1856	8,475,731	6,065,716	14,541,447
Imports			
Annual average of 1852–1856	1,276,172	331,144	1,607,316
As a percentage of production in 1856	15.1	5.5	11.1
Market trade			
Trade volume at the 33 main grain markets, September 1856 to August 1857	1,003,562	521,282	1,524,844
As a percentage of production in 1856	17.4	8.6	12.9

Note: All production and trade volumes in hectolitre. Market trade volumes only include wheat and rye, not spelt or maslin, and the proportion sold is calculated accordingly. Market trade volumes of Liège are not included as they appear faulty.
Source: Production data: *Agriculture, recensement général*, 1846, 1856; Import data: Daniel Degrève, *Le commerce extérieur de la Belgique, 1830–1913–1939* (1982), pp. 304, 309; Market trade volumes: *Bulletin administratif du ministère de l'Intérieur.*

Expanding industrial areas, such as the Walloon industrial basins, required larger catchment areas to feed the workers and their families. In response, the configuration of the internal grain trade changed profoundly. Weekly public markets had long played a central role in the trade of domestically produced grain. Yet only a small proportion of the annual harvest was physically exchanged at these markets. In 1856, trade at the 33 main grain markets in Belgium added up to 17.4 per cent of the total wheat harvest and 8.6 per cent of the total rye harvest (see Table 2). Trade volumes at public markets declined as more transactions were concluded by sample rather than by total volume. In addition, towns and cities were increasingly supplied by tradesmen who bought crops at the farm gate.[53] This shift in the organization of marketing started in the bigger cities, but smaller towns followed from the 1860s onwards.[54] By the end of the nineteenth century, public grain markets had all but disappeared.[55]

Grain sold at the farm gate was often bought by weight, in metric units, where in the public markets it was usually sold by volume, often in ancient local units of measurement.[56] This shift

[53] PROG, provincial archives East Flanders 1830–1850 (hereafter EF 1830–50), 2912 and 2916 and EF 1870–1900, 4A/580.

[54] Chris Vandenbroeke, 'Voedingstoestanden te Gent tijdens de eerste helft van de 19de eeuw', *Belgisch Tijdschrift voor Nieuwste Geschiedenis* 4 (1973), pp. 149–50; Wouter Ronsijn, 'De donderdagmarkt van Oudenaarde, 1750–1900: een reconstructie van anderhalve eeuw prijzen en handelsvolume', *Handelingen van de Geschied- en Oudheidkundige Kring van Oudenaarde* 49 (2012), pp. 3–45; id., 'De donderdagmarkt van Sint-Niklaas, 1720–1900. Een reconstructie van meer dan anderhalve eeuw prijzen en handelsvolume', *Koninklijke Oudheidkundige Kring van het Land van Waas* 115 (2012), pp. 111–56; Isabelle Devos, 'Prijzen van Granen en andere Landbouwprodukten in de Kasselrij Kortrijk (16de–19de eeuw)' (unpublished licentiate thesis, Ghent University, 1990), pp. 531–38.

[55] Paul Van Hissenhoven, *Les grains et le marché d'Anvers* ([1910]), pp. 555–9.

[56] PROG, EF 1830–50, 2912 and EF 1870–1900, 4A/580; *Bulletin administratif du ministère de l'Intérieur*, 8 (1854), p. 328, 11 (1857), p. 436.

from volume to weight, and to a concurrent standardization of measurements, reflects the geographical expansion of the grain trade and the growing number of intermediaries. Data on weight or the specific gravity of grain was needed to price accurately merchandise from diverse geographic origins passing through intermediaries.[57] Concluding transactions by weight rather than by volume permitted these intermediaries to assess the quality of domestic grain more reliably, whether at the farm gate or in public markets, or imported grain purchased from international merchants.

By compiling information on a much larger scale, the intermediaries contributed significantly to the convergence of grain prices both intra-nationally and internationally.[58] Conversely, their behaviour could also be perceived as deceitful speculation. In the crisis years of 1847 and 1854, the peculiar idea circulated that all the grain markets in the country should be held on the same day and hour. Advocates of this idea believed that markets would then be able to function in isolation from each other, and prices could be set without interference from other markets. This project was actually aimed against price integration.[59] It received little support, however, because few believed it would have the desired effect.[60] General opposition to this project is indicative of an altered attitude to the role of market trade and of the increasing interaction between local markets and the international grain trade around 1850.

As a result of demographic growth, lagging agricultural output, a growing market-dependent population and market integration, Belgian consumers increasingly competed with those of other importing countries for the same resources. After the middle of the nineteenth century, people buying wheat at a provincial Belgian market (such as Sint-Niklaas) paid prices similar to those at the London market, even though the purchasing power of British consumers may have been higher than that of Belgian consumers. This reflects the high degree of market integration in Europe at that time. Recent research has shown that the process of market integration accelerated during the second quarter of the nineteenth century, creating a 'European' grain market by the late 1840s.[61] Studies relying on Swiss and Swedish observations have argued that, at the national level, price jumps were still mainly the result of climatic shocks until at least the middle of the nineteenth century.[62] Yet market integration made this correlation less

[57] A. Velkar, '"Deep" integration of 19th century grain markets: coordination and standardisation in a global value chain' (Department of Economic History, LSE, Economic History Working Papers, 145/10, 2010).

[58] See also Guy Dejongh *et al.,* 'In de greep van de markt. De integratie van de regionale landbouwmarkten in België, 1700–1850', *Belgisch Tijdschrift voor Nieuwste Geschiedenis* 30 (2000), pp. 5–47; Erik Buyst *et al.,* 'Road expansion and market integration in the Austrian Low Countries during the second half of the 18th Century', *Histoire et mesure* 21 (2006), pp. 185–219.

[59] Report in *Gazette van Audenaerde*, 25 July 1847, p. 3, col. 2, and 3 Dec. 1854, p. 2, col. 3; *Gazet van St. Nicolaes*, 26 Nov. 1854, p. 2, col. 2 and 3 Dec. 1854, p. 3, col. 1; *Bulletin administratif du ministère de l'Intérieur* 8 (1854), p. 542.

[60] PROG, EF 1870–1900, 4A/355.

[61] David S. Jacks, 'Intra- and international commodity market integration in the Atlantic economy, 1800–1913', *Explorations in Economic Hist.* 42 (2005), pp. 381–413; Solar, 'Crisis of the late 1840s'; David Chilosi *et al.*, 'Europe's many integrations: Geography and grain markets, 1620–1913', *Explorations in Economic Hist.* 50 (2013), pp. 46–68.

[62] Jari Holopainen *et al.*, 'Climatic signatures in crops and grain prices in 19th-century Sweden', *The Holocene* 22 (2012), pp. 939–45; Christian Pfister, 'Fluctuations climatiques et prix céréaliers en Europe du XVIe au XXe siècle', *Annales. Économies, Sociétés, Civilisations* 43 (1988), pp. 25–53; Rodney Edvinsson, 'Harvests and grain prices in Sweden, 1665–1870', *AgHR* 60 (2012), pp. 1–18; see also Solomos Solomou and Weike Wu, 'Weather effects on European agricultural output, 1850–1913', *European Rev. Economic Hist.* 3 (1999), pp. 351–73.

straightforward by the 1850s, and as a result, national price levels no longer reflected national harvest results.

IV

It is our argument that, due to the different nature of the two crises, the effects of the food price crisis of 1853–56 were fundamentally different from the famine crisis of 1845–47. We expect that this dissimilarity will be most evident when comparing the rural and urban experience during the 1850s food crisis. In contrast with the potato famine in the 1840s, this crisis was primarily triggered by reduced consumer purchasing power. We measure this changing access to food in four ways: the availability of food, the incidence of food riots, rural and urban patterns in natality and mortality, and rural and urban patterns in poverty rates.

(a) The availability of food

Yves Segers has calculated that average food availability in mid-nineteenth century Belgium was at a low and even critical level. The mean diet of Belgian residents dropped from about 2850Kcal per day around 1800 to about 2450Kcal around 1850.[63] Segers' data in Figure 4 show the levels of food available for human consumption between 1846 and 1860. Consumption data on vegetable products are based on annual harvest results, imports and exports, and estimates of the proportion of these products not used for human consumption, but do not take into account the possibility of carry-over from one harvest to the next. For animal products, insufficient data were available to reconstruct accurately annual fluctuations, with the exception of cheese.[64] Average per capita food consumption was depressed over the whole period and not only during the crisis years. The data indicate that between 1853 and 1856 the availability of bread grains and, to a lesser extent, potatoes, was not notably lower than during the previous years. In this respect, Segers' results confirm those of an earlier study by Van den Eeckhout and Scholliers.[65] Imports covered harvest deficits, and considering the export prohibition of November 1854, carry-over from the excellent harvest of that year probably compensated for the deficit in 1855. Large volumes of wheat and rye were imported despite the war in the east, particularly from (or through) Prussia and the Netherlands.[66] Likewise, data on grain supplies at local markets show an increase, particularly from 1854 onwards.[67] In Sint-Niklaas for example, a local newspaper reported in November 1854 that countrymen were selling more wheat and buckwheat in the market to take advantage of high prices, while they themselves consumed imported rice.[68] Stability in per capita food

[63] Segers, *Economische groei en levensstandaard*, pp. 256–73; Yves Segers, 'Nutrition and living standards in industrializing Belgium, 1846–1913', *Food and Hist.* 2 (2004), p. 160.

[64] Segers, *Economische groei en levensstandaard*, pp. 77–95.

[65] Patricia Van den Eeckhout and Peter Scholliers, 'De hoofdelijke voedselconsumptie in België, 1831–1939', *Tijdschrift voor Sociale Geschiedenis* 9 (1983), pp. 293–4. See also Jan Blomme, 'De hoofdelijke broodgraanconsumptie in België, 1850–1939: een alternatieve benadering', *Tijdschrift voor Sociale Geschiedenis* 12 (1986), pp. 401–15.

[66] *Tableau général du commerce avec les pays étrangers*, 1840–1860.

[67] Ronsijn, 'De donderdagmarkt van Oudenaarde'; Ronsijn, 'De donderdagmarkt van Sint-Niklaas'; Devos, 'Prijzen van Granen'.

[68] Report in *Gazet van St. Nicolaes*, 12 Nov. 1854 p. 1, col. 2–3.

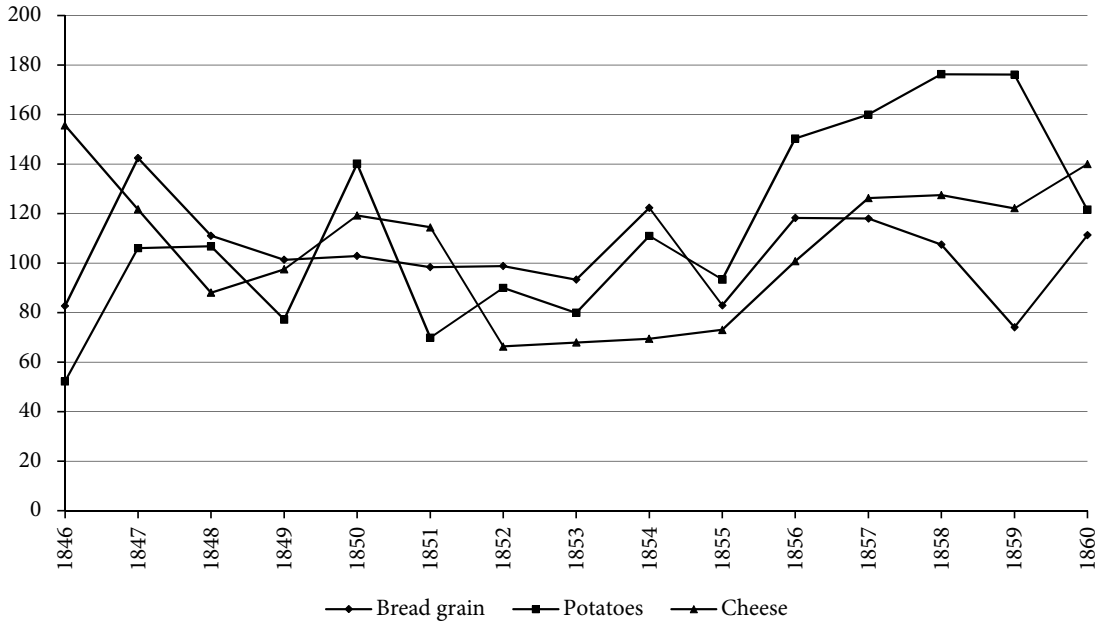


FIGURE 4: Indices of per capita food availability in Belgium, 1846–1860

Note: Average for 1850–1852 = 100.
Source: Yves Segers, *Economische groei en levensstandaard* (2003), pp. 497, 501; *Exposé de la situation du royaume, 1841–1850*; *1851–1860*.

supplies in the 1850s contrasts sharply with the crop shortages of the 1840s, starting with the severe winter of 1844–45. After the initial appearance of the blight in 1845, potato harvests in Belgium remained on average 40 to 60 per cent below pre-crisis levels from 1846 to 1850 (except the harvest of 1849). The food situation became very precarious in late 1846 and the first half of 1847. This was aggravated by poor bread grain, bean and pea harvests. Calculated in grain equivalents, the combined loss of bread grain and potato harvests in 1846 amounted to 66 per cent.[69]

The mid-1850s food crisis was not characterized by a sudden decline in the availability of food: it was the disturbance in the international grain trade that made consumer prices rise sharply. Access to food became difficult for those lacking the required purchasing power. Around the middle of the nineteenth century, about half of private expenditure went on food.[70] Among households with an income below average, this proportion was undoubtedly larger. In these circumstances, a sudden rise in food prices could wreak havoc if wages did not rise accordingly. As Scholliers' index figures (1913=100) show, nominal wages rose sharply in the 1850s, from index 40 in 1850 to 53 in 1856, but real wages stagnated or declined, from 52 in 1850

[69] Vanhaute, '"So worthy an example to Ireland"', pp. 130–1.

[70] Yves Segers, 'Economic growth and living standards. The development of consumer expenditure and food consumption in Belgium, 1800–1913', *J. European Economic Hist.* (2005), p. 521.

to between 47 and 51 from 1853 to 1855.[71] Furthermore, not all occupational groups experienced a rise in nominal wages. For example, wages in Voortman's spinning mill in Ghent stagnated.[72]

The hardship experienced in these years was revealed by the first budget survey held in Belgium in about 1854, which specifically focused on urban and rural labouring households.[73] Edouard Ducpétiaux, reporting the results from this survey, concluded that the food intake of labouring households was often deficient, both in the towns and countryside. He noted how in a large number of cases, expenditure exceeded incomes; wage levels no longer corresponded with food price levels. The resulting deficits were covered by makeshifts, public charity, debt accumulation, or they led to bankruptcies. More generally, it was not only labourers who were facing distress as a result of the recent rise in food prices but also shopkeepers, subordinate employees and even small rentiers. The main causes of this price rise, according to Ducpétiaux, were population growth and the structural production deficit, the war in the East, but also the increased consumption of grain. In response to the blight, people ate fewer potatoes and more bread and butter. That, he argued, explained why food prices in 1854 were high, despite that year's abundant harvest.[74]

(b) The incidence of food riots

High food prices amid harvests that did not seem particularly deficient triggered numerous food riots.[75] Between August and October 1853, food riots were recorded in Liège, Sint-Niklaas and Brussels. Between May and July 1855, the markets of Sint-Niklaas and Ghent were the scene of disturbances, while in September 1856 there was uproar in Ghent. In addition to these localized incidents, there was a wave of food riots in East and West Flanders and the surrounding regions from August to September 1854. Riots were reported in the cities of Tournai, Ypres, Courtrai, Menen, Lokeren, Sint-Niklaas (twice), Bruges, Brussels, Oudenaarde and Mechelen. In many cases, these incidents started at the public markets after one or more merchants were accused of driving up prices. In other instances, bakeries were looted. The timing of this wave of food riots suggests that they were a response to a perceived discrepancy between the excellent harvest that was being brought in at that time, and the persistently high level of grain prices.[76] Although food shortages were much more severe in 1846 and early 1847, collective urban food riots were exceptional.[77] In that decade, there was a marked rise in rural criminality, including trespassing, pillaging and vagrancy. By comparison with the

[71] Peter Scholliers, 'A century of real industrial wages in Belgium, 1840–1939', in Peter Scholliers and Vera Zamagni (eds), *Labour's Reward. Real wages and economic change in 19th- and 20th-century Europe* (1995), pp. 130–4.

[72] Gerda Avondts *et al.*, *Lonen in de spinnerij van het bedrijf A. Voortman – N.V. Texas, 1835–1914* (1976).

[73] The decision to make the survey was taken during the *Congrès de statistique* in Brussels in September 1853.

[74] E. Ducpétiaux, *Budgets économiques des classes ouvrières en Belgique: subsistances, salaires, population* (1855), pp. 135–57, 199, 232.

[75] On labour and other conflicts during this period, see also Julien Maréchal, *La Guerre aux Cheminées: Pollutions, peurs et conflits autour de la grande industrie chimique (Belgique, 1810–1880)* (2016), pp. 152–9.

[76] Ronsijn, 'De "laatste" voedselrellen', pp. 94–6; id., '1845–1860 : De "laatste" voedselrellen in twee kleine Oost-Vlaamse steden, Oudenaarde en Sint-Niklaas', *Congrès de Namur. Actes du 8ème Congrès de l'Association des Cercles francophones d'Histoire et d'Archéologie de Belgique et 50ème Congrès de la Fédération des Cercles d'Archéologie et d'Histoire de Belgique* (2011), pp. 356–7.

[77] Vanhaute, '"So worthy an example to Ireland"', p. 137.

1850s, the potato famine hurt rural populations much more; it instigated more small-scale, less coordinated, and less readily visible forms of social action.

(c) Natality and mortality

The impact of both food crises on births and deaths was notably different between town and countryside. In Figures 5 and 6 we make a distinction between urban and rural natality and mortality ratios. Town and countryside could only be distinguished using national data based on the official designation of municipalities, so what the graphs show are approximations. Nevertheless, they show that the overall impact of the 1840s food crisis was more drastic, and that the crisis of the 1850s hit urban areas harder than rural areas. Birth rates in the 1850s dropped below the levels of the 1840s in the towns, whereas they stayed higher in the countryside. Apart from the mortality peak in 1849 caused by cholera, urban death rates in the 1850s rose close to the level of the 1840s, whereas in the countryside hikes in death rates in the 1850s were less marked, and came later than in the towns. The rise in mortality in 1854 was also partly the result of a cholera epidemic, but this wave was relatively mild compared to 1849.[78] Both indicators of mortality and natality show that the effects of the food crisis were most evident in 1855, suggesting that the longevity of the period of expensive grain exhausted many people's resources, especially in urban settings.

(d) Poverty

Finally, the observation that, in general, urban dwellers suffered more in the 1850s price crisis is supported by data on the number of registered poor. In Figure 7 we record poverty rates in the provinces of East Flanders and Liège; both provinces have a strong urban and rural industrial sector. In East Flanders, the number of registered poor was initially higher in rural areas, but the situation reversed in the 1850s. Poverty in the towns in the 1850s exceeded the levels of the 1840s, whereas in the countryside there was only an interruption in the decline from the very high numbers of the 1840s. In Liège, registered poverty was greater in urban areas and rose in the 1850s to levels comparable to those of the 1840s. In the Liège countryside, by contrast, the impact of the food crisis of the 1850s was hardly visible.

All these indications are consistent with our claim that in Belgium, distress in the 1850s was less the result of an actual shortage of food than of high prices and concomitant problems of food distribution. In general, towns were hit harder by the food crisis of the 1850s than rural areas. Still, the food crisis did not go unnoticed in the countryside, as our demographic data also show, because there too the number of households who had no access to land was increasing. Only a small minority of farms produced sufficient surpluses to be able to benefit from high food prices. The crisis produced divergent effects, depending on the households' position in the food market. Due to higher prices, a portion of the population in towns and the countryside had great difficulty fulfilling their daily dietary needs, even though per capita food availability was not notably lower.

[78] Karel Velle, 'België en de 19de eeuw. Gevolgen van de blauwe dood', *Geschiedenis der Geneeskunde* (1997), pp. 95–105.

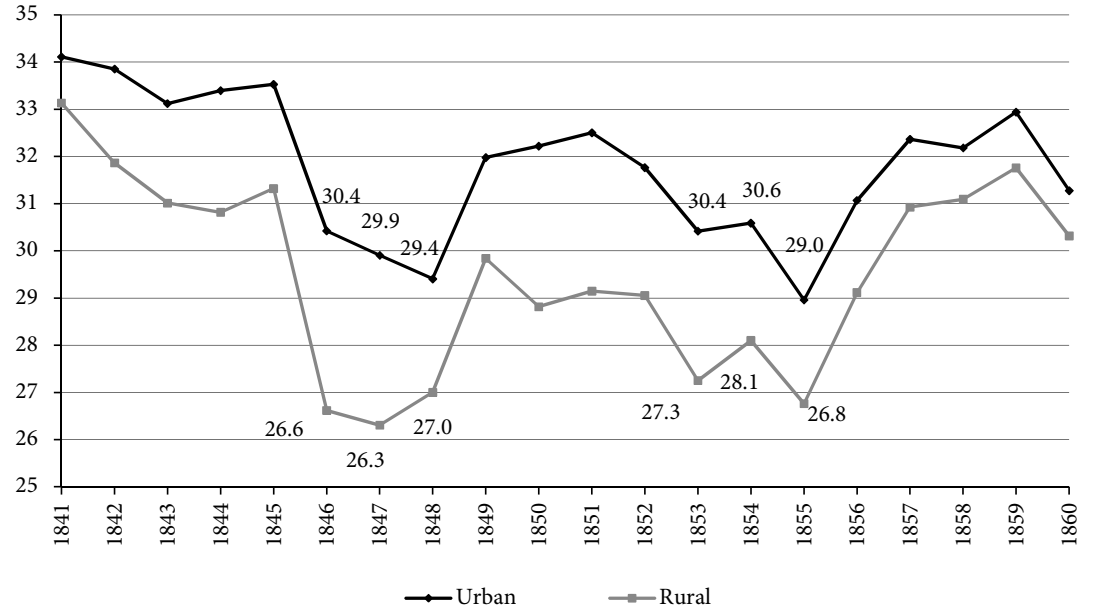


FIGURE 5: Rural and urban natality in Belgium, 1841–1860

Note: Figures show number of births per 1000 inhabitants.
Source: *Exposé de la situation du royaume, 1841–1850*; *1851–1860*.

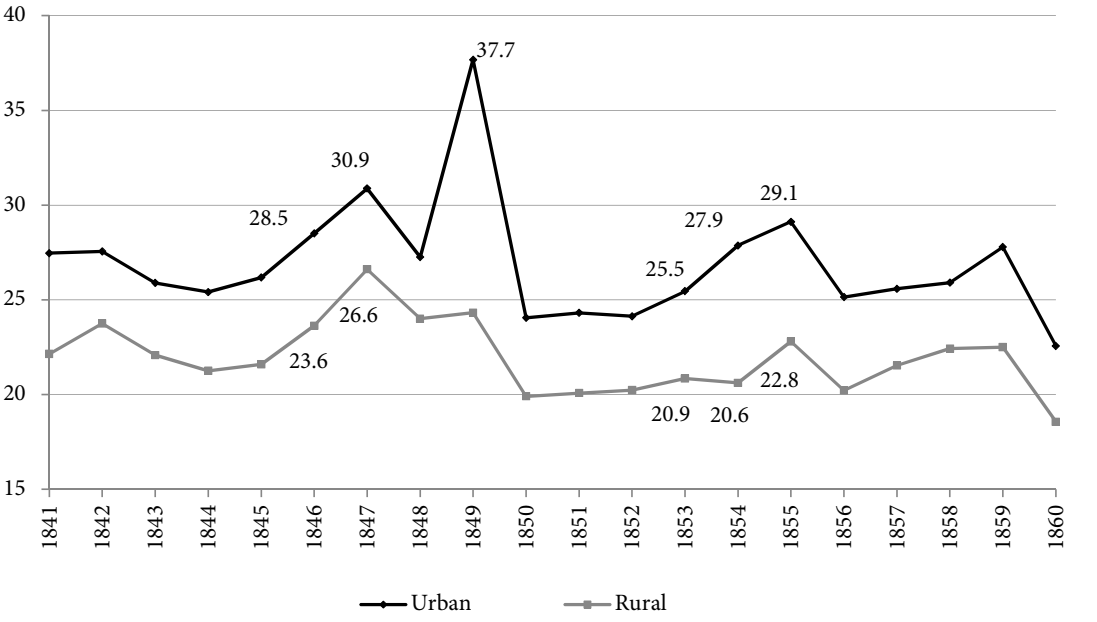


FIGURE 6: Rural and urban mortality in Belgium, 1841–1860

Note: Figures show number of deaths per 1000 inhabitants.
Source: *Exposé de la situation du royaume, 1841–1850*; *1851–1860*.

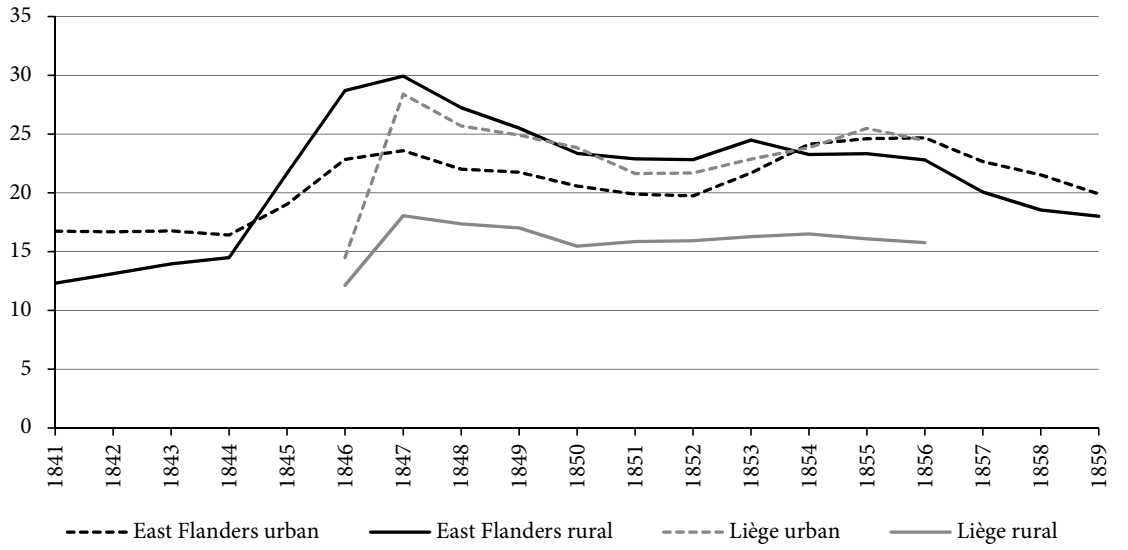


FIGURE 7: Urban and rural poverty in East Flanders and Liège, 1841–1859

Note: Data for East Flanders show the number of people per 100 inhabitants registered by the local public institutions for poor relief. Data for Liège show the number of people per 100 inhabitants receiving poor relief for 1846 according to the population census of that year, and for 1847–57 according to provincial statistics. For the province of Liège, the towns only include Liège, Verviers and Huy. In the source it is unclear if the other towns of the province are included in the rural areas. It was assumed they were not.
Source: East Flanders 1841–50: G. Jacquemyns, *Histoire de la crise économique des Flandres (1845–1850)* (1929), p. 308; East Flanders 1851–59: *Exposé de la situation de la province de la Flandre-Orientale*, 1852–1860; Liège 1846: *Population recensement général*, 1846 (Historical Database of Local and Cadastral Statistics (LOKSTAT–POPPKAD), Ghent University, Quetelet Center for Quantitative Historical Research (Henceforth LOKSTAT–POPPKAD)); Liège 1847–57: Official population numbers, 1847–1857 (LOKSTAT–POPPKAD) and Paul Servais, 'La crise des années 1845–1848 dans l'est de la Wallonie', *Histoire et Mesure*, 26 (2011), p. 185.

These findings concur with the few existing studies of the crisis of the 1850s. In comparison with 1845–47, this crisis was relatively mild in its overall effects, targeting particularly market-dependent wage earners. Therefore, it mainly hit the urban population, as Herment confirmed in his study on France.[79] As in the Netherlands, Belgium did not encounter notable deficits in bread grains.[80] If government intervention helped reduce the impact of the crisis, as Herment and Solar suggest, it was probably mainly at the local level, where institutions could strengthen people's purchasing power by providing direct support (financial or in kind) or by providing additional incomes (e.g. through public works), thereby allowing them to buy the food that was on sale. Still, it seems that central and local governments responded much more swiftly, and with a broader set of interventionist measures, to the food crisis of 1845–47.[81] This is in

[79] Herment, 'Les communautés rurales de Seine-et-Oise', pp. 206–15.

[80] Knibbe, 'De hoofdelijke beschikbaarheid', pp. 78–9.

[81] Vanhaute, "So worthy an example to Ireland", pp. 138–9, 44; Eric Vanhaute and Thijs Lambrecht, 'Famine, exchange networks and the village community. A comparative analysis of the subsistence crises of the 1740s and the 1840s in Flanders', *Continuity and Change* 26 (2011), pp. 173–5; Delfosse, *La politique agricole de l'État belge*, pp. 22–4.

sharp contrast to the hesitant behaviour of the central government in the 1850s, probably due to changing power relations at the top of Belgium's industrializing society. The problem was not the supply of food, but the cost of food. This price was increasingly perceived as the outcome and the regulator of market transactions, which should be independent from direct intervention by public authorities. This created new forms of vulnerability that could only be countered by new, more formal, regulated forms of social policies.

V

Returning to the question of why there was no crisis in the 1850s comparable to that of the 1840s, we have developed the argument that these two crises were different in character, and hence had a different impact on different groups in society. Firstly, the 1850s were not characterized by food scarcity at the aggregate level, in contrast to the 1840s. In 1845 and 1846 the potato blight struck, and there was a substantial drop in rye yields in 1846. The grain harvests of 1853 and 1855 were deficient, but not as much as that of 1846, while potato harvests were recovering from the blight. Because imports covered much of the deficit, there was not noticeably less food available in the mid-1850s compared to previous years. Prices however were high, not only because of poor harvests but also as a result of the anxiety surrounding the Crimean War, the blockade of Baltic and Black Sea ports and Russia's export prohibition on grains. Among other things, this led to elevated freight and insurance rates, and general tensions in the international grain trade throughout the time of the conflict. Prices followed unfamiliar patterns, and remained high for almost three constitutive years, from mid-1853 until late 1856. For those reasons, we call the mid-1850s a food price crisis, but not, unlike the 1840s, a famine crisis.

Secondly, the overall impact of the 1850s food price crisis was milder than that of the 1840s famine crisis, yet price hikes triggered by frictions in the international food chain impeded access to food for the market-dependent population. As we observed, urban populations suffered from increasing poverty, rising mortality and declining natality to a greater degree than populations in the countryside. These differing experiences of urban and rural populations are an indirect indication that the market-dependent population suffered most from the 1850s food price crisis. In the 1840s, distress was caused by both the lack of food and its high price; in the 1850s, the high price was the main issue. Contrary to the hungry 1840s, people in the 1850s protested in a succession of urban food riots against what they perceived to be speculation and unfair prices. Therefore, the problem was one of the distribution of food, rather than the availability of food. This echoes the famous quote of Amartya Sen, that a modern food crisis is not a matter of there not being enough food to eat, but of people not having enough food to eat.[82]

In Belgium in the 1850s, as in other regions in the North Sea area, the protracted decline of rural income and survival networks instigated new types of economic and social relations. This increased the vulnerability of large parts of the population to distortions in the international grain trade and to subsequent price volatility. This vulnerability was rooted in a combination

[82] Amartya Sen, *Poverty and famines: An essay on entitlement and deprivation* (1981), p. 1.

of two processes of rapid market expansion: food imports became increasingly indispensable to feed the population, and a fast-growing proportion of the population depended on precarious forms of wage earning to gain access to food. In turn, and in response to these developments, the food trade in Belgium became increasingly integrated in and dependent upon the global food market. Vulnerability to rising prices and worsening market conditions was not new, but the scale of its impact was. The expensive years of 1853–56 gave shape to what seems to have been one of the first major outbursts of this type of international food price crisis, not provoked by domestic harvest failures or by a breakdown of regional supply chains, but by imbalances in the emerging global food market. It affected Belgium's economic and social fabric on a national level. This new type of vulnerability also reflected new types of societal tensions. Nineteenth-century societies with growing segments of the population without their own means of production were much more reliant on, and exposed to, the vicissitudes of the market.

In the long run, Europe's 'escape from famine' after 1850 was accompanied by a massive increase in food availability, better food security, declining relative food prices and a shrinking agricultural population. The global extension of food chains and the dependence on internationalizing food markets transformed access and entitlement to food in major parts of western Europe. This transformation also came at a cost. New types of food crisis and food vulnerability affected European populations in the nineteenth century, and afflicted major parts of the world in the twentieth. Throughout history, answers to vulnerability related to access to food have been found in diversifying income and coping strategies, and in safeguarding access to resources, land and common goods. The drastic societal transformations in Europe after 1850 eroded former household and village security mechanisms and affected peasants' ability to overcome short-term economic stress (such as harvest shortages, or variations in income, or food prices from one year to the next). To deal with the new forms of vulnerability that followed from this process, in the West, new types of welfare states eventually invested in prolonged food security (access to cheap food) and social protection. In large parts of the Global South, however, vulnerability has switched from a temporary to a structural state of being over the last few decades. The global food price crisis of 2007–08 made it clear that unstable markets and price volatility now affect the food security of hundreds of millions of families, both in cities and in the countryside. In this latest crisis, rising prices were not the result of disturbances in local supply and demand; they were triggered by global market fluctuations and price settings. According to international organizations, the first twenty-first century food crisis was man-made; it was caused by 'short-run overshooting' (bad harvests, low food stocks, export bans, speculation) and long-run negative shifts (population growth, demand for animal feed, biofuel policies). New urban populations and remaining peasantries have lost the protection of direct access to food and must now rely on ever more insecure income resources. These changes affect the entitlement position to food for an unprecedented number of people.[83]

[83] A. Haroon Akram-Lodhi and Cristóbal Kay, 'Surveying the agrarian question' (parts 1 and 2), *J. Peasant Studies* 37 (2010), pp. 177–202, 255–85; Eric Vanhaute, 'From famine to food crisis: what history can teach us about local and global subsistence crises', *J. Peasant Studies* 38 (2011), pp. 47–65.

Rural crises and adjustment in an agrarian country, New Zealand, 1975 to 1990*

by Abigail Miles and John Weaver

Abstract

During the 1980s, New Zealand's primary producers experienced a crisis that derived from a combination of world-wide circumstances and previous governments' policies. Low productivity, global trade unfairness, and policy missteps thrust thousands of farmers into a debt emergency. At the moment of this crisis, a Labour Government was reorganizing the fiscal, monetary, and structural fundamentals of the entire economy with policies that increased burdens for primary producers. Within its principles of economic reform, Labour acknowledged the scale of the rural crisis, but it would not intervene to lower interest rates, return to a control of the currency, or reintroduce subsidies. Instead, it sought to guide producers to business-like practices, notwithstanding appeals that the sector was a cultural good. It devised ways to help thousands of farmers restructure debts, but expected to see a winnowing out of 'unviable' farms. Whilst there was hardship and protest, farmer representations were respectful. The sector was complex; the crisis was short-lived. Productivity gains and adjustments to more profitable products accompanied the hard-times. The crisis contributed to rural entrepreneurship, product diversification, and farm consolidation.

New Zealand has long relied on sending a limited range of primary products to a few developed industrial countries whose economic cycles have been synchronized and whose options for suppliers have been extensive. The concentration on farm, fishery, and forest remains. Today, with only 0.06 per cent of world population, New Zealand is a dairy powerhouse, accounting for 3 per cent of world production and accepting world-market prices. There are countries with big oil, big electronics, or big finance. New Zealand has big milk. The country exports about 95 per cent of its dairy production, making dairy the largest export sector (18 per cent of total goods and service exports) with leading markets in China,

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the United States, the United Arab Emirates, Australia, and Japan.[1] Dairy expansion has encountered cyclical economic hazards similar to those experienced over the long period of reliance on wool and sheep meat exports.[2]

The transition from sheep to dairy was progressing gradually when the country experienced shocks of internal and external origins in the 1970s and 1980s. This article examines those shocks and the response of both governments and farmers to cyclical as well as structural challenges. For purposes of this enquiry, it is handy that the two governments which spanned the period of adjustment had contrasting economic policies: National, led by Prime Minister Robert Muldoon (1975–84), intervened in the agrarian economy; Labour, led by David Lange (1984–90), liberalized. It was Lange's government, but it was his unflinching Finance Minister, Roger Douglas, a free-market advocate, who determined the Cabinet's economic policies. National's interventions were *ad hoc* and contradictory while Labour's liberalization practices were undeviating.

Reliance on farm exports and on manufactured imports meant that the balance of payments (BOP) current account was an important matter for a small country. From time to time, the BOP was affected by adverse terms of trade. The country was 'flotsam and jetsam on global volatility'.[3] Cyclical fluctuations challenged governments to smooth farm income. In good periods, the Reserve Bank contained liquidity arising from BOP 'surpluses' by reining in the trading banks; in downturns the Reserve Bank, Treasury Department, and independent producer boards intervened with price support mechanisms. After the United Kingdom joined the European Economic Community (EEC), structural difficulties, not just cyclical ones, challenged rural producers. The EEC's subsidization of domestic producers enabled cheap exports. Tariffs, embargos, quotas, import licensing, and outright prohibitions restricted New Zealand's access to a number of overseas markets. In 1985, the executive board of the International Monetary Fund (IMF) sympathized that 'other countries' trade barriers disadvantaged New Zealand more than in the case of virtually every other member of the fund'.[4] Twice in its first term Labour hosted commissioners from the EEC (September 1985 and April 1986). On both occasions the Cabinet boasted of its liberalization and asked, without answer, when the EEC would follow.[5]

As a traditional market for New Zealand sheep meat, wool, and a few other products, the United Kingdom took 55 per cent by value of New Zealand exports in 1960 but only 14 per cent in 1982. During 1975, the economy experienced unsustainable imbalances, externally with

[1] Kiwirail, *The Backbone, 2013* (www.kiwirail.co.nz/uploads/Publications/The Backbone-2013.pdf; Dairy Companies Association of New Zealand, *About the NZ Dairy Industry* (www.dcanz.com/about-the-nz-dairy-industry); Worldometers, *New Zealand Population* (www.worldometers.info/world-population/new-zealand-population). All accessed 15 Oct. 2017.

[2] The theme of external dependence is well-covered in Jim McAloon, 'Staples and the writing of New Zealand's economic history,' *New Zealand J. Hist.* 49, no. 2 (2015), pp. 3–22.

[3] The expression came from Opposition Finance Spokesperson, Ruth Richardson. National Library, Alexander Turnbull Library (hereafter Turnbull), Roger Douglas Papers (hereafter Douglas Papers), 90-287-20, Further Papers, Privatisation, Newztel Log: Ex-RNZ 'Good Morning NZ', 31 May 1988.

[4] AALR W5427 873 Box 1744 Record 70/5/85 Part 2, IMF Article 4 Consultations with New Zealand 1985, Executive Director, 'Executive Board Discussion of New Zealand,' to Treasury, 11 June 1985.

[5] AAFD W4646 7581 Box 52 Record 11/7/43 Part 2, Cabinet Policy Committee, Minutes, 4 Sept. 1985; AAFD W4646 7581 Box 52 Record 11/7/43 Part 3, Cabinet Policy Committee, 4 Apr. 1986.

the BOP and internally with a fiscal deficit (9 per cent of GDP) and double digit inflation. The terms of trade had suffered due to the first oil shock (1973–4). Devaluations and export incentives, plus good weather, helped the BOP briefly. However, the second oil shock (1979), National's domestic expansion of liquidity, and its fiscal outlays increased import outlays. An international recession trimmed export returns.[6]

In the early 1980s, agricultural exports accounted for about 70 per cent of export earnings with a dependency on sheep meat and wool exports; subsidies and concessions supported pastoral agriculture but the established cyclical management practices were incapable of dealing with structural changes in the world economy and new consumer tastes and standards. National's response was to increase intervention, contributing to delays in adjustments, fiscal trouble, and land speculation as farmers and investors capitalized the farm production subsidies. Promoting bulk production of meat and wool provided neither incentives for productivity gains nor for shifting to other forms of produce, though a fine climate made both feasible.

In a 1978 study of the country's economic policies, Ian McLean, former Chief Economist for the Ministry of Agriculture and Fisheries (MAF), warned that interventionist practices had failed and would continue to 'fossilise outdated patterns of economic activity'.[7] Economic performance supported his pessimism. In the ten years to 1982, the World Bank ranked New Zealand 125th out of 150 countries for economic performance.[8] Arguing that agriculture's future depended on new policies for the economy as a whole, McLean concluded that a '"more market" strategy offers the best chance of success'.[9] Low productivity, global trade unfairness, and local policy missteps set the country up for a rural crisis. McLean's position that agriculture's problems 'cannot be solved within the sector itself' foreshadowed Labour's programme of reforms which set out to reorganize the fiscal, monetary, and structural fundamentals of the entire economy.[10]

I

Production subsidies plus concessionary interest rates on farm loans had diverse origins but their expansion in the late 1970s derived from Muldoon's controlling personality. Many forms of support predated his government, but acting as his own Finance Minister, he alone was

[6] There are a number of accounts. The one cited here warned in 1982 that currency and other controls were unstainable. Muldoon rejected the advice. Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, D. L. Wilks, Governor, Reserve Bank, to Muldoon, 'External Adjustment,' [unclear date] Dec. 1982 [copy].

[7] Ian McLean, *The future for New Zealand agriculture: Economic strategies for the 1980s* (1978), pp. 13, 57.

[8] Turnbull, Douglas Papers, 86-003-142, Labour Party, Electorate Secretariat, 'Minister Comments on Key Features of Tax and Benefit Reform,' n.d. [Sept. 1985].

[9] McLean, *Future for New Zealand agriculture*, p. 57.

[10] Anthony C. Rayner and Ralph Lattimore, 'New Zealand', in Demetris Papageorgiou, Michael Michaely, and Armeane M. Choksi (eds), *Liberalising foreign trade: The experience of New Zealand, Spain, and Turkey* (1991), p. 22. Similar information appears in Paul Dalziel and Ralph Lattimore, *The New Zealand macroeconomy: A briefing on the reforms* (1996 edn), p. 106. They reject the idea that reforms resulted from a neoliberal project and instead assert that reform arose from the county's poor economic performance. Jim McAloon, *Judgements of all kinds: Economic policy making in New Zealand, 1945–1984* (2013) provides a detailed account of shifts in economic strategies, primarily as expressed in government budgets.

responsible for the Supplementary Minimum Price Scheme (SMP) that gave price assurance to producers by payments from the consolidated state revenues. Each year from 1978 the Cabinet approved minimum prices for beef, sheep meat, wool and dairy products. If international market prices did not meet these levels, publically funded top-ups went to the farmers. As it happened, falling world prices ramped up payments.[11] McLean advised against such supports, predicting that they 'produce too great quantities of those products for which world demand is relatively inelastic'.[12]

The SMP functioned in tandem with older Price Stabilisation schemes operated by the New Zealand Meat, Wool, and Dairy Boards. They too were intended to stabilize farm incomes but by a different mechanism. The Treasury and the Reserve Bank provided Producer Boards with overdraft coverage at subsidized interest rates. If the market price fell below a price set by the boards, they paid affiliated producers the set price. In years when the market price went above this set level, boards repaid the concessionary loans that had financed the top-ups in poor years. By the early 1980s, sheep and beef farmers gained most from the SMPs and price stabilization; nearly 40 per cent of their average gross income derived from the government.[13] Some farmers received almost 30 payments from various forms of support.[14]

The producer boards, which were not government agencies, originated in the 1920s as response to the fall in market prices for export produce following the boom in demand during World War I.[15] Explaining Muldoon's SMP scheme is more controversial. His biographer, Barry Gustafson, argued that Muldoon 'rejected as socially and politically unacceptable a tight monetary and fiscal policy'.[16] His introduction of SMPs, as a social and political act, could be justified as providing farmers with predictable and stable incomes. A further justification was that it compensated farmers for the high cost of manufactures resulting from protection and a controlled currency.[17] There is more to the story.

When reviewing the crisis in 1987, officials at Federated Farmers (Federation) argued that pastoral farmers had been induced to 'to develop new land and increase production for the benefit of the nation', more precisely, 'to boost exports'.[18] Treasury economist Howard Fancy offered this explanation during an IMF consultation (1988), noting that the current government (Labour) 'did not consider the balance of payments in the way that it had been in the 1970s, with the resulting range of assistance to exports'. Labour wanted neutrality among sectors

[11] AAFD W4646 7851 Box 110 Record 241/1 Part 1, Agriculture General, 1979–86, 11 May 1979, Budget Report 5040; 'Report by the GATT Secretariat,' *Trade Policy Review: New Zealand* (1990), pp. 200–1, 205–14.

[12] McLean, *Future for New Zealand agriculture*, p. 40.

[13] Neal Wallace, *When the farm gates opened: The impact of Rodgernomics on rural New Zealand* (2014), p. 33.

[14] Ibid, p. 24.

[15] Turnbull, Douglas Papers, 90-287-51, Further Papers, Flat Tax and other economic files, Douglas to Cabinet, 'Review of statutory producer boards: summary report', 13 July 1988.

[16] Barry Gustafson, *His way: A biography of Robert Muldoon* (2000), p. 274.

[17] Ibid., pp. 247–8; AALR W5427 873 Box 1743 Record 70/5/83 Part 2, IMF Article 4 Consultations with New Zealand, 1983–4, 'IMF New Zealand Consultation, 1983: Answers to Written Questions', 135; AALR W5796 873 Box 1 Record T83/2/5, Farming finance needs – rural debt, current issues, and proposals, 1986–8, Peter McKinlay to Ron Hamilton, 19 June 1987.

[18] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Alastair Bruce, Secretary, Dominion Economics Committee, Federated Farmers, to David Caygill, Minister of Trade and Industry, 27 Aug. 1987.

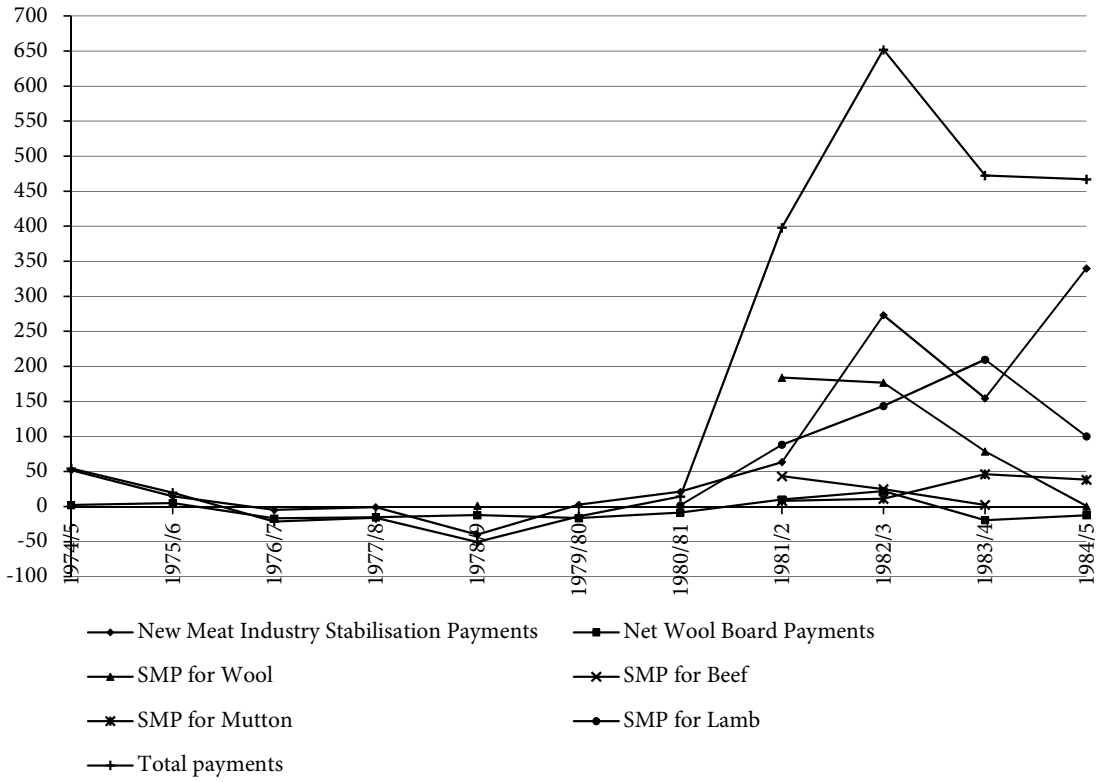


FIGURE 1: The collapse of commodity markets and the soaring price support outlays (millions of NZ dollars), 1974–1985

Source: AAFR W5796 873 Box 1 Record T83/2/1/3 Part 1 Farming Finance Needs – Case Study Material 1986–90.

'rather than favouring one of them'.[19] Whether or not Muldoon thought of the SMP as a device to improve the BOP and generate foreign currency, rural producers believed that they had had a tacit compact with his government and someday would 'once again be called on to increase production and performance to try and cover the shortfalls in overseas income'.[20]

When fiscal circumstances started to deteriorate badly in the early 1980s, Muldoon initially refused to abandon subsides and concessions, but the old and new price supports mechanisms proved unsustainable. When export markets slumped, pay-outs correspondingly soared (Figures 1 and 2). Unlike the EEC, New Zealand, along with other small open economies, had no rich manufacturing 'provinces' to carry the burden of a socio-cultural policy that privileged rural living and rewarded 'rent-seekers'.[21] Government spending exceeded the country's current

[19] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, 'Minutes of Meeting no. 2', 22 Mar. 1988, pp. 5–6.

[20] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, H. D. Nelson, Federated Farmers of New Zealand, Auckland Province, to Douglas, 24 Feb. 1986.

[21] See New Zealand Ministers meeting with EEC delegations: AAFD W4646 7581 Box 52 Record 11/7/43 Part 2, Minutes of Cabinet Policy Committee meeting, 4 Sept. 1985; Part 3, Cabinet Committee on Policy, 4 Apr. 1986. McLean, *Future for New Zealand agriculture*, p. 22.

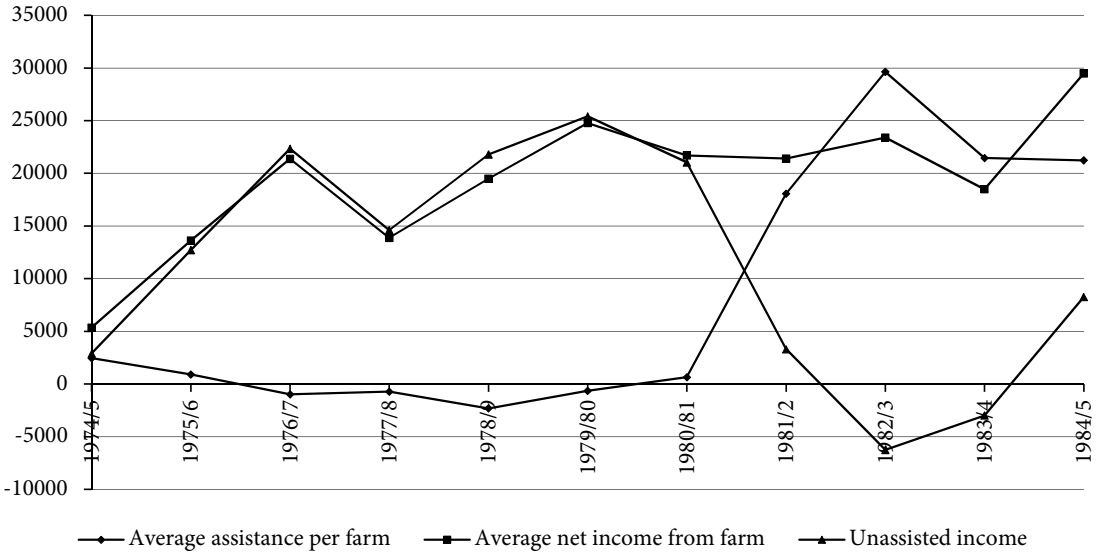


FIGURE 2: Assistance measures per farm, NZ dollars, 1974–1985

Source: AALR W5427 873 Box 970 Record 61/1/40/5 Part 1, Rural Bank Discounting Scheme, 1986–7, Parts 2, and 3, Rural Bank Discounting Scheme 1986–7, '*Rural Policy Measures Report*' [Monthly].

means and jeopardized its reputation in the financal markets.[22] In 1982 the Treasury argued that the SMP ought to be held as close to market prices as possible, otherwise there would be a budget blowout.[23] Direct payments alone rose from $52 million in 1981–82, to $241 million in 1982–83, and to $500 million in 1983–84. They fell slightly to $334 million in 1984–85.[24] Estimates of the total annual cost of all forms of assistance in the early 1980s was in the order of $1000 million.[25] Given runaway costs, Muldoon had little choice but to wind down the SMP and his government announced its intention to do this in June 1984.

In his account of economic policy making from 1945 to 1984, Jim McAloon judged price supports after 1981 as 'extravagant', a point also made by the economist Brian Easton.[26] Writing about the crisis in 1997, Easton navigated 'a complicated tale', accepting that subsidies inhibited diversification. As well, he noted that farmers were attracted to capital gains from land speculation and had an ability 'to work harder' to get out of trouble.[27] Both observations ring true. But he skimmed over Muldoon's flip-flop on the SMPs, conduct that, if studied, would have shown the distorting and destabilizing consequences of intervention. While director of

[22] A Bank of England scoring system would have given New Zealand in 1985 a rating of 14 where 10 and above was cause for a debt provisioning alert. AALR W5427 873 Box 366 Record 39/4 Part 14, Reserve Bank of New Zealand – Policy and legislation, 1989, 'Memorandum for the Monetary Policy Committee: New Zealand economic credit worthiness indicators' [Dec. 1989].

[23] AAFD W4646 7851 Box 110 Record 241/1 Part 1, Agriculture General, 1979–86, Cabinet Meeting Minutes, 14 June 1982.

[24] Wallace, *When the farm gates opened*, p. 24.

[25] Brian Easton, *In stormy seas: The post-war New Zealand economy* (1997), p. 152.

[26] McAloon, *Judgements of all kinds*, p. 196.

[27] Easton, *In stormy seas*, pp. 152–4.

the New Zealand Institute of Economic Research, Easton promoted state management. 'My gut feeling,' he wrote early in the crisis:

> is that modern economic management requires government to change expeditiously a wide range of instruments of economic management, without prior approval of parliament.[28]

Labour's liberalizations ended such aspirations and wrong-footed interventionist economists.

Efficiency, productivity gains, and diversification, the objectives of liberalization, were not Muldoon's motives in reversing direction. He was not that *au courant* with developments in Economics. Fiscal exigency forced his hand. In June 1982, public servants examining farm subsidy data warned that the fiscal burden was unsustainable and attempts to place government bonds at lower than market interest rates to dampen inflation encountered market resistance.[29] The managed economy was costly and now 'sacrifice is necessary. It becomes a choice between painful options'.[30] Muldoon bowed to realities and in June 1984 announced a phasing out of the SMP.[31] The estimated annual drop in farm income was delayed while SMPs were reduced over several years. This, coupled with the reforms of the incoming Labour government, meant that farm incomes changed violently from year to year: 1984–85 (15.8 per cent); 1985–86 (–33.4 per cent); 1986–87 (–7.4 per cent); 1987–88 (29.3 per cent); 1988–89 (40.0 per cent).[32] By early 1989, banks were starting to increase their exposure selectively to the rural sector showing that the crisis was over.[33]

Besides their fiscal burden, SMPs attracted the enmity of trading partners, weakened the incentive to increase efficiency, obscured the cost structure of pastoral farming, and sent incorrect price signals to producers.[34] In reply to questioning from the IMF in 1982, officials conceded that subsides 'may be distorting investment patterns'.[35] We will consider later whether the end of subsidies helped redirect farm resources and precipitated productivity gains.

[28] University of Canterbury, Macmillan-Brown Library (henceforth Macmillan-Brown Library) Geoffrey Palmer Papers, Acc. 142, Reference Number 87410, Economy – Speech Notes, Brian Easton to Palmer, 22 Aug. 1983.

[29] See correspondence and minutes in AALR W5427 873 Box 951 Record 61/1/10/8 Part 3, Tendering of government securities, 1983–4.

[30] AATJ W3566 7428 Box 1267 Record 79/2/4 Part 1, Economics – price indices and prices – inflation, E. A. Woodfield to The Minister of Overseas Trade, 'Effect of inflation on New Zealand's exports', 16 June 1982, Appendix, pp. 1–2.

[31] ABJZ W4644 869 Box 184 Record 47/1/0 Part 2, Government statement of rural policy, 2 July 1986; AAFD W4646 7851 Box 110 Record 241/1 Part 1, Agriculture, General, 1979–86, Cabinet Meeting Minutes, 14 June 1982.

[32] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, IMF, European Department with Consultation with other Departments, Approved by P. de Fontenay and Thomas Leddy, *1989 Staff Report on Interim Article IV Consultation Discussions*, p. 28.

[33] Turnbull, Douglas Papers, 90-342-2, Further Papers, Interest Rates, Jim Macaulay, Chairman New Zealand Bankers Association, 'Interest Rates: An Address to the Waikato Division of the Federated Farmers', 4 May 1989.

[34] Turnbull, Douglas Papers, 90-342-6, Further Papers, Ibis Group, *New Zealand agricultural industry into the 1990s and beyond* (Sept. 1988), pp. 2–5,15–18.

[35] AALR W5427 873 Box 1742 Record 70/5/82 Part 1, IMF Article 4 Consultations with New Zealand, 1982, IMF 'New Zealand Consultation, 1982: Answers to IMF Questions', p. 49.

II

When David Lange secured the parliamentary Labour Party's leadership in early 1983, he and his supporters backed the liberalizing ideas of Roger Douglas. In his 1980 call for reform, *There's got to be a better way*, Douglas described subsidies as 'sheer economic madness', a source of 'complacency', 'a national pastime', and tantamount to promising 'free sex'.[36] Even without the fiscal cost, the odds are that Labour would have ended subsidies since Douglas wanted to increase efficiency and individual productivity to strengthen the rural sector's ability to compete internationally.[37] After it was elected in July 1984, Labour set out to end all manner of state intervention.

Labour's principles in pursuit of restructuring were hard on many famers. First, efficiency in finance, production, and transport was the stated means for henceforth competing in world markets.[38] In agriculture, there was too much invested in land and not enough in innovation. Peter McKinlay, a Treasury Department official at the 'Agriculture desk' during the crisis, reported that 'asset values were out of kilter with the productive potential of the land and too much help would only exacerbate that'.[39] Labour's second rule was debt reduction. Muldoon had started to run down the SMPs, but Labour eliminated numerous lesser subsidies, in part for fiscal reasons. When Labour embarked on selling state assets in 1987–88 to assist with debt reduction, the farmer-friendly Rural Bank and Finance Corporation (RBFC) appeared on the list. Third, the government had rejected the introduction of farm rescue packages and relied on welfare programmes available to all citizens. To qualify, farmers had to report their assets and leave the land.[40] Social welfare rules supplemented the government's intention to let the crisis sort out overcapacity and inefficiency. It accepted that some farmers would have to leave production. Fourth, except for one interlude that Cabinet regretted (in 1985–86), Labour tightened liquidity. It kept interest rates high to combat inflation, and fully funded the deficit by bond sales rather than permitting inflationary injections from the Reserve Bank. All Labour's actions in the crisis had to agree with these priorities. It received important encouragement. After a site visit in April 1985, an IMF team praised the government for 'a courageous and enlightened course,' but warned that the policies 'will certainly bring short-term costs. Benefits will only become apparent later, so patience as well as firmness will be needed'.[41] That accorded with the fifth rule. There would be no softening.

There were modest steps to help farmers without sacrificing principles. Many exporters had problems handling the strength of the New Zealand dollar after it had been floated in March 1985. A survey of producers revealed that 'over half had taken no measures to manage the

[36] Roger Douglas, *There's got to be a better way: A practical ABC to solving New Zealand's major problems* (1980), pp. 12, 32, 48, 61–3.

[37] Ibid., pp. 18–20.

[38] Turnbull, Douglas Papers, 86-003-142, Labour Party, Electorate Secretariat, Philip Woollaston, Secretary, Policy Council, 'Agriculture and Horticulture', *Notes to the Remits 1985*, pp. 29–30.

[39] Turnbull, Douglas Papers, 87-121-144, Farm Package, Douglas's Notes on a meeting with McKinlay, n.d. [July 1986].

[40] University of Otago, Hocken Library (henceforth Hocken Library), Stan Rodger Papers, 87/137, Ann Hercus, Minister of Social Welfare, to all Labour MPs, 19 June 1986.

[41] AALR W5427 873 Box 1744 Record 70/5/85 Part 2, IMF Article 4 Consultations with New Zealand 1985, Executive Director, IMF, to Treasury, 25 Nov. 1985.

exchange risk in their business'. Consequently, the government arranged for Treasury and Reserve Bank officials to hold regional seminars on managing the strong dollar by forward exchange contracts.[42] To assist with farm exports, it engaged five of Japan's top import buyers to conduct seminars.[43] In keeping with liberalization measures, Labour decentralized the management of ports, bringing 'manning levels down to international levels'.[44] At the urging of sheep farmers, Douglas promoted the export of live sheep to develop new markets in Islamic countries and encourage 'the drive toward cost efficiency in the processing industry'.[45] He encouraged producer boards to convert themselves into shareholder corporations which could raise private capital and hire specialists in marketing and finance. 'This is a specialist age', he wrote. Export producers needed top-notch assistance and in his estimation it would not come from boards which lacked shareholder pressure to perform.[46]

By far the most substantial assistance attended the mortgage crisis. Warnings intimated the scope of trouble and showed how a fall in land prices jeopardized farm working capital. A New Zealand Treasury study prepared for the IMF visit in 1985, mentioned that there was clear evidence that the price of land had been declining prior to the July 1984 election and, as agricultural assistance is reduced, 'then the price of capital assets in which the assistance is embodied will also decline'.[47] A MAF report in December 1985, estimated that 5 to 10 per cent of the country's approximately 82,000 farms faced trouble. Three months later a study reckoned that 1750 farmers were at 'severe risk' and 6590 'at risk'.[48] A farmer at 'severe risk' had less than 20 per cent equity; 'at risk' farmers had 65–85 per cent equity. As property values fell, the principal owing remained; farmers' equity carried the loss of falling property values.[49] Farmers at 'severe risk' could not realize enough from a forced sale to meet their mortgage principal and it followed that they lacked sufficient equity to stake as collateral for operating loans. When prudent lenders realized the risk, they stopped overdraft coverage and denied seasonal operating loans. As early as 1980, the South Island's Stock and Station Agents Association, worried about mounting overdrafts, unsuccessfully lobbied Muldoon for a new programme of concessionary finance to assist sheep-meat producers.[50]

Labour's course for restructuring the entire economy and reducing the fiscal debt was not entirely straightforward. Initially (1984–85), the government increased the fiscal debt due

[42] Hocken Library, Rodger Papers, 87/41, Box 3, Overseas Trade, Mike Moore, Minister of Overseas Trade, to all Labour MPs, 16 Sept. 1985.

[43] Hocken Library, Rodger Papers, 87/41, Box 3, Overseas Trade, 'Japanese experts to advise New Zealand companies', n.d. [late 1985].

[44] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, Minutes of meeting on general economic strategy and structural reforms, 4 Apr. 1989, p. 2; Wallace, *When the farm gates opened*, p. 144.

[45] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Douglas to R. J. Philip, Secretary, Palmerston Federated Farmers, 24 Nov. 1986; Wallace, *When the farm gates opened*, p. 99.

[46] Turnbull, Douglas Papers, 90-287-51, Further Papers, Flat Tax and other economic files, Douglas to Cabinet, 'Review of statutory producer boards: summary report', 13 July 1988.

[47] AALR W5427 873 Box 1744 Record 70/5/85 Part 2, IMF Article 4 Consultations with New Zealand 1985, 'Agriculture sector response to devaluation and other policy changes', p. 2.

[48] AAFH W4160 Box 27 Record 100/3/9 Part 1, Social Impact Unit – SOE rural package, Minister of Agriculture Memorandum to Prime Minister and Minister of Finance, 23 May 1986.

[49] Ibid.

[50] Turnbull Library, Roderick Deane Papers, 2004-159-03/2 Monetary Policy, Roderick Deane, 'File Note: Farm Finance', 27 May 1980.

to public-sector wage and benefit increases that responded to the distorted economy of the preceding government's wage, price, and interest rate freeze with its 'concealed inflation that had then worked through into prices'.[51] The real policy drivers, those that took precedence after the first year, were fiscal adjustments (spending restraints; broadening the revenue base), combating inflation by freeing interest rates to rise to market levels, and ending regulations and supports. Interest rate increases were hard on rural producers and compensatory moves to reduce barriers to imports and liberalize labour markets were slow in coming.

Labour was led by non-socialist professionals who wanted a 'modern centre party'.[52] The caucus included more university graduates and fewer trade unionists than would have been thinkable a decade earlier; it had no country voter base outside mining and forestry towns. One of Douglas' guiding ideas was the cultivation of business investment, a goal that translated into a rapid deregulation of finance and a gradual removal of protection (import licensing and tariffs) for manufacturing. Douglas wanted a rapid reduction in tariffs, in fact a rapid everything, but negotiations with manufacturers stalled, and finally produced a so-called Swiss formula: larger reductions of high tariffs and major changes early. Tariffs were to be reduced in five steps over four years; import licences were to be abolished on 1 July 1988.[53] Manufacturers claimed they needed time due to a slowness of liberalization in Australia.[54] How profoundly disabling this retention of protection was for farmers is uncertain, because farm inputs had relatively low import content in New Zealand (20–25 per cent).[55] Some in the farm sector suspected that 'frontier protection' for manufacturers allowed favoured industrial employers to agree to high wage settlements that fed through the economy to the detriment of rural producers.[56]

In a 1991 study for the World Bank, Rayner and Lattimore praised the government's drive for economic restructuring, but criticized the swift removal of subsidies in the agricultural sector. In their assessment, the timing and depth of reforms were 'significantly greater than need have been the case'.[57] They would have preferred a gradual removal of subsidies and interest rate concessions. But these were factors contributing to the distortion in land prices. As well, they favoured a faster liberalization of factor costs such as easing import restrictions and tariffs on equipment and promoting flexibility in labour relations. These concerns were well known; however, the government determined not to alter policies for the sake of the farm sector if such bending violated its restructuring principles.

[51] AALR W5427 873 Box 1743 Record 70/5/83 Part 2, IMF Article 4 Consultations with New Zealand 1983–4, IMF, 'New Zealand: Staff Report', 3 Feb. 1984, p. 4; AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, 'General economic strategy and issues', 18 Mar. 1988.

[52] Mike Moore, *Hard Labour* (1987), p. 20; Wallace, *When the farm gates opened*, pp. 50–1.

[53] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, IMF, 'New Zealand: Staff Report for the 1988 Article IV Consultation', 25 May 1988.

[54] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, 'Minutes of Meeting', 25 Mar. 1988.

[55] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, IMF, 'New Zealand: Staff Report for the 1988 Article IV Consultation', 25 May 1988, p. 13.

[56] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Peter Elworthy, President, Federated Farmers, to Douglas, 23 Oct. 1986.

[57] Rayner and Lattimore, 'New Zealand', p. 99.

III

At the annual consultations with the International Monetary Fund (IMF) in 1988, a Treasury official remarked that a 'relative bias against agriculture has deceased over 1987'.[58] The comment draws attention to policies that added to the burden on farmers, but mention of change was also an acknowledgment of Labour's 'soft' help for producers and its farm refinance scheme. For the moment, the burdens on producers and their lobbying for relief deserve attention. In respect to farming, Labour withdrew a farrago of subsidies. Douglas's first budget (November 1984) eliminated nearly thirty forms of support plus export incentives and tax concessions.[59] The government invoked a user-pay approach to state run farm-services including meat inspection, animal health examination, and farm advisory services.[60] It ended concessionary interest rates on farm mortgages and floated the dollar (March 1985). The exchange rate promptly 'overshot the equilibrium,' a common but not enduring experience when central banks float.[61] Exporters and interventionist economists who favoured a controlled dollar considered it 'over-valued'.[62] For a while, it was over-valued and that created difficulties for produce exporters.[63]

Complaints about the sequence in which changes were introduced were elaborated in letters to the government from rural families. They figured too in briefs prepared on behalf of producer lobbies, and in resolutions passed at farmers' meetings.[64] As the architect of economic restructuring, Douglas received and answered complaints from rural families. A letter from Ann Jarman of rural South Canterbury indicates both rural respect and attention to policy. 'Mr Douglas,' she wrote 'while your Government's budget has hit farmers hard, we can see the reason and fairness in it provided you deliver the same medicine to manufacturers and other sectors of the economy'.[65] The Federation's executive accepted the end of subsidies, but like Ann Jarman complained about interest rates, import controls, tariffs, high exchange rates, and labour relations.[66] They wanted to retain as many farmers as possible during what they

[58] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–88, Minutes of Meeting, 'Balance of Payments and Competitiveness', 24 Mar. 1988, p. 3.

[59] Federated Farmers, *Life after Subsidies* (2005).

[60] AALR W5796 873 Box 1 Record T83/2/5, Farming finance needs – rural debt current issues and proposals, 1986–8, Peter McKinlay [henceforth McKinlay] to Ron Hamilton 19 June 1987.

[61] AALR W5427 873 Box 986 61/9/5/7 Part 1, Balance of payments: invisibles, services, and transfer forecasts (ex. trade,) 1984–90, Roger Greville to Treasury Staff, 'The government and the current account', 5 July 1991, pp. 1–27.

[62] Robert A. Buckle, 'Sequencing and the role of the Foreign Exchange Market', in Alan Bollard and Robert Buckle (eds), *Economic liberalisation in New Zealand* (1987), pp. 236–60.

[63] On the benefits of the float to the fiscal conditions see Carl Walsh, 'Financial deregulation and monetary policy in New Zealand', in H.-S. Cheng (ed.), *Monetary policy in Pacific Basin countries* (1988), pp. 279–97.

[64] AALR W5427 873 Box 1011 Record 61/14/1 Part 5, Monetary policy general (general monetary) 1989, David Shepherd, Jan Whitehall, Allan Catt, Paul Frater, Kel Sanderson, Bryan Philpott, and Sue Bingham, 'The recent conduct of monetary policy in New Zealand: The theory and evidence' (prepared at the request of New Zealand Manufacturers' Federation, July 1989).

[65] AALR W5427 873 Box 1462 Record 62/60/5 Part 38, Expenditure – Electricity Division of Ministry of Energy 1984–5, Ann Jarman to Roger Douglas, 27 Nov. 1984.

[66] Hocken Library, Rodger Papers, 87/41, Box 1, Agriculture, Peter Elworthy, President, Federated Farmers, to Rodger, 5 Dec. 1985; Stuart Green, 'Public Meeting at Stratford', to Rodger, 13 Nov. 1985; AALR W5796 873 Box 1 Record T83/2/5, Farming finance needs – rural

perfectly understood was 'this restructuring period for agriculture'.[67] In a brief prepared for the Dairy Board, the interventionist economist Bryan Philpott suggested that the government could run a 'dirty float', intervening to drive down the dollar to help exporters. Without some remedial steps, he insisted, there would be 'irreparable damage to the primary producers'.[68] No irreparable disaster materialized.

These criticisms emphasized that as the sequence of reforms unfolded it required rural producers to shoulder an unfair load during an economy-wide restructuring. At the tail-end of the crisis, there were private acknowledgements of the imbalance by Douglas and the Secretary of Treasury Graham Scott. Worried that Labour, in its expenditure-cutting drive, might have made it too easy for a later government to change social welfare benefits, Douglas remarked that a such a government 'could do to those people what we did to farming'.[69] Scott mused at a meeting with IMF consultants that an economic slowdown in 1987–88 might have been aggravated by an 'imbalance between adjustment pressures on the exposed and protected sectors'.[70] Concerns about the sequence of reforms were valid and quietly conceded, but they should not escape review in context. The claim of irreparable damage proved erroneous; the crisis was short and more farms came through than had been predicted. It produced overdue adjustments.

Furthermore, the crisis not only involved production costs and export woes. Land speculation expressed the capitalization of subsidies and below-market interest rates. Inflation added to the demand for farm land, which was presumed to be a wealth-holding asset. Poor rates of return in current farm income had recently been offset by tax-free capital gains from land sales. Land prices had nearly doubled in the early 1980s. Curious about who was being affected by the crisis, the Federation found one region (east of Dannevirke) where, indicative of speculation, thirty farms had been sold since 1979.[71] The country had a high capital to labour ratio, not because of technology but 'on the valuation placed on agricultural land, which forms by far the greatest capital stock of this sector'.[72] There were long- and short-term consequences of misplaced investment. Long-term, the country's low trend growth rate suggested a diversion of investment away from productive efficiency. Short-term, from 1980 to 1988, there was a sharp

Note 66 *continued*
debt, current issues, and proposals, 1986–8, McKinlay, File Note: Meeting with Brian Chamberlain, Rob McLagan, and Owen Symmens, 5 Aug. 1987; Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Brian Chamberlain, President, Federated Farmers, to David Caygill, Minister of Trade and Industry, 24 Nov. 1987; same file, Federated Farmers, *The case for tariff reform* (1987).

[67] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Tim Dodd, Federated Farmers to Colin Moyle, Minister of Agriculture, 1 May 1987.

[68] AALR W5427 873 Box 1011 Record 61/14/1 Part 3, Monetary policy research (general monetary), 1986–7, Bryan Philpott, 'Management of the floating exchange rate: Paper prepared for the New Zealand Dairy Board' (10 July 1986), pp. 14–23. As interventionist see Macmillan-Brown Library, Palmer Papers, Acc. 142, Reference Code 87364, Economy and discussion of Labour Party, Bryan Philpott, 'Appropriate economic policy for New Zealand', Mar. 1980.

[69] Turnbull Library, Douglas Papers, 90-287-51, Further Papers, Flat Tax and other economic files, 'Timetable of Events', n.d. [Feb. 1988].

[70] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, 'Minutes of Informal meeting with Graham Scott, Secretary to the Treasury', 18 Mar. 1988.

[71] Hocken Library, Rodger Papers, 87/41, Box 1, Agriculture, Federated Farmers, 'Open letter to all members of parliament', 24 Sept. 1985.

[72] Rayner and Lattimore, 'New Zealand', p. 26.

fall in rural land prices by nearly twenty per cent; for both grazing and finishing farms it was over thirty per cent.[73] Addressing this erosion of farm equity, Labour reversed its 'bias' during 1986–87 and reacted vigorously to the land market and farm credit crisis, albeit it would not retreat from its principles.

The representations by protesting farmers were civil. There may have been threatening assemblies when foreclosures on specific properties were expected. However, the diversity of farmers with respect to their main commodity, their equity, their access to additional family income, and their inter-generational assets precluded formidable protest.[74] The Federation and government collaborated on remedies for the immediate farm debt crisis and the Federation talked down protest demonstrations. In 1989, after the worst of the crisis, consultants from the IMF were astonished that so few farmers had exited and assumed that many had determined 'to tough it out'.[75] Labour was fortunate that producers were by and large civil and resilient. Ministers did their best to listen and reply, although they were never going to deviate from the restructuring agenda.

For Douglas, who carried the Cabinet with him on economy-wide restructuring, interventions were habits of the past that had to be shed and backing off would give impressions that restructuring was being abandoned.[76] He intended nothing less than a cultural revolution. Entrepreneurs required confidence that policies were consistently directed toward ensuring a stable financial position and that 'invitation to capital', hopefully, would bring investment and employment opportunities. The OECD and IMF supported Douglas' determination to avoid fiscal expansion and loose credit, but IMF consultants also recognized that the pace and processes of restructuring had varied widely and that 'the first and most affected has been the export sector, especially agriculture'.[77]

Labour could not deliver on the full set of labour reforms sought by the Federation and lobbyists.[78] The party's historic roots, Left elements in the party organization, and labour union opposition prevented the government from taking wage-fixing completely out of an arbitration system and into the mainstream of the Western world which had long 'centred on the notion of free collective bargaining'.[79] Cabinet could eliminate subsidies and user-pay measures by strokes of the pen through Orders-in-Council; however, ministers and public

[73] Turnbull, Douglas Papers, 90-342-6, Further Papers, 'Agricultural Land Prices', in *New Zealand agricultural industry into the 1990s and beyond*, pp. 32–4; Meat and Wool Boards' Economic Service, 'Land Values', *Annual review of the New Zealand sheep and beef industry* (1989), p. 41.

[74] Wallace, *When the farm gates opened*, pp. 60–1.

[75] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, 'Minutes of meeting on general economic strategy and structural reforms', 4 Apr. 1989, p. 2.

[76] AALR W5427 873 Box 1746 Record 70/5/89 IMF Consultations 1989, IMF, 'Minutes of meeting on general economic strategy and structural reforms', 4 Apr. 1989.

[77] AALR W5427 873 Box 1745 Record 70/5/88 Part 1, IMF Article 4 Consultations with New Zealand, 1987–8, IMF, 'New Zealand: Staff Report for the 1988 Article IV consultation', 25 May 1988, p. 13.

[78] AANK W3580 947 Box 733 Record 61/4/20 Part 1, Industrial Relations – Policy – Review of industrial legislation (Green Paper), 'Memorandum for Cabinet Policy Committee: Viability of farming', 30 Oct. 1985; Hocken Library, Rodger Papers, 87/41, Agriculture, Peter Elworthy, President, Federated Farmers, to Rodger, 5 Dec. 1985; Stuart Green to Rodger, 13 Nov. 1985, reporting on public meeting at Stratford.

[79] Rob Campbell and Alf Kirk, *After the freeze: New Zealand unions in the economy* (1983), p. 49.

servants consulted the public before reforming the labour relations regime. Douglas was about as impatient with the labour-relations reform process as the farm lobbyists. Discreet with his assessments, appropriate for a Minister of Finance, he complained only to colleagues about the absence of even-handedness, about government foot-dragging when the heat came on. He was worried about the backlash from farmers.[80]

For fiscal reasons, wholesale taxes on imports more or less remained in place while the government prepared proposals for a Goods and Services Tax.[81] As for tariff protection, Labour was slow to negotiate with manufacturers and only began reducing protective tariffs in October 1987. The notion of a dirty float or any other currency play was pure fantasy. Prior currency management had been accomplished at a fiscal cost. The issue had been studied from all angles.[82] There would be no reversal or surreptitious intervention. The Labour Cabinet was not about to compromise the drive to earn New Zealand a reputation for transparency and reliability in world financial markets. All of this was cold comfort for farmers who felt they deserved reductions in costs to balance the precipitate loss of subsidies and supports. Trade union officials' resistance to changes in industrial relations, the government's determination to stick to a tight monetary policy, its objective of national economic efficiency, and its concern with the debt, left rural representations at the back of a queue. State intervention, moreover, was suspect since there was an institutional example of its failings in the countryside, namely the Rural Bank and Finance Corporation.

IV

The Rural Bank and Finance Corporation (RBFC) was a source of distortions that illustrate a downside to state financial institutions assigned a social mission. The attitude is traceable to 1894 when the Government Advances to Settlers Act of that year established an office that lent public funds to settle landless farmers on their own properties. The agency went through successive reorganizations, becoming the State Advances Office (1909), the State Advances Corporation (1936), and finally the RBFC (1974). Since 1960s the agency had the further goal of increasing farm production, although into the early 1980s, RBFC promotional material cited young farmers as prime candidates for loans.[83] RBFC employees were not bankers but farmers' friends, a role that eroded its aptitude for sizing up the credit risk of potential borrowers. A tacit guarantee of the bank's bonds by the government meant that it escaped pressure to perform for depositors and bondholders.

The RBFC's longstanding duty was to lend public money at below market rates to help farm labourers, tenants, and farmers' sons to purchase properties. Hard-nosed credit reviews were at

[80] Turnbull, Douglas Papers, 90-287-31, Further Papers, Handwritten Note, n.d. [Dec. 1986].

[81] John Weaver, "'Deep in the heart of taxes': Fourth Labour, the GST, and fiscal reconstruction, 1981–1986,' *New Zealand J. Hist.* 49 no. 2 (2015), pp. 44–80.

[82] Turnbull, Douglas Papers, 90-287-31 Further Papers, Bernard Galvin, Secretary to the Treasury, 'The exchange rate and the foreign exchange market', to Douglas, 12 Dec. 1984; Spencer Russell, Governor, Reserve Bank of New Zealand, 'Exchange rate regime', to Douglas, 7 Dec. 1984.

[83] ABPY W4596 Box 1, The Rural Bank – Profile – Past and Present, 1983, *The Rural Bank: Profile Past and Present* (n.p. 1983), pp. 2–6; ABJZ W4644 869 Box 184 Record 47/1/0 Part 2, Government statement of rural policy, 2 July 1986.

odds with a national purpose of multiplying and nurturing farmer-owned properties. Another agency, the Marginal Lands Board in the Department of Lands and Surveys, provided loans for improvements deemed too risky for even the RBFC.[84] Lands held by Māori were eligible for improvement funding at concessionary interest rates through another programme. For a small country, the accumulated sums lent by the time of the crisis in 1985 were substantial: RBFC, $2451 million; Lands and Surveys, $231 million; the Department of Maori Affairs, $62 million.[85] A few subsidized farms in the Māori region of East Cape had never been viable during fifty years of support.[86]

These concessionary loans had social and political rather than economic objectives. In lending relationships, there is a promise of reimbursement but an asymmetry of information since lenders have to investigate to establish the quality of that promise. Furthermore, in periods when interest rates are high, as they were during most of the 1980s, 'the pool of applicants becomes riskier' and 'borrowers have an incentive to use borrowed funds in ways that increase their return but are not in the interest of the bank'.[87] New Zealand's rural land speculation, a rising market blessed with concessionary loans, exemplified the distortion. Determining land value for collateral and appraising the risks associated with a borrower's use of a loan were well-known problems dealt with in commercial banking, but disregarded at RBFC. As a state-owned operation with social and political objectives, it lacked the conventional banking incentives to act prudently. Concessionary lending ignored the problem of imperfect information.

From 1974 to 1983, loans totalling $730 million helped settle 10,000 farmers on their own farms. An additional $760 million was lent to assist 40,000 farmers through various farm development programmes administered by the RBFC, including the Livestock Incentive Scheme (1977, which encouraged farmers to carry more stock) and Land Development Encouragement Loans (1978, which advanced subsidized loans to develop unproductive land).[88] The RBFC dominated the farm credit industry, holding a 40 per cent share of farm loans by 1984.[89] Numerous farmers answered the government's call to expand production by buying more land, investing to improve marginal land, and taking on more debt than they would have without below-market finance and subsidies.[90] Urban investors joined in. The props contributed to the rising land prices. Prices started to tumble in mid-1984, reacting to the global fall in commodity prices and demise of the SMP.

[84] AAFD W4646 7581 Box 75 Record 55/65 Part 2, Government Departments – Rural Banking and Finance 1983–9, David Thomson, Minister of State Services, to Chairman, Cabinet Committee on Expenditures, n.d. [June 1983].

[85] ABJZ W4644 869 Box 184 Record 47/1/0 Part 1, Rural lending under section 331/54 – policy and general – rural debt restructuring package, 1986–7, Graham Scott for Secretary to the Treasury to the Minister of Finance, 'Government lending to the farming sector: restructuring proposals', 23 May 1986.

[86] ABJZ W4644 869 Box 184 Record 47/1/0 Part 1, Rural lending under section 331/54 – policy and general – rural debt restructuring package, 1986–7, A. R. Mudford, Regional Manager, Rural Bank, to Miss M. G. Young, Department of Maori Affairs, 19 May 1987; Mrs M. E. Tinkler for Director Hamilton Region, Rural Bank, to Head Office, 'Rural debt restructuring: discounting', 21 Aug. 1987.

[87] Louis Phlips, *The economics of imperfect information* (1988), p. 143.

[88] Ibid.

[89] Wallace, *When the farm gates opened*, p. 20.

[90] Michael Bassett, *The state in New Zealand, 1840–1984: Socialism without doctrines* (1998), p. 353.

Concessionary lending rates contributed to another distortion. The RBFC's farm-purchase-enabling activities crowded out mortgage lending by the country's four commercial banks. They shied away from this line of rural business, but offered overdraft coverage and seasonal operating loans. Due to the specialized nature of pastoral farming on the South Island, its graziers continued to be served by specialists, namely the Australian Mutual and Provident (AMP), the state-owned Bank of New Zealand (BNZ), and the stock and station agencies Wrightson-NMA (National Mortgage Agency) and Dalgety-Crown.[91] The stock and station agents knew their clients well; imperfect information was less of a problem for them.

The RBFC's crowding-out had reduced the exposure of private-sector lenders to poor credit risks. Executives from these institutions believed that they had to urge only 5 to 10 per cent of farm clients to leave the business. The great remainder could adjust during the crisis because 'farming [by these borrowers] overall has been lowly geared so that even with a significant write-down from peak values, most farm businesses will still have a favourable debt to equity ratio'.[92] The core crisis was concentrated among RBFC's clients. Understandably, ministers with economic portfolios had misgivings about the quality of the RBFC's banking judgement, yet had no choice but to enlist it to ameliorate the crisis. It had the lion's share of risky accounts and occupied regional offices that could accommodate debt conferences.

V

In November 1985, the Treasury circulated a paper that described a debt discounting scheme that enlisted the RBFC. Employees would have to turn from overlooking risk toward stressing it. Only debtors dealing with the RBFC were eligible for the discounting solution, because the government could tell this institution what to do. Ministers hoped that news of RBFC's debt adjustments would spread, embarrassing private-sector institutions into announcing their own debt relief schemes.[93]

The Treasury's scheme proposed that the principal on farmers' debts should be discounted to increase their equity. In keeping with the government's set of principles, debtors would receive no grants to reduce the principal owing on their mortgage. There was to be no nurturing of moral hazard. Debtors had to agree to pay back the amount owing; however, this would be achieved by accepting an increase in interest rates from the comparatively low concessionary ones to current market rates. During the current period of serious inflation, interest could advance from 11 per cent to the market rate of 20 per cent.[94] Interest payments increased,

[91] AAFD W4646 7581 Box 110 Record 241/1 Part 1, Agriculture – general, 1979–86, Secretary to the Treasury to Minister of Finance and Minister of Agriculture, 'Memo: Supplementary Minimum Price', 11 May 1979; AAFD W4646 7581 Box 90 Record 103/1 Part 5, Economic policy – general, 1985–8, Douglas, Minister of Finance, and Moyle, Minister of Agriculture, 'Farm debt: institutional approach to debt management', 9 Dec. 1985.

[92] AAFD W4646 7581 Box 90 Record 103/1 Part 5, Economic policy – general, 1985–8, Douglas, Minister of Finance, and Moyle, Minister of Agriculture, 'Farm debt: institutional approach to debt management', 9 Dec. 1985.

[93] AALR W5427 87 Box 970 Record 61/1/40/5 Part 1, Rural Bank discounting scheme, 1986–7, Treasury Memorandum to Minister of Finance, 'Rural Debt: Farm assistance package: SOE Framework, 5 Nov. 1985'.

[94] ABJZ W4644 869 Box 184 Record 47/1/0 Part 1, Rural lending under section 331/54 – policy and general – rural debt restructuring package, 1986–7, Graham Scott for Secretary to the Treasury to the Minister of

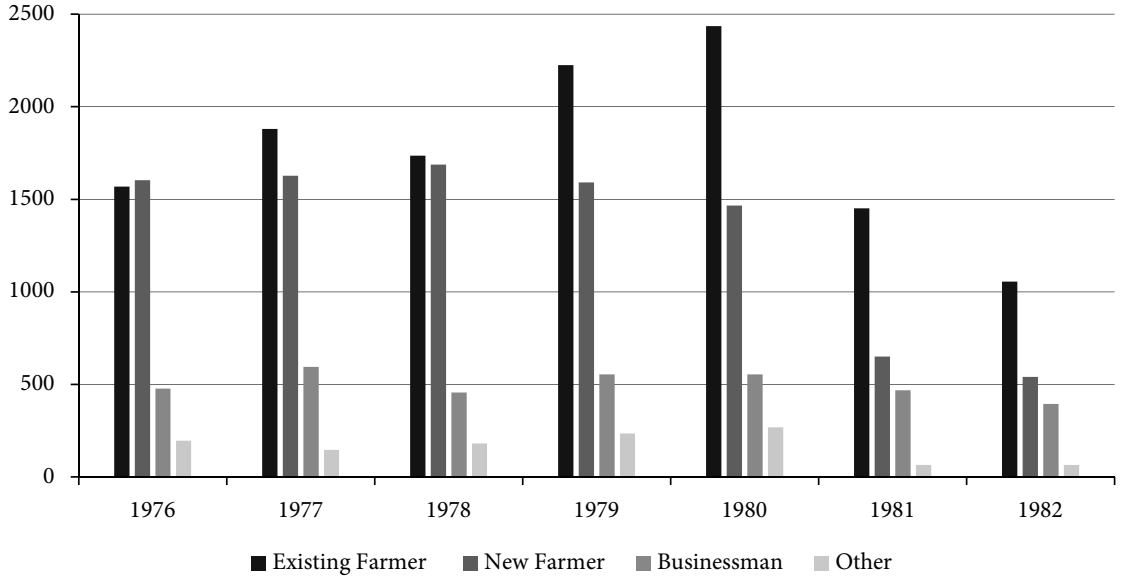


FIGURE 3: The rise and fall of the rural property market: numbers of farm purchases by categories of buyers, 1976–1982

Source: AAFR W5796 873 Box 1 Record T83/2/1/3 Part 1 Farming Finance Needs – Case Study Material 1986–90.

principal fell, and equity rose. A sleight-of-hand left viable debtors with big repayments but a larger stake in the farm asset.

This is where the over-pricing of land re-enters the picture. Loose spending by the Third Labour Government (1972–75) and Second National Government (1975–84) contributed to inflation that fed higher input costs.[95] The inflation rate was one and a half times higher than rates experienced by other OECD countries, averaging 15 per cent during the early 1980s.[96] Understandably, some farmers and urban investors speculated in land (Figure 3).[97] Prices responded to current demand and supply but also on expectations for future increases. Peter McKinlay from the Treasury was scathing in his evaluation of RBFC and other soft lenders, because they did not inspect farms but 'lent simply on the basis of a valuation report and an expectation that farm land would probably continue to rise in price'.[98] The land bubble was more than a product of the normal state of imperfect information since it emerged from a deliberate policy-driven avoidance of risk information and a corresponding recognition by speculators that soft lenders allowed 'golden opportunities'. Nearly 20 per cent of all rural land

Finance, 'Government lending to the farming sector: restructuring proposals', 23 May 1986.

[95] Bassett, *State in New Zealand*, pp. 324–36, 352–75.

[96] Appendix Table B/25, Key Macro Economic Indicators, 'Report by the Government of New Zealand,' *Trade Policy Review: New Zealand* (General Agreement on Tariffs and Trade, 1990), p. 128.

[97] AALR W5496 873 Box 1 Record T83/2/1/5 Part 1, Farming finance needs – rural debt, current issues and proposals, 1986–8, McKinlay, 'File Note: Rural debt restructuring', 27 Nov. 1987.

[98] AALR W5496 873 Box 1 Record T83/2/1/2 Part 1, Farming finance needs – equity instruments warehouse, 1986–90, McKinlay to T. Berthold, 12 May 1986.

purchases in 1981–82 were by non-farmers attracted to rising prices, cheap credit, and tax free capital gains. Large numbers of well-established farmers succumbed to the temptation.[99]

When commodity markets sagged, demand for land cooled. The phasing out of SMP added to land price deflation. Private-sector lenders in 1985 had expected land prices to fall by as much as 50 per cent from peak values.[100] This came to pass in some cases.[101] The reversal and anticipation of its prolongation, coupled with a fixed mortgage debt, left some farmers without the necessary equity/collateral to borrow operating funds. The Treasury's scheme patched this up. With increased equity, loans could be arranged. Furthermore, in working out the debt discounting arrangement, the RBFC would have to judge whether particular farms were viable. The Cabinet endorsed the plan.[102] For the government, there was a bonus. The scheme assisted with the commercialization of the RBFC, forcing it to raise interest rates to market levels, write off bad debts, prepare a realistic balance sheet, and acquire experience of genuine banking conduct. To make the grade as a free-standing private-sector institution or as a subsidiary of one, RBFC had to show that its personnel could tackle the imperfect information problem. To a willing buyer, RBFC's value resided in its capacity to profit from prudential lending to farmers and that depended, as with all financial institutions, on human capital.

Farm finance often involved multiple creditors. There were borrowers indebted solely to the RBFC, those indebted to the RBFC as well as private-sector lenders, and those indebted solely to the private-sector lenders. The first group of debtors could be induced to attend a debt conference at a local RBFC office since the discount arrangement for viable farmers was going to leave many with equity. Private-sector lenders could force a sale if it suited their interests; however, in a creditor pecking order if they ranked behind the RBFC they had good cause to forego drastic action. Farmers indebted only to private-sector lenders were at a disadvantage for they had no access to a discount scheme to leverage all creditors toward adjustments. Ministers and officials thought private-sector lenders would develop their own schemes once the public noticed the RBFC one. By distributing information, the government intended to make it awkward for private-sector lenders to foreclose on viable farmers.

In March 1986, Douglas announced the establishment of a mixed membership working party on farm finance problems with special attention to farm debts incurred with private-sector lenders. The team included officials from MAF, the RBFC, Treasury, and Federated Farmers.[103] Federation officials navigated the awkward realities of a membership segmented by wealth, region, type of farming, and depth of involvement in speculation. Looking back on the Muldoon era, Member of Parliament, Labour Cabinet Minister, and historian

[99] AALR W5796 873 Box 71 T83/13 Part 1, Agriculture – Land Prices, 1978–90, Valuation Department, 'Number and classification of freehold open market sales of rural land', 6 Aug. 1982. On tax advantages, see in same file Ian R. Silver, 'Effect of taxation on property values' [1982], p. 19.

[100] AAFD W4646 7581 Box 90 Record 103/1 Part 5, Economic Policy – General, 1985–8, 'Memorandum for Cabinet Policy Committee from Minister of Agriculture and Minster of Finance, farm debt: institutional approach to farm debt', 9 Dec. 1985.

[101] Ibid. Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Media coverage on devaluation, Newztel Log: Radio NZ 'Rural report', 27 Sept. 1984.

[102] AAFD W4646 7581 Box 110 Record 241/1 Part 1, Agriculture – general, 1979–86 Minutes of the Cabinet Policy Committee, 10 Dec. 1985.

[103] AALR 873 W5427/Record 61/1/40/5 Part 1, Rural bank discounting scheme, 1986–7, Joint press statement of Minister of Agriculture and Minister of Finance, 24 Mar. 1986.

Michael Bassett proposed that 'farmers were never united in support of … price subsidies. Self-reliance was always close to the surface'.[104] Contemporaries close to the ground saw a more complicated reality.

When the Member of Parliament and pastoralist Jim Sutton attended Federation meetings in early 1986, he encountered members who wanted outright grants. He met local leaders who would not discuss debt restructuring openly but 'would cooperate in closed seminar type meetings' with senior ministers.[105] The Treasury official Peter McKinlay doubted that the rural mind-set had changed. Many were clinging to the hope that government support might return.[106] He based his appraisal on conversations with Federation officials, RBFC executives, other lenders, MAF personnel, and MPs. He had attended a number of Federation meetings from which he drew the conclusion that many farmers hoped that a change in government would restore their subsidies.[107] Cultural reorientation to true farm independence, he thought, would be difficult and during the transition the Federation would struggle to keep any semblance of a unified front.[108] He was dead on. In early 1987, the Federation recommended a return to concessions to put new farmers on the land rather than allow market activity to advance 'amalgamation of properties' and 'foreign ownership'.[109] In public, the executive's support for an end to subsidies was conditional on other industries having their protection revoked and there were a few retreats to calls for concessions.[110] In private though, Federation officers worked with the government throughout debt restructuring, but even some of them wanted a return to the policy of concessionary loans for settling 'young farmers'.

The mixed membership working party on farm debt reviewed ways of saving viable farms when the mortgage was held by a private lender. Proposals were supposed to mesh with the government's market-oriented strategy, be commercially sound, involve no subsidy, and reach voluntary agreements free from pressure. Potential solutions included equity-sharing partnerships between creditors and debtors, resumption of the property by the creditors with the farmer staying on as the manager, and new mortgages with easier terms. No single measure generated enthusiasm, but the group had found assorted restructuring arrangements that could be circulated among farmers to assist them in their dealings with private-sector lenders.[111]

There were details to be settled with the RBFC debt discounting scheme. How would a farm's viability be determined? Could the RBFC be counted upon to deny discounting to farmers with

[104] Bassett, *State in New Zealand*, p. 353.

[105] AALR W5796 873 Box 1 Record T83/2/1/3 Part 1, Farming finance needs – case study material, 1986–90. On Sutton's support for the reforms see Wallace, *When the farm gates opened*, pp. 56–7.

[106] AALR W5796 873 Box 1 Record T83/2/1/5, Farming finance needs – rural debts, current issues and proposals 1986–8, McKinlay to Ron Hamilton, 19 June 1987.

[107] Ibid.

[108] AALR W5427 873 Box 972 Record 61/1/40/7 Part 3, Rural Banking and Finance Corporation, valuation of assets and liabilities, 1988, McKinlay and Associates to Secretary to the Treasury, 'Rural debt monitoring report', June 1988.

[109] Turnbull Library, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Tim Dodd, Federated Farmers to Roger Douglas, 4 May 1987.

[110] AALR W5796 873 Box 2 Record T83/4 Part 8, Government assistance to agriculture – questions and correspondence, 1986–8, Alastair J. Bruce, Executive Officer, Dominion Meat and Wool Section, Federated Farmers, to Roger Douglas, 18 Aug. 1987.

[111] AALR 873 W5427/970 Box 970 Record 61/1/40/5 Part 1, Rural Bank: discounting scheme 1986–7, McKinlay to T. Berthold, 10 Apr. 1986.

no prospect of making a go of it? Could it process applications promptly?[112] Ministers rightly suspected hostility toward them in RBFC offices. Sceptical Treasury officials and ministers questioned the 'Bank's capacity to manage the sort of debt restructuring exercise which [was] likely to flow out of the current investigation of rural sector financial problems'.[113] There were reservations, but defenders believed the RBFC would serve capably once employees realized they had to adopt a commercial mentality. So, they were told to convene debt conferences, use their local knowledge, act like bankers, and call on outside help if they did not understand valuation practices.[114]

A publicity campaign about the RBFC scheme was intended to make the private sector carry 'its proper share of the burden of restructuring'.[115] To nudge creditors along, the government disseminated the working party's remedies: equity sharing, leaseback, principal or interest deferments, indexed mortgage, and a restructured mortgage that could be on-sold to a third party. To assist lenders with the imperfect information problem relative to farm viability, 'it is envisioned that a circular would be prepared by the Society of Accountants in consultation with MAF, the RBFC, and Federated Farmers'.[116] Brochures explaining these solutions had to be printed immediately because farmers were planning for the next season (June 1986) and needed operating loans.[117] Some debt conferences held by private-sector lenders failed because of a lack of faith in the farmers' records and the absence of a neutral convenor who could ensure that no blame was apportioned.[118] These assorted efforts brought thousands to conference tables. Outcomes affecting households hinged on whether creditors judged a farm viable enough for restructuring, although the RBFC was suspected of leniency.

As a modest step to assist farmers and make private-sector lenders bear some costs, the government raised the value of tools, equipment, and cash that a producer could retain despite a forced sale.[119] Expectations that creditors would have to take losses and act constructively were predicated on legal and business realities. Financial institutions were reluctant to foreclose because of court costs, acquisition of a non-paying asset, and the expense of farm maintenance.[120] A sudden appearance of numerous mortgagee sales could depress land prices

[112] Turnbull, Douglas Papers 87-121-144, Rural Package, McKinlay, 'Rural Package: briefing note for meeting in the Office of the Deputy Prime Minister, 26 Aug. 1986'.

[113] AAFD W4646 7581 Box 75 Record 55/65 Part 2, Government Departments – Rural Banking and Finance, 1983–9, R. S. Deane, Chairman, State Services Commission to Acting Minister of State Services, 12 June 1986.

[114] Ibid.

[115] AAFD W4646 7581 Box 75 Record 55/65 Part 2, Government Departments – Rural Banking and Finance, 1983–9, Geoffrey Palmer, Memorandum for Cabinet Policy Committee, 'Rural policy measures: summary paper', 12 June 1986.

[116] AALR W5796 873 Box 1 Record T83/2/1/5, Farming finance needs – rural debt, current issues, and proposals, 1986–8, McKinlay, 'More news from the rural sector,' n. d. (but Jan. or early Feb. 1987).

[117] Turnbull, Douglas Papers, 90-342-6, Further Papers, *A guide to the 1986 rural policy measures,* 2 July 1986.

[118] AALR W5796 873 Box 2 Record T83/4 Part 8, Government assistance to agriculture – questions and correspondence, 1986–8, Brian Chamberlain, President, Federated Farmers, to Moyle, Minister of Agriculture, 16 Dec. 1987.

[119] AAFD W4646 7581 Box 110 Record 241/1 Part 1, G. C. Scott, Chair, Officials Coordinating Committee, to Minister of Finance, 'Rural package: decision paper, 18 June 1986'.

[120] AALR W5796 873 Box 1 Record T83/2/1/5, Farming finance needs – rural debt, current issues, and proposals, 1986–8, McKinlay, 'More news from the rural sector', n. d. (but Jan. or early Feb. 1987).



FIGURE 4: A large crowd of farmers assembled in Civic Square, Wellington, New Zealand, to protest Government policies. Photographed by an *Evening Post* staff photographer 30 April 1986. Ref: EP/1986/2002/18–F. National Library, Alexander Turnbull Library, Wellington, New Zealand.

further. Private-sector creditors accepted that the costs of a forced sale were so great that it was worth throwing something into the mix – farm vehicles and personal belongings – to procure a voluntary sale.[121]

There were protests, demonstrations and acts of defiance, although direct action fell short of a call by National MP Doug Kidd in March 1986 for farmers to revolt and make the country ungovernable.[122] A demonstration in Wellington of perhaps 5000 in late April 1986 was a tame affair (Figure 4).[123] In June 1986, a handful of demonstrators banged at Prime Minister David Lange's limousine after he had opened an agricultural research station. The incident was probably incited by his taunt that he 'would come back when farmers elected a representative who belonged to the twentieth century'.[124] In mid-1986, mortgage sales started to be 'resisted in many areas by social pressure'.[125] By late 1987, a 'Provincial Support Group', inspired by

[121] Turnbull, Douglas Papers, 87-121-144, Agriculture, Clippings, *Southland Times*, 8 Nov. 1985.

[122] Turnbull, Douglas Papers, 87-121-144, Agriculture, clippings, *Christchurch Press*, 12 Mar. 1986.

[123] Turnbull, Douglas Papers, 87-121-144, Farm Package, clippings, *Evening Post*, 29 Apr. 1986.

[124] Wallace, *When the farm gates opened*, pp. 97–9.

[125] AAFD W4646 7581 Box 75 Record 55/65 Part 2, Government Departments – Rural Banking and Finance, 1983–9, Geoffrey Palmer, Memorandum for Cabinet Policy Committee, 'Rural policy measures: summary paper', 12 June 1986.

such pressure in the Manawatu District, campaigned to shame potential buyers. It arranged to obstruct traffic with farm equipment in Palmerston North.[126] However, as noted, banks had business motives for avoiding forced sales, and worked for voluntary exits. Neal Wallace, who collected profiles of farmers' survival and adaptation, entitled a chapter 'It could have been ugly'.[127] It was not. By contrast, in 1981 when Muldoon had allowed a tour by South Africa's Springbok rugby team, there was widespread civil unrest. Not so in 1986–87. No 'Poujadisme' developed from the farm crisis.

Throughout 1986 and 1987, Federation branches and individual farmers wrote to Cabinet ministers. Some producers let emotions rise; they were 'bewildered and angry'.[128] Usually the writers petitioned respectfully to act against protection for manufacturers, the high dollar, high interest rates, and current labour relations.[129] A missive from a remote pastoral branch, made a rare prickly remark when it urged the government 'to back off the farming industry'.[130] The Bay of Plenty branch resented the implication that, in order to manage the 'high dollar' and other market activities, producers 'must also become expert financiers'.[131] But the acquisition of financial acumen, then at a low level, was a government goal. A newly introduced Goods and Services Tax (1985), defining farms as businesses and requiring record keeping, contributed to an emphasis on farm management.[132]

Social distinctions, disparities in wealth, and product-based divisions precluded farmer unity. On a trek around the country to meet members, the Federation's executive found 'a range of viewpoints' among the roughly 12,000 farmers whom they addressed over a four-week period.[133] One group, sheep station operators in hill country farthest from ports, were in the worst shape; dairy farmers saw a glimmer of better times; vineyards were increasing.[134] Some producers were not unhappy to see subsidized marginal farms leave their sector, reducing supply. The fall in income was brief; the farm debt crisis was not as severe as forecast. The government, Federation, and financial institutions reacted creatively. From the outset of

[126] AALR W5796 873 Box 1 Record T83/2/1/5, Farming finance needs – rural debt, current issues, and proposals, 1986–8, McKinlay to John Chetwin, 'Discussion with Rob McLagan', 19 Oct. 1987. Wallace, *When the farm gates opened*, pp. 106–7.

[127] Ibid., p. 89.

[128] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, A. G. Harvie, Chairman, Te Karaka Branch, to Douglas, 13 Mar. 1986.

[129] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, D. Wright, Secretary, Women's Division of the Federated Farmers, to Douglas, 11 Feb. 1986; I. A. Noble, Provincial Secretary, Federated Farmers, Bay of Plenty Province, to Moyle, Minister of Agriculture, 21 Feb. 1986.

[130] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Harvie to Douglas, 13 Mar. 1986.

[131] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, R. A. Anderson, Provincial Secretary, Federated Farmers of New Zealand, Bay of Plenty Province, to Moyle, Minister of Agriculture, 5 Mar. 1986.

[132] Turnbull, Douglas Papers, 86-003-142, Labour Party, Electorate Secretary, 'How will GST affect me: farmers', *GST: The key to lower income tax* (Mar. 1985), p. 19; J. C. Lockhart, 'Results of a survey of planning and financial management on three farm types in New Zealand', *Papers presented at the fourteenth annual conference*, pp. 185–93.

[133] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Peter Elworthy to Prime Minister David Lange, 2 Dec. 1985.

[134] AALR W5427 873 Box 1744 Record 70/5/85 Part 2, IMF Article 4 Consultations with New Zealand, 1985, 'Agriculture sector response to devaluation and other policy changes', p. 2; AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, 'Minutes of meeting on general economic strategy and structural reforms', 4 Apr. 1989, p. 2; Turnbull, Douglas Papers, 87-121-144, Farm Package, clippings, *Evening Post*, 29 Apr. 1986.

trouble, the Federation's President Peter Elworthy endorsed Labour's restructuring.[135] As he told Douglas in early 1986, 'any scheme which detracts from the private sector motivation … would not be productive'. Douglas recognized the value of personal contact. 'It would help', he directed an aide, 'if I could talk to Elworthy directly. Could we discuss?'[136]

Shortly afterward, at a meeting of the Federation council attended by the Deputy Prime Minister Geoffrey Palmer, Elworthy stated that 'we are here to communicate not militantly, but responsibly and sincerely and with total credibility our view that the Government and public don't realise how tough it is out there'. Elworthy's mediation contributed to relative calm. Palmer expressed the Government's gratitude for farmers continuing 'this country's civilised traditions' and gratitude for resisting 'pressures to do otherwise'.[137] The Cabinet recognized that the Federation's more entrepreneurial members were allies in restructuring. Ministers also reached out to the wider rural community to explain government policy. Geoffrey Palmer, Roger Douglas, and the Minister of Agriculture Colin Moyle all addressed farmers' meetings in 1985–86.[138] In November 1985, Douglas put his head in the lion's den and answered questions from farmers in North Otago. These farmers respected him 'for coming down here and fronting up'.[139] During their struggle to help neighbours keep their firms, activist farmers thought Douglas lacked empathy. However, strands of respect, conceivably formed through small-country intimacy, wound through meetings between farmers and ministers. Years later, a 'Provincial Support Group' stalwart changed his mind after he studied some economics. Douglas was now 'a brilliant fellow', 'a phenomenal man', 'a genius'.[140] It had had to be done.

VI

In early 1987, the crisis was winding down (Figure 5): 'there is continuing difficulty in all the groups [farmers, agents, and merchants] though the worst outcomes expected last year had not happened'.[141] Financial and emotional adjustments lingered, as did many farmers' unfamiliarity with applying for social welfare, seeking stress counselling, and negotiating with creditors. Fortunately, rural communities had a range of voluntary organizations: churches, citizens' advice bureaux, service clubs, the Rural Communities Trust, and the Women's Division of Federated Farmers supplemented the efforts of social workers from the Department

[135] Wallace, *When the farm gates opened*, p. 32.

[136] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F, Peter Elworthy to Douglas, 27 Jan. 1986. See Douglas' marginal note.

[137] Turnbull, Douglas Papers, 87-121-144, Farm Package, 'Farmers' meeting with deputy Prime Minister, 8 Mar. 1986', verbatim transcript.

[138] Turnbull, Douglas Papers, 88-353-182, Parliamentary Papers, Subject Files E–F. The file on Federated Farmers has items on his visits to rural meetings to discuss policy affecting agriculture. See also 87-121-144, Agriculture, 'Address to 550 Farmer and Local Citizens, Lumsden, 13 Nov. 1985'; Jim Cameron, Executive Secretary, Federated Farmers, Palmerston North, to Douglas, 10 Mar. 1986.

[139] Hocken Library, Rodger Papers, 87/41, Finance, 'Finance Minister Douglas answers North Otago farmers', 15 Nov. 1985.

[140] Wallace, *When the farm gates opened*, p. 108.

[141] AALR W5796 873 Box 1 Record T83/2/1/5 Farming Finance Needs – Rural debt, current issues, and proposals, 1986–8, Helen Sutch, 'Note for File: Balclutha Visit 19 and 20 Feb.', 24 Feb. 1987. Turnbull Library, Eph-A-FARM-1990s-01, brochure on Rural Communities Trust and its grants since 1982.

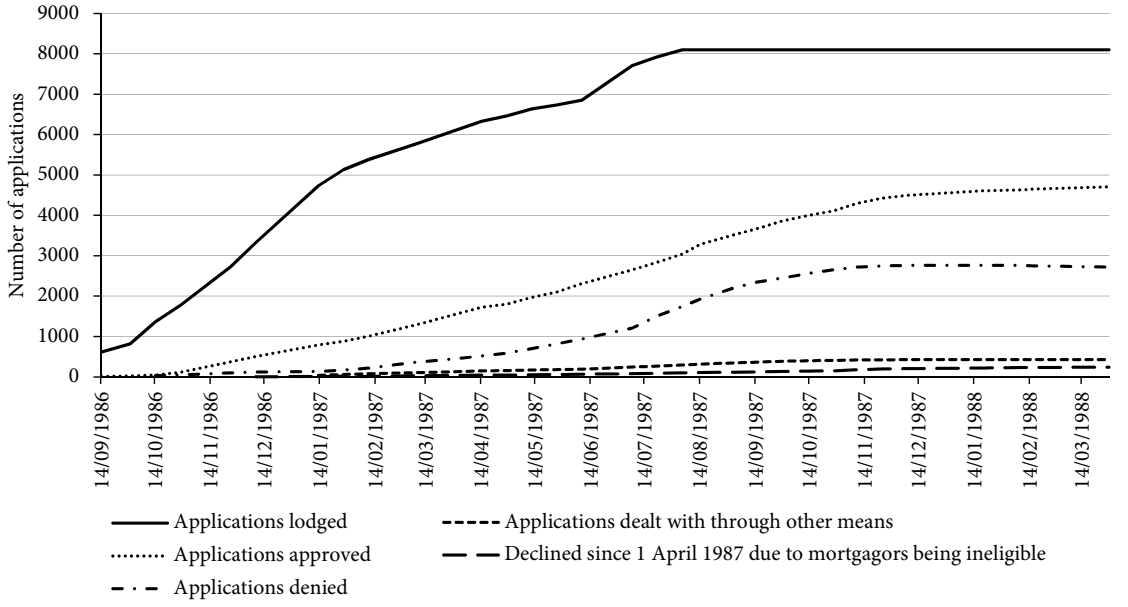


FIGURE 5: Total applications and outcomes for rural debt discounting scheme

Source: AALR W5427 873 Box 970 Record 61/1/40/5 Part 1, Rural Bank Discounting Scheme 1986–7; Part 2, Rural Bank Discounting Scheme 1986–7; Part 3, Rural Bank Discounting Scheme 1986–7, '*Rural Policy Measures Report*' [Monthly].

of Social Welfare.[142] A late initiative combined government and Federation resources. To 'facilitate the restructuring and rehabilitation of farmers and their families', in September 1988 Prime Minister Lange and Peter Elworthy announced the launch of the New Zealand Rural Support Trust. An independent body financed in part with government grants, it hired coordinators who directed farmers to existing government programmes.[143] Coordinators developed relationships with creditors, banks, accountants, lawyers, Federated Farmers, and MAF.[144] They combined local knowledge with empathy, providing 'solutions' that extended from assisting with business plans to helping 'to exit with dignity'.[145]

The ministers in charge of restructuring stressed the limited prospects for improvements in the country's balance of payments unless rural producers ceased being protected at the farm gate from the falling terms of trade. Despite firmness, they did not turn their backs on privation. As noted, farmers had access to the same social welfare benefits as other citizens. The government emphasized equality because its economic initiatives marked an end to preferential treatment, an end to public support for supposedly independent farmers. The

[142] Turnbull, Douglas Papers, 90-342-6, Further Papers, *A guide to the 1986 rural policy measures* (2 July 1986), p. 14.

[143] ACCQ W5415 515 Box 51 Record 51/3/5/1 Part 1, Rural debt management package, 1988, MAF Tech Memorandum: announcement 22 Sept. 1988. AAXA W4750 Box 60, Policy and assistance/Assistance Rural Trust, 1994–5, Papers of Hon. John Falloon, Minister of Agriculture, Falloon to Wyatt Creech MP, 14 July 1994.

[144] Wallace, *When the farm gates opened*, p. 59.

[145] Ibid., pp. 60–2.

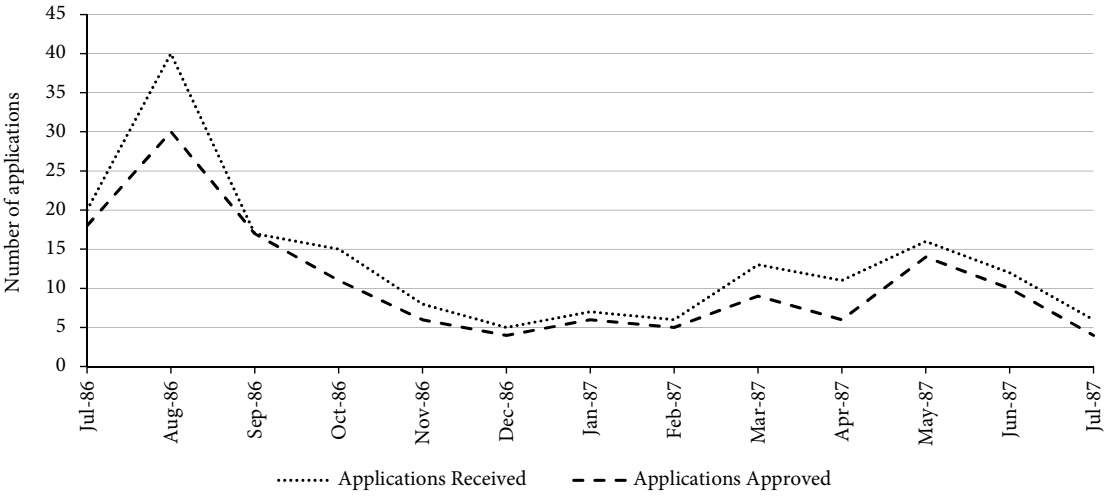


FIGURE 6: Number of new start mobility grants

Source: See Figure 5.

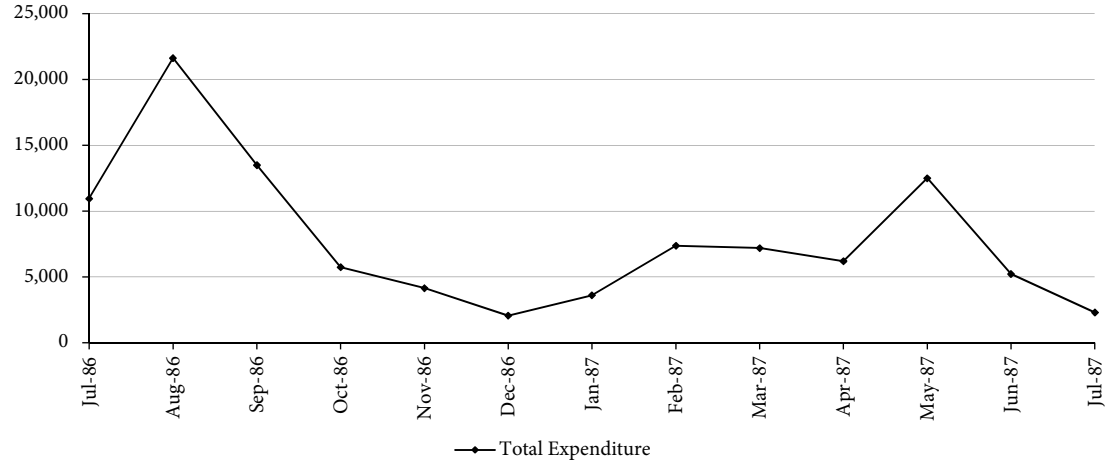


FIGURE 7: Total government expenditure on new start mobility grants, NZ dollars

Source: See Figure 5.

government would render that settler myth honest. Families who left their farms and sought employment elsewhere could apply for a New Start Mobility Grant administered by the RBFC (Figures 6 and 7). The scheme facilitated the exit of farmers with little to no equity; they could start a new life with a cash grant *if* they agreed to leave their properties.[146] They could

[146] AALR W5796 873 Box 71 Record T83/12/1 Part 4, Agriculture – evaluation of South Island drought package. Report Prepared for MAF by Brown Copeland & Co Ltd: 'The 1988/89 South Island Drought and the assistance package provided by Government'.

take their car and personal possessions.[147] Labour wanted farming rationalized after years of subsidized over-expansion.

Following Labour's re-election in August 1987, Lange shuffled his Cabinet and transferred the RBFC from Agriculture to State Owned Enterprises, explaining that he wanted the bank 'to expeditiously precipitate the exiting of a number of farmers'. In this operation the bank should be 'seen to be more independent of traditional Government influences'.[148] That was 'political-speak' for shielding hard-nosed banker decisions from political meddling at MAF. At that moment, RBFC estimated that 2000 to 3000 clients would have to quit farming. It is unknown how many farmers left with 'encouragement' from private creditors who wanted them off the property.

Departures to start a new life with scant resources were materially and emotionally hard on families. Leave-takings upset neighbours and communities. The government's principles of restructuring meant that it did not want to be seen practising rural partiality and therefore would not spend to keep individuals on the land. However, there was limited assistance. MAF hired counsellors to help farmers draft farm budgets for creditor conferences (Figure 8), ran pilot projects for social assistance, and distributed aid to drought-stricken farmers in the South Island under an Adverse Events Family Income Support scheme.[149]

As for farmers' own adjustments, there was activity with no conspicuous pattern. Terms like farmer and agriculture simplify a kaleidoscope of assets, and economic and social choices. Some producers acquired the property of a distressed neighbour; some who had shunned production subsidies undertook investment in the late 1980s 'in order to modernise existing facilities rather than expand capacity'.[150] Corporatization and family trusts, arrangements that separated property ownership from managing operations, enabled some families to stay on the land.[151] In 1988–89, the profitability of the dairy sector was becoming notable.[152]

Farm families with little equity or capital demonstrated resourcefulness and stamina to hang on: they reduced outings, employed fewer labourers, cut back on fertilizer and maintenance, and delayed capital expenditure.[153] Farmers and their wives pursued off-farm employment and sold mobile assets.[154] In April 1987, the Thames Agricultural Advisory Committee surveyed nearly

[147] Ibid.

[148] Turnbull, Douglas Papers, 90-287-9, Further Papers, Subject Files R–S, RBFC, Moyle to Lange, 20 Aug. 1987; Lange to Moyle, 28 Aug. 1987.

[149] AAFH W4160 Box 27 Record 100/3/9 Part 1, Social Impact Unit – SOE – rural package, I. J. Ritchie for the Director-General, Ministry of Agriculture, 23 May 1986.

[150] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, 'Minutes of Meeting No. 1', 3 Apr. 1989, p. 8.

[151] Turnbull, Douglas Papers, 90-342-6, Further Papers, *New Zealand agricultural industry into the 1990s and beyond*, pp. 36–7; Land Corporation, *Equity investment opportunities in New Zealand agriculture* (June 1989).

[152] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989; IMF, European Department with consultation with other departments, Approved by P. de Fontenay and Thomas Leddy, *1989 Staff Report on Interim Article IV consultation discussions*, p. 11.

[153] AALR W5427 873 Box 972 Record 61/1/40/7 Part 3, Rural Banking and Finance Corporation valuation of assets and liabilities, 1988, McKinlay and Associates to Secretary to the Treasury, 'Rural debt monitoring report', June 1988.

[154] Ibid.; AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand, 1989, 'Minutes of Meeting on general economic strategy and structural reforms', 4 Apr. 1989, p. 2.

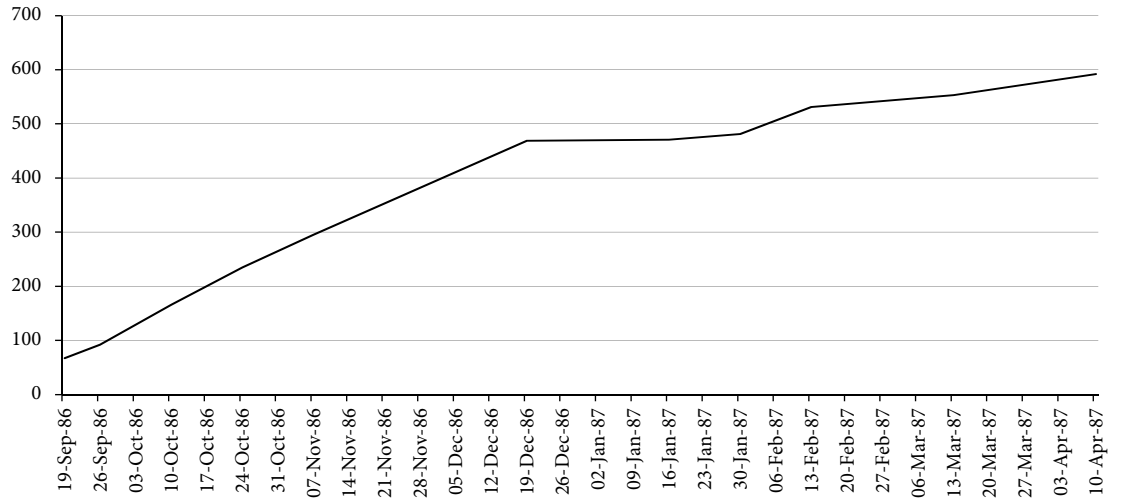


FIGURE 8: Running total of budgets completed by MAF advisors for creditor conferences

Source: See Figure 5

400 farmers and discovered that a quarter worked off the farm.[155] A MAF observer reported in early 1987 that the crisis was wearing down assets: 'seasonal expenditure in all cases is screwed down to below desired maintenance levels'.[156] Probably because of such retrenchment, 'the real value added per employee increased by 40 per cent' over the crisis period.[157] Some families were determined to save private enterprises revered as intrinsic to family, community, and country. Many children would not follow parents on the land, although not all who left regretted that decision.[158] One quantifiable sign of extreme stress, the suicide rate, which had fallen among farmers since the Great Depression, did not rise during this crisis.[159] Community volunteers may well have made a difference.[160]

The decrease in assistance to farmers had bipartisan standing. In 1991, to the dismay of some in National's rural base, the new Minister of Agriculture John Falloon declared that people should not 'hold out hope for some of the poor managers and very low equity people who simply will find only hardship and misery unless they make the hard decision to leave agriculture'.[161] Using an OECD measure, the Effective Rate of Assistance (ERA), including aid

[155] AALR W5796 873 Box 2 Record T83/4 Part 8, Government assistance to agriculture – questions and correspondence, 1986–8, Thames District Agricultural Advisory Committee, 'Rural lifestyle questionnaire', pp. 2–34.

[156] ABJZ W4644 869 Box 184 Record 47/1/0 Part 1, Rural lending under section 331/54 – policy and general – Rural debt restructuring package, 1986–7, P. S. Little to McKinlay, 5 Mar. 1987.

[157] AALR W5427 873 Box 1746 Record 70/5/89 Part 1, IMF Article 4 Consultations with New Zealand 1989; IMF, European Department with consultation with other departments, Approved by P. de Fontenay and Thomas Leddy, *1989 Staff Report on Interim Article IV consultation discussions*, p. 11.

[158] Wallace, *When the farm gates opened*, pp. 77–80, 109–14, 115–17.

[159] John C. Weaver, *Sorrows of the century: Interpreting suicide in New Zealand, 1900–2000* (2013), pp. 38–9, 108–9, 112, 119, 264, 282.

[160] Wallace, *When the farm gates opened*, pp. 64–5.

[161] ACCQ W5415 515 Box 51 Record 51/3/5/1 Part 1,

to industries that serviced farming, MAF calculated that from 1984 to 1991 the ERA for pastoral agriculture had decreased from 52 per cent to –2 per cent.[162] Labour managed the crisis to keep viable farms operating, while reducing unviable farms and establishing an appropriately tense relationship between lenders and borrowers.

VII

A problem that Labour encountered early in its administration remained. How can subsidy-free jurisdictions persuade subsidy-practising ones 'to reduce their high levels of assistance which distort international trade?'[163] Despite barriers to markets and cyclical challenges, rural production flourished. Advocates of a managed economy who predicated irreparable damage from liberalization were mistaken. When the RBFC discount scheme ended in 1989, there were 47,598 loan accounts, 5249 (11.0 per cent) in arrears.[164] It is impossible to offer a sound calculation of the number of farmers who left, perhaps somewhere at the low end of a range between the 1750 at 'severe risk' and 6590 'at risk' in 1985.[165] Rumours likely exaggerated. When a Wellington reporter set out in 1986 to 'search for the destitute farmer,' he was given a list of names but found it extravagant. A few cases arose from 'overspending and domestic problems'.[166] These were timeless causes for leaving the farm.

By the mid-1990s, the farm sector was on a recovery path. Dairy farm capitalization and intensification promoted efficiency, bringing an export surge running from roughly 2000 to 2010.[167] The wine industry experienced amazing growth. It is impossible to claim with confidence that a turn-around in New Zealand's rural fortunes was due to structural reforms since world economic conditions, improving in the 1990s and early 2000s, surely helped. Yet, by eradicating supports, New Zealand governments jolted farmers toward business-like responsibility and redirected resources from a long-established reliance on meat and wool toward dairy, wine, and experiments with other produce. There was also consolidation.[168] The country's rural producers had not escaped from cyclical hazards, but many were making a transition toward entrepreneurship.

Note 161 *continued*
Rural debt management package, 1988, MAF Tech Memorandum: announcement, 22 Sept. 1988. AAXA W4750 Box 60, Policy and assistance/Assistance Rural Trust, 1994–5, Papers of Hon. John Falloon, Minister of Agriculture, Falloon to Alec Neill MP, 17 June 1992; the quote is from Falloon to R. A. Upton, 21 Jan. 1992. Also see Neztel Log: Ex-RNZ 'Rural Report,' 13 Dec. 1991.

[162] AAXA W4750 Box 60 Policy and assistance/Assistance Rural Trust 1994–5, Papers of Hon. John Falloon, Minister of Agriculture, Falloon to Merv Rusk, Hobson Electorate, New Zealand National Party, 14 July 1992.

[163] AAFD W4646 7581 Box 52 Record 11/7/43 Part 3, Cabinet Committee on policy, 4 Apr. 1986.

[164] Turnbull, Douglas Papers, 90-287-9, Further Papers, Subject Files R–S, RBFC, 'Terms of reference for a study of options for the future ownership of the Rural Banking and Finance Corporation', Nov. 1987; 87-121-144, Agriculture, McKinlay, 'More news from the rural sector', n.d. [Feb. 1987].

[165] Farm statistics are unreliable. Stéphanie Multet-Marquis and John Fairweather, *New Zealand farm structural change and intensification* (Lincoln University: Agribusiness and Economic Research Unit, Mar. 2008), pp. 3–5.

[166] Turnbull, Douglas Papers, 87-121-144, Agriculture, clipping, *Dominion*, 13 Nov. 1986.

[167] Multet-Marquis and Fairweather, New Zealand farm structural change and intensification, pp. 9–12.

[168] Statistics New Zealand, *Tables on Agriculture* (www.stats.govt.nz/tools/nz-dot-stat), accessed 22 Jan. 2018; Multet-Marquis and Fairweather, *New Zealand farm structural change and intensification,* pp. 9–12.

Book reviews

Britain and Ireland

DAVID BUTCHER, *Medieval Lowestoft. The origins and growth of a Suffolk coastal community* (Boydell Press, 2016). 370 pp., 48 illus., maps and tables. £50.

Many a community has moved at some time in its history, leaving its parish church at a distance from its new centre, a phenomenon often erroneously attributed to the Black Death. In the case of the town of Lowestoft, David Butcher shows that the parish church of St Margaret's – originally the church of the adjoining settlement of Akethorpe – was already being rebuilt in its original position three-quarters of a mile outside the town at the time of the mid fourteenth-century calamity. As a result of the rebuilding, St Margaret's became one of Suffolk's great perpendicular glories on a par with Southwold, Blythburgh, Lavenham and Long Melford. It is doubly impressive, the author remarks, that the town's inhabitants felt able to embark upon the raising of such a large and imposing edifice at the same time that they were relocating their township and that, having recovered from the most disastrous epidemic ever to have hit the country, they were prepared to see the work through to its conclusion.

This is typical of the revelations with which David Butcher assaults his reader. Equally startling is his account of how the original agricultural village was uprooted and moved a mile or so to a new site. At the time of Domesday, Lowestoft was an agricultural settlement with the classic open-field system so widespread in much of lowland England. There were the usual three common fields set out in strips – named in the 1618 manorial roll as the North Field, the South Field and the South West Field – with the township itself sited near the meeting point of the South and South West fields, a situation occupied today by a traffic roundabout.

The 450 acres of cultivated land recorded in Domesday was 75 per cent of the 600 or more acres revealed in the 1617 manor roll, indicating that 150 acres had been put under the plough in the intervening years. It is likely that this increase was achieved by clearing some of the areas of heath that had played an important part in the manorial economy, providing materials such as bracken for animal bedding, gorse and thorn for fuel and also rough grazing for livestock. As the author points out, use of the term 'waste' for some of these areas of heathland is misleading; it was anything but.

The relocation of the settlement in the early fourteenth century from a position on the south-facing slope south of the church to a clifftop site that offered facilities for trading and fishing was well planned and efficiently carried out, apparently with the agreement and collaboration of the bailiff or steward of the lord of the manor. Among other things, the relocation involved the management of the cliff face by terracing, a considerable operation both in terms of scale and of the labour involved, and probably carried out before house plots were set out and the clifftop dwellings erected. The result of that work can still be seen today, and is illustrated with a photograph of present-day work which has revealed how the original terracing was done.

The lord of the manor, John de Dreux, Earl of Richmond, whose prime interest lay in receiving the annual income yielded by his estate rather than in having any direct part in its administration, was an absentee at the time of the relocation, which allowed the inhabitants a good degree of self-determination in the conduct of local affairs. At the same time, it allowed local officials, particularly the bailiff, an opportunity to improve their own situation in ways that were not always entirely honest.

Making excellent use of the 1274 Hundred Roll – 'a second Domesday' – Butcher shows how Lowestoft gradually came to be as significant as the Domesday hub of the Lothingland manor, Gorleston, though the nine tenants of the Lowestoft glebe still had to take their hens and cockerels to Gorleston on St Stephen's Day (26 December) and were then provided with a meal.

On its new clifftop site overlooking the sea, Lowestoft became a centre of maritime trade, a fact that led to many years of rivalry with its neighbour a dozen miles to the north, the borough of Great Yarmouth. As head-port Yarmouth claimed jurisdiction over Kirkley

Roads, the name given to the extensive anchorage off Lowestoft, and was responsible for collecting customs duties due to the Crown. In a chapter entitled 'Misdemeanour and mishap in Kirkley Roads', Butcher tells of the problems Yarmouth faced in its endeavour to maintain its legally granted authority and to collect customs within its jurisdiction. For more than three centuries the head-port viewed its upstart rival as 'a town of great smuggling' (p. 144), while the men of Lowestoft sought to bend the rules as far as they were able – or dared. The rivalry between the two towns went on until Lowestoft was granted port status in 1679, and in some respects it still continues.

Often enough, it seems, there was more than a hint of unlawful behaviour, if not outright piracy. As the author says, the government's encouragement of mariners and fishermen to undertake privateering activities in the national interest during the Hundred Years War surely led to all kinds of illicit activity at sea and schooled English seafarers in the unsubtle arts of maritime plunder.

In adding this book to his earlier volume *Lowestoft, 1550–1750*, Butcher has performed no small service to the cause of local history. Besides showing how the foundations of the present-day community were laid in the Middle Ages, he provides a fascinating picture of human interaction in the pursuit of economic progress, with a postscript bringing the story up to date. This is supplemented by six appendices including a list of the manorial chief tenements, details of the sixteenth-century merchant fleet and a name analysis of the Lowestoft Hundred Roll tenants, a glossary of medieval terms and three indexes, of people, places and subjects.

ROBERT MALSTER

NIGEL GOOSE, HELEN CAFFREY and ANNE LANGLEY (eds) *The British Almshouse. New perspectives on philanthropy, ca 1400–1914* (Family and Community Historical Research Society, 2016). 420 pp., 134 illus., maps and tables. £12.

This volume represents an immense collaborative effort. While the book has three editors, it contains twenty chapters covering over four hundred pages on a huge variety of topics about the history of almshouses. How is such a project is possible? The clues are in the front of the volume and the introduction, which details the research process. With one coordinator, Anne Langley, 54 researchers from the Family and Community Historical Research Society worked tirelessly in record offices across most counties in England and several London boroughs, with further exemplary material drawn from Scotland and Wales. The data collection took several years to complete, so that from its initial meeting the project was ten years in the making. The result is the most significant collection of essays about the history of almshouses in recent decades, one which historians of welfare, charities, institutions, housing, older people and societal relationships will find useful.

Three solid introductory chapters set the context of the book well. The first provides a chronology and geography of British almshouses and demonstrates the high numbers of individuals who received accommodation in these houses. The second outlines the massive variation in almshouse buildings, whilst the third demonstrates the variety of types of community. The book is then divided into two further parts. Part two consists of eight chapters centred around individual case studies from different counties. Covered here are case studies from across many counties and regions of England, namely Hampshire, Berkshire, Warwickshire, Derbyshire, plus the north east and London. There is also a chapter which explores provision in Anglesey and another in Tayside and Sterling. Some chapters provide micro-studies of almshouses in one place, such as a town, road, city, county or region. Other chapters focus on using a locality to explore a particular time period (anywhere from 1100 to the eve of the First World War) or a theme, such as almshouse founders or occupants. These themes are expanded in part three of the book, consisting of nine chapters on a range of topics: rules and regulations, the almshouse masters, the social status and lives of residents, clothing and conditions of residents, as well as almshouse gardens and a chapter on five Catholic almshouses in London.

A number of themes develop across the chapters. Over the last twenty years or more, welfare historians have been seeking to understand the place of statutory provision, charitable aid, as well as self-help and kinship help, within the mixed economy of welfare. This theme features throughout the volume, especially when authors discuss the motivations of residents for applying for entry into the almshouse. Evidence is drawn upon to suggest why this could be more appealing than the available alternatives, and also why residents left. This links to another theme: the rules and conditions within almshouses. Some comparisons are made between almshouse residents and those in workhouses and asylums. The inhabitants of almshouses were usually deemed respectable and 'deserving' of assistance, but the pressures upon residents to behave and appear in certain ways was significant. It clearly impacted on their practical and emotional lives in a multitude of ways. In part, these rules and expectations created some degree of structure and harmony within the house, but there was a heavy mix of deference and patronage towards the benefactor, externally performed by residents to the

wider communities in which the accommodation was situated. To what extent almshouse residents wanted to, or had to (through necessity), perform their status is a subject of contention.

The volume would have benefited from a concluding chapter, or maybe several. These could have brought together more directly the themes I mention and many other themes could have been brought out from the detail, such as rural and urban comparisons and gender dynamics. The periodization within the book is only loosely followed, which is of great benefit as the origins of almshouses can be traced to 1100. There was no room in this volume to extend beyond 1914, but such a focus would make compelling research. In the context of a growing welfare state, how many almshouses were disbanded or established? The analysis of diaries, letters and oral history interviews from this period would also reveal more about people's hopes for living in the almshouses, how they conformed to or subverted the rules of their accommodation, and how they believed they were perceived by the wider community.

This is a very informative volume for local and family historians as well as academics. It also demonstrates the value of large collaborations and edited collections. The wide variety of places and topics covered will help those wanting a solid introduction to almshouses, case studies of why and how almshouses were established and managed, or about the lives, living conditions and motivations of almshouse residents. The book has an admirable number of images (79), in addition to 14 colour plates, and a substantial index, which will undoubtedly prove a valuable aid to navigation.

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TERRY MCCORMICK, *Lake District Fell Farming. Historical and literary perspectives, 1750–2017* (Bookcase, 2018). 226 pp. Illustrated. £12.

Lake District farming has received a wide press in recent years, not all of it positive. On the one hand, World Heritage Site inscription recognizes the continuing role of traditional farming in creating and preserving the iconic landscape of the National Park, while public fascination with Lake District farming has been demonstrated by the runaway success of James Rebanks' memoir, *The Shepherd's Life* (2015). On the other, George Monbiot and the re-wilding lobby see the monoculture of sheep as having created an 'ecological desert' on the fells. Terry McCormick's book falls unashamedly in the first camp, celebrating hill farming life and Herdwick sheep by tracing their history and exploring how writers have viewed fell farming since the 'discovery' of the Lake District in the eighteenth century. The author is uniquely placed for the task: he is a literary scholar who has worked closely with Lake District farmers and contributed to the World Heritage inscription process himself.

Part I provides an overview of the history of fell farming, presenting it as the story of an heroic struggle against a host of challenges, from manorial lords in the seventeenth century to the outbreak of foot-and-mouth disease in 2001 – all in the context of an unforgiving environment, severe weather, and recurrent bouts of harsh economic conditions. The findings of research into the socio-economic history of the Lake District since the 1960s are rehearsed: the independence afforded by customary tenantright; the decline of the traditional yeomen (or 'statesmen') farmers in the nineteenth century; the persistence of small family farms. McCormick places particular emphasis on the development of what may be termed 'fell farming culture', the communal aspects of a farming system which centred on sheep grazing on common land. Communal grazing had long required farmers to collaborate over the day-to-day management of the fells, while other parts of the traditional farming system – communal sheep shearings; shepherds' meets; the exchange of stray sheep – also brought farmers together. The growth of breed societies and their associated shows from 1844 led to the improvement of the Herdwick breed and increased a sense of communal endeavour amongst farmers. Meanwhile, as the author usefully shows, the publication of successive 'shepherds' guides', recording the ownership marks of each farm – the first of which appeared in 1817 – also fostered a sense of pride among hill farmers. The literature drawn on in these chapters is wide-ranging, with a focus on the important work of Charles Searle and John Beckett, but there are some surprising omissions, such as Jonathan Healey's case study of Grasmere and, notably, Eleanor Straughton's book on the history of common land in Cumbria, *Common grazing in the northern English uplands, 1800–1965* (2008).

Part II, 'Writers and Fell Farming: 1750–2017', is the heart of the book and is full of interest. From the earliest tourists, visitors to the Lakes commented on the character of the farming community, to the extent that by the 1790s Lake District farmers were seen as something of a breed apart, deeply traditional but exhibiting a striking moral integrity. William Wordsworth was convinced that this farming culture of 'statesmen' would soon be extinct. As McCormick puts it, he was 'mourning for what he perceived to be vanishing around him' (p. 107) and his backward-looking view of the inevitable decline of fell farming cast a long shadow. A sense that the heyday of traditional farming lay in the

past was heightened by negative perceptions by other nineteenth-century commentators. Edward Baines, the historian of Lancashire, was disparaging. For him Lake District farmers were 'dull-looking' (pp. 113–14) and intermarriage had produced a streak of insanity. Harriet Martineau saw the demon drink as the cause of decline. John Ruskin simply ignored the skilled, mutually supportive 'craft' farming of his neighbours at Coniston, even though their culture exemplified some of the ideals he championed.

This changed in the later nineteenth century, not least because of the flowering of interest in the Lake District's Scandinavian roots. The farming community came to be seen as the inheritors of a Viking past, preserved in their dialect and, for example, their system of sheep marking. Building on the work of W. G. Collingwood, H. D. Rawnsley, one of the co-founders of The National Trust, was influential in 'lionising' Lake District farmers, extolling their stockmanship and perceived integrity, which he linked back to their Scandinavian inheritance. In one of her lesser-known works, Beatrix Potter, famously a keen breeder of Herdwick sheep, wrote a 'hymn' to the sheep and, by extension, their shepherds. By the 1930s, the fell farmers had become a treasured part of the Lake District and active attempts were being made to preserve their way of life.

However, some of the best-known Lake District writing in the twentieth century glorified the fells but ignored the fell farmers. Both Arthur Ransome's adventure stories and Alfred Wainwright's celebrated pictorial guides rejoiced in the Lakes as a playground but paid little regard to those who maintained it. Natives make an appearance in Ransome's books, as charcoal burners or farmers providing holiday accommodation, but for Wainwright, exhibiting what McCormick calls a 'wilful blindness' (p. 160) to the farming community, the fells are largely devoid of people.

One of the charms of this book is the attention given to lesser writers and long-forgotten works. Examples range from Mary Ward's novel *Robert Elsmere* (1888), which centred on the clash between the heroine's traditional 'statesman' background and the metropolitan culture of her suitor, to the informative evocations of the realities of fell farming in books as diverse as Abraham Rumney's *The Dalesman* (1911) and Dudley Hoys' *Below Scafell* (1955). Meanwhile, a host of stories set on hill farms, such as Marjorie Lloyd's Fell Farm series in the 1950s and Joyce Gard's *Smudge of the Fells* (1965), celebrated hill-farming culture. These works, and others, receive deeply insightful commentary from McCormick in this rich and welcome book.

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SUSAN FLOOD (ed.), *The diary of John Carrington, farmer of Bramfield, 1798–1810, I, 1798–1804* (Hertfordshire Record Society, 26, 2015). xxiii + 361 pp., 21 illus. £22.

The diaries of John Carrington were originally deposited at the Hertfordshire Record Office in 1943 and a typed transcript was prepared in the 1950s. This resulted in two popular accounts, which were published by W. Branch Johnson in 1956 and 1970. In 1973, some three-quarters of the diary, along with extracts from his so-called Arithmetic Book, was also published. All of these works are now long out of print, although they are readily and cheaply available second-hand. In 2010, the Hertfordshire Record Society decided to republish the diaries in full: this book is hardly the new presentation of unknown archive material.

This first volume includes the diaries from 1798 to 1804 along with the Arithmetic Book; the second is due for publication in 2018. As well as being the farmer at Bacons Farm, Bramfield, John Carrington was Chief Constable, Tax Assessor, Surveyor of the Highways and Overseer of the Poor in his parish at various times throughout the period of the diaries. This is reflected in his diary entries such that the record of agriculture relates primarily to the world beyond his own farm. As a result of this, there is little detail of the work going on at the farm, although on p. 123 he records 'Shore my sheep 83', although his own name is not amongst the names of the shearers. The only evidence of the work of the farm interrupting his daily life is on p. 167 where he writes, 'Not market as being buisey at Oates' cart', having noted earlier on the same page that 'In generall, crops very great'.

Carrington was clearly a man who liked his food and drink, yet he was of a charitable disposition. The diaries have plentiful records of his expenditure at the various hostelries he visited, as well as his gifts to the poor and others. Even in 1801, when he notes that the price of cattle and meat were 'so dear', his personal consumption continued: however, he did recognize and record his excesses as on p. 77: 'Got fuddled, fell of my poney. O for Shame'. In the entries in the latter part of the volume, the impact of the threat of invasion by the French on Carrington's public duties are noted – forms to complete, to deliver personally and to chase up late returns – many requiring visits to local inns.

The Arithmetic Book extracts presented in the first appendix comprise notes on events occurring mainly beyond the parish of Bramfield, both county-wide and nationally, including records of very high winds, great floods, large fires and army manoeuvres, although there is no chronological order to the entries. These notes are written amongst a series of mathematical

calculations which have not been reproduced in the volume. Appendix Two is titled Hertfordshire Inns, whilst Appendix Three presents selected biographies of some of those mentioned in the diaries. As would be expected of any Record Society publication, the book includes a glossary, bibliography and an index for each of names, places and subjects. Whilst a contemporary map of the county of Hertford dated 1794 is presented in the rear endpaper, which marks Bacons Farm and Bramfield, the introduction to the book would have benefited from a clearly drawn map of the key places around Bramfield that are mentioned in the diaries.

Whilst this volume represents the publication of the complete diary for seven years during the Napoleonic War period, there is little detail about the day-to-day workings at Bacons Farm to satisfy agricultural historians: indeed Flood has presented a comprehensive summary of Carrington's farming activities in her introduction using the limited material available. However, it does offer an account of rural life in Hertfordshire during this period, as well as describing the activities carried out by Carrington as an individual in fulfilling his various public duties.

ALAN WADSWORTH
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PAUL READMAN, *Storied ground. Landscape and the shaping of English national identity* (Cambridge University Press, 2018). 348 pp., 40 b&w illus. £24.99.

Paul Readman's *Storied Ground* examines the place of landscape in narratives of English identity between the late eighteenth and early twentieth centuries. Readman provides a much-needed bridge between those works which have focused on landscape in the Georgian period, and those concerned with the late Victorian and Edwardian periods and beyond. *Storied Ground* will become the standard reference point for those concerned with English landscape and national identity in the long nineteenth century.

Readman argues that stories of landscape and national identity were as much urban as rural, and challenges assumptions of nostalgia and anti-modernity. National identity is shown to be interwoven with other scales, notably the local and regional, with these geographic scales mutually supportive rather antagonistic. Readman emphasizes the role of historical associations in shaping landscape narratives, and the ways in which landscape became the site for demotic rather than aristocratic narrative. After an introduction covering historiographic and theoretical debate, with works in cultural and historical geography given notable prominence, *Storied Ground* is structured by places of significance, with six chapters focusing on specific landscapes: Dover, Northumberland, the Lake District, the New Forest, Manchester and the Thames. Maps would have helped readers unfamiliar with these regions to navigate the narrative, but each chapter provides rich, original and nuanced analysis.

In each chapter, physical landscape and historical association interweave. The cliffs of Dover present spectacular chalk and signs of island defence, while Northumberland as a border region with historical associations of conflict is presented in the nineteenth century as a region progressing to a unionist order. Dover and Northumberland in this period become border regions which cement rather than fragment Englishness and Britishness. The Lake District and the New Forest become, through the nineteenth century, landscapes which in tourist practice and patterns of landholding shape senses of popular national landscape, the National Trust's foundation in 1895 owing much to Lakes campaigns evincing a patriotism Liberal or Socialist rather than Conservative. Attention to Manchester allows Readman to argue that national landscape narratives could be as much urban as rural: 'The patriotic landscape imaginary of the long nineteenth century was a capacious one, encompassing both rural shires and city streets' (p. 249). Just as rich or poor residents of the industrial north west visited the Lakes as a national landscape warranting preservation, so Manchester could itself be appreciated for its modernity and history, guidebooks praising its civic and commercial architecture. The Thames Valley, with its combination of riverine and maritime wealth creation, and campaigns for landscape preservation producing the 1885 Thames Preservation Act, shows too for Readman that 'Englishness, as figured by the Thames, was in step with modernity' (p. 299). There may be some overstatement here though; even if a painter such as Helen Allingham, depicting the vernacular dwellings of the Thames Valley as the personification of a happy England, was undertaking work for a modern commercial art market, the images produced conveyed a sensibility at the very least in tension with the modern world. Modern things – cheap prints of cottage paintings, bicycles ridden to get out of town – are not always in step with modernity.

Readman's earlier, fine book, *Land and nation in England: Patriotism, national identity and the politics of land, 1880–1914* (2008), gave extensive coverage of agricultural debate in the decades before the First World War, and agriculture perhaps in consequence receives less detailed discussion here. Agricultural questions do, however, shape the regional narratives in *Storied Ground*; the role of agricultural improvement in progressive stories of Northumbrian identity, and the agrarian economy of common land in the New

Forest, where ideas of landscape preservation, public amenity, common rights and popular liberty came together in campaigns against state timber plantation, culminating in the 1877 New Forest Act: 'This was the New Forest as a national landscape, as the people's property, and its cultural valence owed much to the associations attaching to common land' (p. 191). Readman here traces the complexities of political and cultural debate, with resultant freedoms of common grazing criticized as denudation by those concerned with the management of timber resources.

For Readman the material covered in *Storied Ground* denotes a complex 'English cultural nationalism' (p. 309), often popular and demotic. In a hundred years someone might write a similar text on today, with some of the sites featured in *Storied Ground* still forming places of significance. Anxieties surrounding trade, migration and island identity gather over Dover, just as concerns for climate change spark renewed interest in just what formed the Dover Strait in the first place. Northumberland borders a possibly re-emergent political frontier. The Lake District is granted World Heritage Status for its cultural historical value, for being the region where landscape appreciation and preservation took shape. Manchester stands for common diversity in the face of terror. The plotlines continue. England remains storied ground.

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GREGORY A. BARTON, *The global history of organic farming* (Oxford University Press, 2018). 256 pp. £30.

Gregory Barton's book is the fruit of arguably the most important piece of detective work yet carried out by researchers into the organic movement's origins and expansion. But its significance reaches well beyond the confines of organic farming. All historians of twentieth-century agriculture should welcome this study of one of the most influential agronomists and campaigners of that period, Sir Albert Howard (1873–1947), and of his second wife Louise, née Matthaei (1880–1969); particularly as it demonstrates that Howard was, earlier in his career, a more conventional practitioner of agricultural science than he became in the last twenty years or so of his life.

Barton first sets Howard within the context of his time, relating his work in India to the benefits which farming and forestry brought to the British economy in the days of the Raj. He then traces the stages by which Howard grew close to the English rural revivalists who praised the virtues of organic husbandry. After Howard's death, his widow Louise played a major role in propagating his ideas.

The whereabouts of Sir Albert Howard's papers – if indeed they had survived at all – were for many years a mystery. Just a few items were lodged at Wye College, where Howard had held a post before going to India in 1905. Gregory Barton, with the help of his mother, a skilled researcher on Ancestry.com, investigated the ancestors of Howard's wives, Gabrielle and Louise Matthaei; Howard having no issue from either marriage. The Bartons discovered a relative of the Matthaei sisters and traced descendants, eventually being contacted by Louise's niece Charlotte, who, astonishingly, had the Howard archives in her garage in Birmingham. It is little short of a miracle that the papers had never been disposed of. Barton's book is therefore based on a mass of completely fresh material.

The Howard papers are being lodged at St John's College, Cambridge, where Albert was a student, and so will become available to other scholars. Barton has by no means exhausted their material in his book, using only the parts he needed. Needed for what, in particular? The answer is, for two dominant purposes. One is to show that Louise Howard played a vital part in helping spread Albert's ideas, and that she should therefore be recognized as a major figure in the development of the international environmental movement. Barton sees her as having, during the 1950s and 1960s, connected past ideas of wholeness to twentieth-century scientific narratives. The second purpose is to uproot the misconception that Howard's humus-based philosophy of agriculture was arrived at primarily by observing methods of peasant cultivation. Barton identifies this reviewer as one of the myth's uncritical chief purveyors, though its origins lie in Howard's own summing-up of his career (see p. 17 of *Farming and gardening for health or disease*, 1945).

The question therefore arises of why Howard so explicitly misled his readers. The implications of Barton's argument seem to be that Howard wanted to present a simplified and combative picture of where he stood towards the end of his life. The material which Barton presents demonstrates beyond doubt that Howard's scientific pilgrimage towards uncompromising advocacy of humus farming was much more complex and ambivalent than he was prepared to reveal in his two last books. Indeed, it appears that Howard actually owed a considerable amount to work done at Rothamsted Research Station, a place of which in his later years he wrote scathingly, condemning it as 'the Mecca of the orthodox' (*Farming and gardening for health or disease,* p. 79).

In 1921, the Rothamsted scientists H. B. Hutchinson and E. H. Richards published an article which laid out the principles of organic farming: namely, 'that

composting vegetable matter such as straw into a fertilizer as potent as animal manure in an age of a decreasing supply of animal manure could change agriculture in a significant way' (pp. 77–8). Barton argues that Howard did not give full credit to Hutchinson and Richards, whose work provided the basis of his Indore Method of composting. Instead, he popularized his own work 'by pointing to the romantic notion that the origin of his own innovations were Indian and Chinese peasants' (p. 79). Perhaps future scholars will uncover material in the Howard archives which will challenge this contention. (Equally, perhaps they will not.) Nevertheless, Barton offers substantial evidence that Howard was, earlier in his career, a much more 'orthodox' scientist than he later became.

Barton himself perpetuates a myth by writing that Howard's ideas were ignored, rather than challenged, during the 1940s. Actually, the agricultural press was full of letters and articles about 'the great humus controversy' during the war years, a period which Barton largely ignores despite its importance for the growth of the organic movement. Rothamsted's centenary in 1943 provided an ideal opportunity for the advocates of humus, inspired by Howard, and the advocates of artificial fertilizers to clash with each other. The chemical fertilizer companies were sufficiently rattled by Howard's attacks on their 'devil's dust' to launch advertising campaigns mocking the supposedly primitive ideas of their critics.

Barton's research is impressively wide-ranging and detailed, full of new information and insights. Its summary – far from hagiographical – of E. F. Schumacher's life and thought may prove, for Schumacher's environmentalist admirers, one of its most unsettling sections. Although the book traces the stages by which the organic movement became 'globalised', it has necessarily to focus on certain areas of the globe, and there is an interesting section on Japan as 'a key player on the global organic scene' (p. 176) from 1945 onwards.

The global history of organic farming follows hard on the heels of Dan McKanan's *Eco-Alchemy* (reviewed in volume 66 part 1 of the *Review*), which suggested that there might have been no organic movement at all without the part played by Rudolf Steiner's disciples and their commitment to biodynamic methods. Anyone reading Barton's book will find it frankly impossible to accept such a contention. If McKanan had had the opportunity to read Barton before writing *Eco-Alchemy*, I doubt that he would have made such a claim.

PHILIP CONFORD
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WILLIAM SITWELL, *Eggs or Anarchy? The remarkable story of the man tasked with the impossible: to feed the nation at war* (Simon and Schuster 2016). 368 pp. £20.

This wide-ranging account focuses on the contribution of the highly acclaimed Lord Woolton, a successful executive and later managing director of Lewis's department store in Liverpool who, between 1940 and 1943, became infamous as the Minister of Food. It explores the way Woolton set about coordinating the activities of the Ministry to ensure that the nation was adequately fed at a time when imports of food – which Britain depended heavily on – were under attack from the Axis powers. The text, based on a plethora of primary sources, including new access to Woolton's own diaries and those of his first wife Maud, makes a long overdue contribution towards filling a void in the literature.

It is somewhat of an exaggeration to claim, as the title implies, that the choice was between eggs and civil anarchy, social unrest, and in its wake, disillusionment with the war effort. The book makes a number of very pertinent points about the wartime shortage of eggs and the efforts made to ensure that this did not undermine support for the war effort. It provides a perceptive critique of the wartime egg collection policy and the opposition to the use of the ubiquitous, infamous and much reviled dried egg powder. Rather surprisingly, the author does not explore in more detail how the Ministry of Food misguidedly attempted to persuade the population that dried egg powder was the same as fresh eggs, and that their poor opinion of it was the result of the way they were mixing the powder prior to cooking it.

A sharper, more evaluative focus on the implications of the wartime strategy of expanding arable farming at the expense of livestock production – particularly commercial chicken production – would have provided a more convincing justification for the title. The precarious and often difficult relationship between the Ministry of Agriculture (which was responsible for coordinating production) and that of the Ministry of Food (responsible for coordinating distribution) is covered in a rather general way.

The text is particularly valuable in terms of its contribution to enhancing our understanding of Churchill's mercurial relationship with Woolton and the difficulties they both faced in maintaining public support for the way they ran the war effort. It also provides a detailed insight into Woolton's dealings with the press, explaining that he was the master of public relations and particularly astute in stressing the wartime achievements of the Ministry. The text reveals

how Woolton was aware enough to direct his appeals to women, who were the main food provider utilizing a wide range of media including posters and broadcasts to disseminate his practical advice, combined with patriotic appeal. Sitwell's analysis shows how Woolton was able to gloss over what were, on occasions, less salubrious aspects of his work and how he went to strenuous lengths to implement rather dubious plans to ensure that the nation was well fed.

As such, the book will be of considerable interest to a wide range of readers. It is written very much from the standpoint of a journalist rather than an academic, with footnotes or endnotes being absent. From the point of view of an academic who would like to be able to interrogate the sources for themselves, this is a matter of concern. The author provides many tantalizing insights into the nature of the wartime system of food control, the population's disillusionment with the way the war effort was proceeding and the personality of many of the leading politicians. The text is complemented by an impressive selection of pertinent photographs to support the analysis.

The book contains its fair share of factual mistakes, the most glaring being on p. 102, when it claims that wheat was being sold for $85 a bushel. In a similar way, the wartime increases in the use of home-grown wheat for bread making, coupled with the increase in the extraction rate (the amount of flour produced from a fixed quantity of wheat), could have been more closely integrated with the development of the 'national loaf' which contained a much higher amount of bran.

In spite of these criticisms, which are relatively minor in nature, this is a text well worth reading for the insight it provides into the Woolton's career and his vitally important contribution to saving the country from malnutrition, if not actual starvation, during the greatest conflict in the history of the world. The reader would be advised to be slightly sceptical of some of the assertions the author makes, given the absence of footnoted references. Overall, the book's considerable merits significantly outweigh its shortcomings. It constitutes a valuable addition to not only enhancing our understanding of how to ensure that the nation is adequately fed in wartime but also raises many pertinent nutritional issues about ways of maintaining a healthy balanced diet in peacetime.

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Europe and elsewhere

GUIDO ALFANI and CORMAC Ó GRÁDA (eds), *Famine in European history* (Cambridge University Press, 2017). xi + 325 pp.

This collection of essays offers a comprehensive and systematic history of famine in Europe by eminent experts in this field of research. The introduction and nine regional chapters are followed by the final part, which examines the episodes of famines occurring due to disruptions of food supplies during World Wars I and II or in their immediate wake. The book ends with an extensive bibliography list and index.

Throughout the book, Cormac Ó Gráda's definition of famine is used: 'a shortage of food or purchasing power that leads directly to excess mortality from starvation or hunger-induced diseases' (p. 2). Secondly, a common methodology has been defined to be applied to regional reconstructions relying on time series of deaths/burials. There was crisis if the number of deaths exceeded the 'normal' (calculated by different methods) by 50 per cent or more. Chapters on England, France, the Low Countries, Italy, and to a lesser extent on Sweden, succeed in combining information on prices with that on deaths for centuries. If price fluctuations and/or mortality response to increases in the price of cereals could not be measured, authors have relied on qualitative data or available historiography (most notably in the chapters on Russia and Germany).

Contributors avoid entanglement with ideological controversies. The editors declare that 'the two common views of famine – either that they are man-made catastrophes or, instead, that they are the result of inadequate production – should not be seen as conflicting but as complementary' (p. 3). In a politically sensitive question – that is, whether there was intentional Soviet policy, beyond mere callousness and ruthlessness, behind the Ukrainian and Moldovan famines of the 1930s and 1940s – Stephen Wheatcroft points rather to ignorance and poor judgement that exacerbated the consequences of poor harvests.

The characteristics of European famines were very varied and different causal factors seem to have prevailed in different places and epochs. Severe subsistence crises were mostly triggered by inadequate production but the outcomes were always mediated by human agency and by institutions (pp. 3–4). Famines are 'extremely complex events' and the editors rightfully argue that explaining any single famine must take into account the specific context in which it occurred (p. 16).

The volume provides a valuable reconstruction of the chronology of the main events based on rigorous data collection and analysis. The spatial scale at

which famines occurred varied enormously between individual famines, and the book mostly focuses on the supra-regional or even 'continental' famines. The earlier conclusion about the exceptionality of widespread famines is largely confirmed. The worst famines on the continental as well as the national scale are identified. On the continental scale, the worst crises occurred in 1315–17 and in the last decades of the sixteenth and seventeenth centuries. The eighteenth-century food crises were smaller in scale. In the nineteenth century, the famine of 1845–50 affected a relatively small part of Europe. In making the latter claim, however, the editors seem to jump to conclusions without having carefully studied central and eastern European circumstances.

Nine regional chapters mostly cover the period from the late Middle Ages to when famine ended in each area. Each chapter analyses the scope and the severity of the famines, points out the most important ones, and discusses the characteristics, the consequences and the causes of famine but the latter to different extent. The comprehensiveness varies largely according to the availability of earlier studies as well as of good documentation, a circumstance that places England, France, the Low Countries, Italy, and Spain in a clearly favoured position.

The book presents several general trends, common features and supra-national developments: the links between the occurrence of famine and natural disasters, ecological shocks and changes in climatic trends; changes in the international grain trade; improvements in market integration and transport systems; population dynamics; introduction and spread of new crops, and extensive warfare. Some important aspects like urban/rural and social disparities are, however, largely overlooked. The role played by public institutions in food provisioning is examined but not systematically analysed in all of the individual chapters. Religion and ideology also influenced the stance on relief in various ways and are discussed in some of the individual case-study chapters.

Differences in living standards, the role of rising incomes in reducing vulnerability to famine, and disparity between West and East need more thorough discussion. The editors are aware that the apparent scarcity of famines in eastern Europe does not reflect a condition of better food security but refer to the relative scarcity of information. As a result, countries with higher living standards are relatively better covered. It seems that sudden external shocks are more likely to draw scholarly attention than structural and chronic problems in the under-developed periphery. Wheatcroft points to the question about the comparability of western and eastern European (or Russian) magnitudes of crises where in the latter normal mortality was high and high levels of hunger were normal. In scholarly literature on Tsarist Russia, it remains unclear whether there was an association between the changes in mortality (on the local scale, at least, crisis years, when the number of deaths exceeded the moving average by more than 50 per cent, occurred often in the nineteenth century) and fluctuations in prices or not, and if not, which factors and coping strategies account for that. Wheatcroft argues that the nature of food difficulties was determined by specific geographic conditions.

Finally, a methodological question arises about the scale on which we can evaluate mortality figures in order to talk about famine in a country. Regional differences are a key feature of famines, and for example, Chapter 9 on Sweden analyses county-level data as well. Given the size and ecological and socio-economic diversity of several countries, disaggregating the data to at least provincial or preferably even county level would reveal several episodes of severe crises in these regions. Focusing on magnitude leads to underrating or ignoring famine suffering and mortality effects in regions that were parts of large states (Ireland, however, seems to enjoy a special status in this regard as it has a separate chapter devoted to it), although regionally limited famines could be of very severe intensity or even devastating.

To conclude, this book is a highly ambitious attempt to offer a broad and quantitatively rich picture of famines in many parts of Europe from Late Middle Ages to when they ended, by exploring their scale, characteristics, causes and effects. It is a formidable task and not all contributors have accomplished it with the same degree of completeness. The volume summarizes earlier studies as well as pointing to as yet unexplored areas awaiting further research.

KERSTI LUST
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JANE WHITTLE (ed.), *Servants in Rural Europe, 1400–1900* (Boydell, 2017). 284 pp. £19.99.

The institution of service was an important, and sometimes dominant, form of wage labour in many rural early modern European societies, and one that persisted in some areas well into the modern era. Servants were workers who lived in the home of their employer, were paid a cash wage plus board and lodging (and sometimes other payments in kind) and were hired on a long-term contract. Their presence had many implications for demographic, social and economic structures but, as Jane Whittle points out in her introduction to this volume, there has yet to be a

book that compares the European experience of service across time and space. This book is therefore a very welcome contribution to our understanding of service and servants in rural Europe.

Whittle's lucid and accessible introduction is followed by twelve chapters, which span the early fifteenth to the early twentieth centuries and cover eight areas: Flanders, England, Sweden, Westphalia, Italy, France, Groningen and Norway. The range of primary sources on which these chapters are based is impressive, from the accounts of landowners, householders and farmers, to taxation and census listings, parish registers, and court records. Taking the subject forward in different ways, many of the chapters also acknowledge the influence of Ann Kussmaul's *Servants in husbandry in early modern England* (1981), whilst casting a critical eye over this landmark publication.

The volume is wide-ranging and is a constant reminder of the significance of local and regional contrasts; service was a changing and adaptable institution that differed from country to country, region to region and sometimes farm to farm. There are many themes that emerge. The number and type of servant hired depended on farm size, patterns of landownership and methods of production and was segregated by gender. In coastal Flanders in the fifteenth and sixteenth centuries, male servants were always in the majority but in the sixteenth century, female service thrived where large farms were absent. Similarly in seventeenth-century Sweden, a male workforce was more dominant where grain production was widespread but women were hired where livestock farming predominated. On the small-scale farms of parts of Norway, if the household could afford a servant, it was most likely to be a woman. But in areas of eastern France in the eighteenth and nineteenth centuries, pastoral farmers had a preference for male servants rather than female. Here rural service gradually became more masculine as urban service became more feminine. Hiring arrangements changed over time; in sixteenth-century England, hiring relied on local, family and business connections, with entry and exit points across the year, whilst in nineteenth-century West Yorkshire, the hiring or statute fair was dominant. The wages that servants received varied according to age, experience and gender, but a male-female wage-gap was almost universal, with adult female wages showing little progression.

Whilst the life-cycle pattern of service was dominant, with servants overwhelmingly young, unmarried and mobile, there were some exceptions to this. In an effort to control movement and restrict the freedoms of young men and women, in many areas service was heavily regulated by law, but we are also shown that service could be elastic. In the case of sixteenth-century England, Charmian Mansell's chapters show that service was a flexible form of work for young women, with periods of casual labour and service not necessarily mutually exclusive. Hanne Østhus points out that the term 'servant' could be porous and in seventeenth-century Norway, many men were both soldiers and servants.

Finally although servant voices are difficult to access, their motives, demands and networks emerge. In early modern Flanders, Thijs Lambrecht shows how servants maintained close connections to their kin through home visits, and the transfer of money and goods. Similarly in Italy, Raffaella Sarti demonstrates that service did not necessarily weaken family ties. The hiring fairs in nineteenth-century England are shown by Sarah Holland to be contested ground, servants defending their rights to a holiday and face-to-face bargaining whilst local elites launched a concerted, if unsuccessful, effort to suppress them.

This is a really coherent and accessible volume of essays, which has been expertly edited. Available in paperback, for a modest sum the reader will be treated to a range of methodological approaches that serve as models for future research. Service took many forms across Europe and beyond; the continuities and changes can be brought out by careful comparative work, as this volume proves.

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CHRIS BRIGGS and JACO ZUIJDERDUIJN (eds), *Land and credit. Mortgages in the medieval and early modern European countryside* (Palgrave Macmillan, 2018). xviii + 339 pp., 23 b&w illus. £123.

This book emerged out of a lively, exciting and stimulating international symposium on land and credit in the medieval and early modern countryside, held at Selwyn College, Cambridge, in 2015. Not all the authors here gave papers: the collection has benefited from a number of additional contributions, and an afterword by Craig Muldrew. The result is an engaging and illuminating set of comparisons of land-based credit and its development across Europe during the periods under review.

The introduction by Briggs and Zuijderduijn provides an excellent overview of the main threads running through the collection, including a discussion of the contract types that were available in pre-modern Europe, all of which were derived from Roman law. The *fiducia*, where the creditor had ownership but the debtor retained possession (the more attractive contract for lenders), and the *hypotheca*, in which the creditor had

a possessory interest only (the preferred contract for borrowers), were the most common, although there was regional variation. Moreover, the use of the *hypotheca* expanded from the late Middle Ages to become the most usual type of contract across north-west mainland Europe by the early modern period.

Credit could be extended on the security of goods, livestock and people, but land offered the strongest form of protection for creditors; as a result, it could support larger amounts of borrowing. The instruments varied however. The annuity was envisaged at the outset as a long-term arrangement. In the Low Countries, *renten* could be sold for the life of the buyer or as perpetual annuities, in which the duty to pay passed to the heir; the latter increased in popularity in the fifteenth and sixteenth centuries. The mortgage on the other hand, at least in England, often began its life as a short-term instrument of between one and five years that was then rolled over for as long as the arrangement was mutually acceptable. This may in part have been a function of the fact that the mortgage market was essentially localized, apart from a few of the largest loans.

The collection reveals the impact of a number of factors that affected the development of land-based credit in the medieval and early modern countryside. On the one hand, the use of land as collateral increased as mortgage instruments and law became more debtor-friendly, including the right to redeem. In Gayton's study of copyhold mortgages on Hampshire manors in the seventeenth century evolving attitudes to usury played an important part, despite little correlation between the statutory interest rate and borrowing, while Wedd's study of the middling yeoman and gentry in Kent ties changes in the use of the mortgage to the growing availability of the right to redeem during the seventeenth century. In De Luca and Lorenzini's study of mortgage credit in central northern Italy, the interest of the church in regulating and reinforcing the use of the *census consignativus*, through which it was possible to circumvent usury restrictions by using a 'sale and lease' transaction, led to the instrument becoming widely used to support infrastructure projects in rural municipalities, as well as for the expansion of manufacturing and trade.

But shifts in the use of the land-based credit were affected by economic and social factors as well as legal changes, and were not always linear. The growth in the annuity market in rural Brabant in the sixteenth century, for example, was more closely correlated with the exceptional growth of Antwerp, and urban demand for land from commercial buyers. On the other hand, in Alsace in north-eastern France, new groups of creditors from the liberal professions, who were interested in neither the payment of interest in produce, nor the acquisition of land, preferred additional guarantors from the 1760s; as a result, the use of land as security fell away.

The collection provides a welcome reassessment of a number of key themes in the historiography of land and credit. In line with recent revisions of small farm productivity, the mortgage takes on a more positive role in the economy. Although there were always cases of default, the mortgage does not appear in to have been used primarily as a crisis instrument, nor as a method of land grabbing (but see Schraer's chapter on the Jews of late medieval Aragon). Few debtors in southern Holland lost their property through foreclosure, for example, because decisions on default had to be made by local judges, who saw it as a measure of last resort. Stripping insolvent debtors of their land was neither automatic nor inevitable in central northern Italy either, although retaining debtors on mortgaged land had its benefits for creditors. The collection also offers some welcome nuancing of the New Institutional Economics' position on property rights. Despite a lively credit market, the use of mortgages *was* less common in late medieval England than in Flanders, where the system of property rights was strong. But in Onacker's study of the Campine area of the Low Countries it was the influence of community structures as much as the strength of property rights that affected the take-up of credit. Rather than operating as a motor of growth, mortgaging appears instead as a means to stabilize community life. The mortgaging of land also formed part of wider household strategies to secure landholding for the future.

This collection is a must-read volume for anyone interested in land-based credit, and not just because of its wide-ranging contents. It suggests that to understand fully the development of the mortgage we have to consider the perspective of the debtor as well as the creditor, for whom the increased flexibility of land-based credit was a real boon. This means we have to examine land-based credit through the lens of the family as much as the economy: mortgages allowed landholders to negotiate current liabilities *and* preserve their patrimony. In addition, it seems that the key to economic growth is not to be found in land-based credit alone; for that we have to look to the wider availability of a variety of credit forms.

JUDITH M. SPICKSLEY
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ANGELA THOMPSELL, *Hunting Africa. British sport, African knowledge and the nature of empire* (Palgrave Macmillan, 2015), xiii + 229 pp. 3 b&w illus. £63.

Thirty years ago, little or no scholarly attention had been directed towards hunting and its role in imperialism, particularly in Africa. There were, of

course, literally dozens of books by hunters themselves, proudly describing their exploits, as well as widespread products of their hunting in museums and country houses. Since then, a number of scholars have turned their attention to this important environmental topic and it has now reached that mature stage where it is necessary to consider what each new book adds to an already rich historiography.

Thompsell herself is quite clear: she is dealing with sports hunting through a sequence of phases from the pre-colonial period through the intermediate stage of the establishment of European power and into the early decades of the colonial period. More particularly, Thompsell is concerned to demonstrate that through big game hunting, Africans were able to control the movements and access of hunters to the game they required. Africans, particularly chiefs but also those who provided essential services in leading 'caravans', held the levers of power for a number of decades, including the knowledge of the location of game, the characteristics of various animals, and the capacity to supply trackers and other auxiliaries of the hunt. Indeed, she goes further and suggests that it was precisely these controls over one of the most significant of all activities in the European approach to Africa that enabled some chiefs to maintain traditional authority systems when colonial power was being established. Moreover, she sets out to demonstrate that hunting was not always the supremely masculine activity it has frequently been portrayed as being, but that a fair number of women (obviously, elite women with the money to indulge this passion) were involved and were accepted into the magic hunting circle in Africa, even if their access to institutions in Britain – such as the Royal Geographical Society and the conservation associations – was severely limited into the twentieth century. Yet these women avoided becoming honorary men, bringing instead a distinctive set of characteristics and attributes to the sporting hunt and its significant result in trophy collection. Thompsell considers whether these enterprising women hunters could be considered as 'new women' in the freedoms that they pursued. Yet, it is surely the case that those women in Britain who were considered to be 'new' in terms of gender freedoms, politics, employment, and intellectual ideas would have deprecated the kind of elite and inevitably well-heeled women who chose to use Africa as their field for exploratory and shooting experiences.

Such sports hunting was distinguished from commercial hunting for the saleable products of the hunt (not just ivory, but also skins, horns and trophies), which Thompsell suggests was an activity much looked down upon by those pursuing hunting for sport. This also eliminates from her consideration hunting as a subsidy (both in terms of its products and in the form of meat for workers) for the establishment of colonial power, for missionary expansion, and for the provision of infrastructure as in railway building, or again as a means of subsidising initial white settlement and the clearing of land for agriculture. Indeed, while the book adds some interesting new material to the literature of hunting, its limitations lie in the fact that it fails to pull together so many other aspects of the relationship among Europeans, Africans, the fauna of Africa, and the environment generally. In the case of Africans, the great game of Africa presented both an immense danger and an opportunity. Animals posed a threat to crops and sometimes to human life, such that all kinds of devices and human endeavour had to be used to keep wild animals off both cultivated land and domestic stock. In some cases that helps to explain why Africans were so often relatively eager to help European hunters. However, most African areas were regions of periodic drought, consequent crop failure and sometimes famine. At such a time, the great faunal resources of the continent could become vital to survival and Africans had long developed many hunting techniques for the supply of meat – and also perhaps for commercial products suitable for sale. Moreover, once Europeans arrived to create capitalist agriculture, the effects upon animal populations were manifold. Settlers would asset-strip the beasts upon their extensive lands (that is, throughout southern Africa up to the Zambezi and beyond as well as in East Africa) in order to kick-start both the economics and the physical clearance of the land in its conversion into commercially productive farms. In an oral history project I conducted in Zimbabwe in the 1970s, almost all my African informants noted the retreat of animals from the land, the disappearance of their opportunities to hunt them, and of the inter-relationship of faunal populations and agriculture, traditional and colonial.

While it is true that Thompsell asserts that her focus on sport precludes such a wider consideration of the role of hunting, it does still seem like a major omission from the book, perhaps influenced by her apparent concentration upon publications and archives available in the United States and in Britain, with apparently little experience of Africa itself or understanding of environmental issues upon the ground. Moreover, if the focus is on sport, it would have been good to have had some consideration of the remarkable number of safari companies which grew up, notably in East Africa, to service the shooting passions of the hunting fraternity once colonial rule had been established. While some

work has been done here, we still await a fully comprehensive economic evaluation of these developments. Nevertheless, the book has many acute observations and makes a very real and original contribution to the literature of hunting. While it points to the ways in which Africans maintained power and turned the hunt into an inter-racial joint operation, as well as offering a fresh analysis of the gendered sphere of hunting, nevertheless it would have been interesting if it had taken the longer view – however briefly – of the role of Africans in modern game preservation and sports hunting, and in the manner in which so many of the farms and plantations created in the colonial period have now been turned over to the lucrative tourist activity of game viewing.

JOHN M. MACKENZIE
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RACHEL HERBERT, *Ranching women in southern Alberta* (University of Calgary Press, 2017). 212 pp., 40 b&w illus. $29.93 CAD/USD.

This book stems from the author's sense of a discrepancy between her own family's lived experience of the Canadian ranching frontier and how its history is portrayed in books and popular culture. Throughout the book, the myth of a landscape dominated by male cowboys is proven to be highly misleading and only kept alive in historical works through a selective use of sources. In this way, the author positions herself within the revisionist historiographical camp that aims to correct gender-biased narratives and more accurately recognize women's role in history.

This study of the southern Alberta ranch-lands covers the period between the first introduction of cattle herds in the 1880s to about 1930. Drawing from published and unpublished memoirs, diaries and letters, the focus is placed on the 'lived experience' of the pioneer generations of women on the Alberta frontier. Other sources include photographs, interviews with descendants and material artefacts (just consider the significance of saddles!)

Family farms developed into the most successful ranch model in this period and increasingly replaced the initially widespread, but often failing, large-scale open-range ranches. The family ranches' pre-eminence has previously been explained in terms of their ability to easily adapt to the environment and in their combination of mixed farming with extensive livestock grazing. In addition, the author argues that a crucial aspect in the making of family ranches' success was the efficient integration of women into the production and management of the ranch. Reflections on the economic aspects of ranching do not constitute the core of the analysis, however: instead the focus remains on the women themselves and their lived experiences.

The three first chapters respectively discuss the role of women in the emerging cattle ranching industry, the place of the family ranch within this context, and the gendered division of labour on the ranch. Throughout these chapters, the argument that women played a significantly more active and varied role in ranching than has previously been acknowledged is much repeated. Moreover, the author does not content herself with simply refuting the masculine cowboy myth, but she further argues that the encounter with the 'frontier existence' reformed gender roles and created opportunities for female emancipation. This is possibly the book's strongest contribution. The analysis of how Victorian women turned themselves into labouring cowgirls on the frontier is a revealing example of how gender roles can be negotiated, dismantled and reconstructed by the historical conditions in an agrarian milieu.

In the initial settling phase, the author argues, the labour of all family members was required to be able to establish the ranch. In addition, husbands often had to be absent for temporary wage employments and many wives got used to running their ranches independently. Furthermore, family ranches often relied on supplementary sources of income such as eggs and dairy products and women were often responsible for this production. Ideally, in the author's view, the ranch was based on a companionate marriage where both labour and love were shared. In such a constellation, the division of labour was a matter of pragmatics and it was not uncommon for husbands to do the dishes, wash clothes, or perform other domestic tasks in order to set their wives free to do urgent outdoor ranch work.

Expanding the analysis of the women's productivity, the fourth chapter explores their reproductive labour. Human reproduction was, of course, essential in securing the ranches' future on the isolated frontier. However, childbirth was also in all likelihood the greatest and most fatal risk women were exposed to, isolated as they were from both reproductive knowledge and skilled care. In this context, material inequality seems to this reviewer to have been a more crucial issue than Herbert acknowledges in her claims that 'class was a factor that mattered little in the daily realities of sustaining a home and family on the frontier' (p. 49) and that 'women were equalized by their birthing experiences' (p. 87). On the contrary, several examples in the book suggest that there was a considerable difference between those who were forced to work until shortly before giving birth and immediately afterwards

and those who could instead afford rest and hired caretakers. This inequality is neglected in the author's general conclusions.

In the fifth chapter, the female condition is examined in relation to material artefacts such as saddles and clothing. This chapter explores how women navigated between fashion and function and often successfully managed to be both Victorian ladies and riding ranch labourers. The final chapter emphasizes the importance of women's relationships to horses for their frontier emancipation. On the back of a horse, a woman rancher was just as able to work as her male equivalent. The horses also allowed women to break free from their isolated location and to find recreation, pleasure and interspecies affection and love. These two chapters effectively expand the general argument that women's gender roles were transformed through their frontier existence.

An appendix comprising the unpublished memoir, 'My sunset childhood', by the ranching woman, Constance Ings Loree, is included. Although the memoir would have benefited from being accompanied by an introduction or comment by the author, it synthesizes most themes covered throughout the book's six chapters and enriches the author's ambition to bring women's lived experiences to the forefront. The generous number of photographs from archives and private collections reproduced in the book similarly animates the story and strengthens the argument.

Rachel Herbert hopes that her publication will become a catalyst for further study and the reviewer can only agree that this would be much appreciated. This is not least the case with regard to the role of indigenous women who – even though they were the area's first female ranchers – are excluded from Herbert's study. Nevertheless, *Ranching women* provides a strong, personal and thoughtful account of the historical importance of 'cowgirls' and of how gender was reconstructed in people's mundane encounters with the ranching frontier's environment, everyday challenges, material artefacts and horses.

JENS AMBORG
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ZOE LAIDLAW and ALAN LESTER (eds), *Indigenous communities and settler colonialism: land holding, loss and survival in an interconnected world* (Palgrave Macmillan, 2015). xii + 270 pp., 8 maps, 4 illustrations. £74.99 hbk, £64.99 pbk.

Zoe Laidlaw and Alan Lester have compiled an impressive and international collection of case studies on a neglected aspect of one the most significant spatial shifts in agricultural production, namely the expansion of settler colonialism to large expanses of the Americas, Australasia and Africa. As was the case with Henry Reynolds' classic *The other side of the frontier* (2006) the authors' focus is on the 'other side', namely the impacts on and the responses by the indigenous inhabitants of these lands, rather than on the experiences of the settler colonists.

In their insightful introduction, the editors consider how the spaces of settler colonialism were 'co-created by uneven indigenous and settler capacities' (p. 7) and how this imbalance of power characteristically obliged the indigenous inhabitants to adopt a 'Christian, agricultural indigeneity' (p. 4) as a survival strategy. Both in the introduction and in the case study chapters, therefore, this volume is a study of 'indigenous dispossession and resilience' (p. 5) at, collectively, a global scale. Although the spatial coverage is restricted to the Anglosphere, with four chapters on Australia, three on Canada, two on South Africa and one each on New Zealand and the USA, the case study chapters cover a diverse range of environments and issues and the contributions by historians are complemented by those of political scientists, lawyers and criminologists and of two indigenous authors.

One of the strengths of this collection is its provision of overlapping perspectives on the processes of dispossession and resistance. In the Canadian case, this is achieved in scalar terms. Adele Perry considers how vast expanses of the Hudson's Bay Company's territory were made available for agricultural settlement, while Sarah Carter describes how, within this area, a single Indian Reserve in Manitoba was increasingly threatened before being finally opened up for agricultural settlement. In the Australian case, the Aboriginal reserve and mission of Coranderrk in Victoria is considered in Julie Evan and Giordano Nanni's chapter through the lens of indigenous submissions to an 1881 parliamentary inquiry and, in Joanna Cruikshank and Patricia Grimshaw's contribution, through that of the life and writings of the settler woman and Aboriginal advocate, Ann Bon. The development of the Spanish Benedictine community at New Norcia in Western Australia is described by Tiffany Shellam.

The role of sympathetic, and generally religious, sections of the settler communities is an almost ubiquitous component of these case studies. Most describe the fates of indigenous reserves that were also missions for a range of Christian denominations. Equally ubiquitous is the related theme of the 'coming together of white humanitarian and indigenous agency' (p.12) with, in most cases, negative longer-term results for the original inhabitants. By adding Christian and agricultural components to their indigenous identities,

the subjects of the case studies frequently came to be seen as less 'pure' by the settlers and therefore they and their lands were deemed to be less deserving of special protection by the colonial and state authorities. Carter aptly cites Homi Bhabha's observation in his *The location of culture* (1990, p. 190) that 'colonized subjects who mimicked the colonizer were the most menacing' and the examples from Canada, Australia and South Africa all demonstrate how settler authorities could use 'divide and rule' tactics to distinguish and discriminate between those indigenous inhabitants who sought to assimilate (doctrinally, agriculturally and/or sexually) and those who did not. These issues are developed in the chapter by Mark McMillan and Cosima McRae on the 1886 Half Caste Act in Victoria and the wider implications of the many legal definitions of Aboriginality.

Nevertheless, the collection also acknowledges local complexities. Both of the South African case studies, by Robert Ross and Kate Vernal, address the extra layer of difficulty provided by the ethnic diversities of the native and settler populations. The chapters by Cecilia Morgan, on the Haudenosaunee in Ontario, and Kelli Mosteller, on the Potawatomi in Kansas, consider the difficulties experienced by indigenous groups seeking to retain both land and identity following forced removals from their original territories. Angela Wanhalla traces the sequence of Maori dispossession of their wetland reserve, not for direct settler agricultural purposes, but for the wider ends of river management and flood control.

Overall, this collection offers a thought-provoking and – at least to this reviewer – a depressing account of a process of largely successful indigenous dispossession and of often determined, but ultimately unequal, indigenous resistance. Much of the material in this volume relates to the nineteenth and early twentieth centuries, but the impacts of the events described therein endure. On the one hand, the Peguis First Nation received $C126 million in 2008 in compensation for the illegal transfer of St Peters Reserve from the ownership of their ancestors. On the other, disparaging settler testimony from the 1881 inquiry on Coranderrk was used by an Australian court to dismiss a Native Title claim in 2002. This book contains very occasional editorial errors (an inconsistent reference date between the text and the bibliography; a chapter cross-reference to the wrong map), but it thoroughly and carefully addresses important and complex issues that are relevant not only to agricultural but also to imperial, colonial and indigenous histories.

ROY JONES
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SARAH THOMAS KARLE and DAVID KARLE, *Conserving the Dust Bowl. The New Deal's Prairie States Forestry Project* (Louisiana State University Press, 2017). 170 pp. US $35.

Conserving the Dust Bowl explains how and why a few people with a combination of relevant knowledge, experience and political skill initiated and managed a huge but focused tree-planting programme intended to ameliorate the horrors of the 1930s Dust Bowl in six states of the USA. It is a welcome and well-researched account of the ethos, policy and practice by which 18,000 miles of wide shelterbelts were planted on 33,0000 farms, using 220 million trees, in only seven years. This book emphasizes how fulfilment also depended on practical but astute 'grass-roots' foresters, ecologists and soil experts who not only surveyed the land, but were influential in persuading farmers and local politicians of the necessity of the proposed work. The groups which carried out the actual tree-planting are included in the account. Contemporaries recognized the Dust Bowl as an environmental, economic and social disaster caused by loss of the soil-binding prairie grasses through intensive ploughing, cropping and overgrazing by cattle, by tree removal to make railway sleepers, a long drought and the collapse of world wheat markets.

The book starts with a useful description of the six Dust Bowl Prairie States – Texas, Oklahoma, Kansas, Nebraska, South Dakota and North Dakota – their low rainfall, soil infertility, hot, dry summers and lack of trees (except on their eastern margin). Europeans settled this inhospitable region when governments encouraged families to buy inexpensive farm lots whilst at the same time persuading railroad companies to extend their lines ever westward.

The words 'Dust Bowl' evoke a flat landscape to a distant horizon, black clouds of soil blowing as far as the Atlantic Ocean, and starving or dead stock animals lying out in the vicinity of small, isolated farmhouses. Into this scenario came President Franklin D. Roosevelt, Gifford Pinchot, the forestry advisor for Roosevelt's private estate and director of the USA Forest Service, as well as Raphael Zon, director of a forest research station. Planning the *Prairie States Forestry Project* took them from 1933 to 1935, while from 1935 to 1942 they oversaw its fulfilment.

The idea of large-scale shelterbelt planting across six Dust Bowl states, forming a wide north-south corridor was probably Gifford Pinchot's. The importance of tree-planting, particularly in treeless regions, had been recognized in the USA since the mid-nineteenth century.

Franklin D. Roosevelt (President, 1933–45) was a knowledgeable amateur forester with experience from his own estates. The 'Forester President' had strong

feelings for the outdoors and took a pivotal role in the organization and fulfilment of the Project. He understood that fulfilling environmental, economic and social needs (with all three equally important) was critical to moving from the uncertainty of the Great Depression towards nationwide stability. President Roosevelt's forceful personality raised enough money to start the Project, while professional forester colleagues worked to obtain political respect and support, which were initially lacking.

Conserving the Dust Bowl explains that the two years of planning included a detailed environmental survey of the six states, setting up tree nurseries, and spending time working with farmers and local politicians to convince them that their involvement would be beneficial. I was interested to learn that Forest Service staff carried out surveys of climates, soils, native vegetation and the results of previous tree planting. They recognized that knowledge of climate, soils and the tree species suited to each locality were vital preliminary data. They devised and advised on the length, breadth, shape and tree-spacing of shelterbelts.

The resulting 200-page scientific and technical report was in great demand by practitioners when farmers, unemployed people and Conservation Corps started to plant the shelterbelts. Planting was organized on a landscape grid, based on the meridians used for national survey of new states; then a local survey assessed prevailing winds, shelter and amenity for buildings, position of railroads and existing infrastructure.

There is a useful discussion of the ethos on which the so-called Shelterbelt Project was based: on the American realization of the importance of trees, of the equality of environmental matters with other national interests, and the acceptance of farmers' duty as stewards of the land to conserve the landscape. The US Forest Service had been set up with resource conservation as one of its aims, which ensured that its staff recognized the ecological and social role of trees to the nation.

The authors discuss the practicalities of the Project: how local people carried out preparatory clearance and fencing on the planting sites before Conservation Corps or other groups started work. Having chosen fast-growing trees suitable for each locality, the benefits of the shelterbelts were visible as soon as 1940. The obvious effects of shelter – for people, buildings, and stock – were accepted. Long-term benefits to soils, to amenity, wildlife and game also accrued; the authors mention disadvantages too.

The text contains helpful black-and-white photographs and maps. There are sixteen colour photographs taken in Antelope County, Nebraska at the end of the book, which give a picture of the fragmented shelterbelt landscapes of today. Modern infrastructure such as wind turbines and pivotal watering systems have been imposed on the rectilinear shelterbelts, such that they have lost their 1930s/1940s integrity. This book finishes by suggesting how similar big ideas and good organization (based on suitable principles, policies and practice) could be relevant to solving or abating modern environmental crises.

There are detailed notes and references for each chapter. The book is a reasonable price. I found it stimulating and readable and I recommend it as an account of an historic approach to ameliorating human-made ecological, economic and social disasters.

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TOM BRISTOW and THOMAS H. FORD, *A cultural history of climate change* (Routledge, 2016). 244 pp., 8 b&w illus. £110.

Climate change figures prominently in historical studies nowadays. However, most historical climate studies have adopted a natural science approach or use scientific data rather than historical records. The role of historians is often reduced to coming up with useful historical weather or climate data, or explaining how the environment affected human societies.

Tom Bristow and Thomas H. Ford here present a different approach. In *A cultural history of climate change*, the physical climate itself is not the protagonist. No climate reconstruction, temperature series or precipitation estimate will be found in this book. Bristow and Ford have attempted to move beyond the empirical study of climate and provide us a more philosophical investigation into the historical climate. What is climate change in a cultural context? What do we understand by climate change? How have we constructed, mediated and processed this environmental crisis? These questions are as vital as a natural science approach because the climate is all around us. Not only have humans influenced the climate since the Anthropocene, climate is always perceived and experienced through a human lens. Regardless of the exact temperature rise, climate change and variability have become a social fact. Both climate-change believers and deniers have to deal with the issue of climate change. This endeavour to move beyond the physical climate in both present and past is praiseworthy. Unfortunately, this edited volume cannot live up to the coherent introduction because of the rather disparate collection of individual chapters.

Bristow and Ford have divided the individual chapters in three subsections, titled: 'climates of

history', 'climates of writing' and 'climates of politics'. In the first part 'climates of history', the historical origins of our modern concepts and ideas regarding climate change and weather are traced and analysed. This is by far the most interesting and thought provoking part of the book. The neutral character of the way we measure and label weather events or respond to climate variability is deconstructed here. For example, Chris O'Brien shows us that our Western ideas about time, seasons and weather influence the way we interpret weather variability. Western societies have constructed a sense of regularity and linearity to explain weather patterns. Seasons start and stop on fixed days and average levels of precipitation and sunshine can be predicted per month. This culturally constructed concept of time and seasons does not correspond to actual weather patterns however. Variability is more common than our western statistics and predictions allow us to foresee. O'Brien offers several options to move beyond our regular models. This is useful in a time of climate change, when we are trying to distinguish between normal and extraordinary variability. Deb Anderson shows how historical attitudes and visions regarding climate still shape the way we respond to climate change. In the Australian Mallee, farmers have always cultivated a sense of endurance to cope with extreme weather events, such as drought, which persists to the present even when challenged by even more extreme droughts and climate variability. Jerome Whitington, shows that our twenty-first-century positivism and attempts to develop climate models on a global scale are indebted to the first scientific and hypothetical analyses of Joseph Fourier. In his quest to discover the average temperature of the entire globe in the hypothetical situation of an absent atmosphere, Fourier developed probabilistic reasoning and imagined different possible futures, which we still apply today for our future climate reconstructions. Finally, Linda Williams shows that the roots of both our conservation movements as well as our degrading approach to nature can be found in seventeenth-century ideas and ideologies.

The other two sections lack the coherence and relevance of the first section. The stated goal of the book is to show that there are limits to a short-sighted approach to climate and that a cultural history is necessary to think about 'the limits of the present' (p. 31). Most chapters in the last two sections do little to spark a debate, nor do they show the ability of cultural history to challenge current policies or paradigms.

Section 2 analyses how climate change has figured in our modern literature and how prominent writers have thought about climate and weather. In contrast to the title, none of the authors in this section actually discuss climate change *per se*. The authors hunt for ideas about the natural environment, the globe, nature or climate in the works of Wittgenstein, Kant or Zola. Most illustrative are the chapters of Karen Pinkus and Roslyn Jolly. In the chapter 'Fuels and humans', Pinkus links Zola's ideas of the interconnectedness of humans and their environment with our present day Anthropocene, arguing that the descriptions of the fusing of coal mines and coal miners in *Germinal* anticipate bio-engineering. Jolly on her part imagines a link between climate change and the change of climate – or rather medical tourism – that was prescribed to nineteenth-century patients. Yet the authors have missed the opportunity to trace ideas and perceptions of climate and climate variability in historical writings. Climate variability is not a modern phenomenon and human society has been writing about this for centuries, but unfortunately an analysis of pre-modern sentiments regarding weather extremes and climate is missing here.

In section 3 the authors propose a reflexive position, investigating ways in which climate has figured historically in the construction of policies. Nevertheless, a common thread is lacking in this section. Nick Mansfield warns us that a focus on climate mitigation and the idea to return to a fixed point in history – namely 1990 – is a radical political choice rather than a neutral scientific endeavour. S. Romi Mukherjee shows us that the Anthropocene has given rise to a new set of religions, such as eco paganism, humanitarian religion and especially anthropocentric apocalypticism. Nicole Rogers analyses the pros and cons of judicial actions versus activism to counter climate change and develop a new paradigm as opposed to capitalism. Finally, Timothy Morton philosophizes about the concepts of nature and environment in the era of the Anthropocene. The focus lies almost entirely on the last decades and the promised historical approach or attempt to look beyond the twentieth century is largely missing.

As a result, this edited volume provides some interesting individual chapters in the first section, but fails to provide an innovative and relevant cultural history of climate change. The quest to answer what climate change means, and has meant in the past, therefore has to be continued.

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Conference Report
The Society's Spring Conference, 2018

by Henry French

The Society's 66th annual conference was held at the Cannington Centre of Bridgwater and Taunton College, which was formerly Cannington Agricultural College. The conference was housed in the brand new 'National College for Nuclear' facility, and the BAHS was the first organization to use it. The Society has never held its conference in a more secure location, nor have its conference attendees had to pass through so many security doors.

The Society's AGM commenced with a minute's silence in memory of Prof. Michael Thompson, and all that he contributed to the Society over six decades. The first paper of the conference was by Dr John Morgan (University of Manchester) on water management in seventeenth-century Britain. The paper noted that the symbolism of water changed between the early sixteenth and mid-seventeenth centuries. Where early Reformation Biblical translators described paradise as marshy, boggy and unmanaged, their successors a century later assumed that it was a place of fertility and 'improvement', drained and managed carefully. Dr Morgan outlined some of the reasons for this change, and reviewed improvement literature in the period, with its emphasis on the use of alluvial deposits, described by reference to an extensive vocabulary of 'slimes' and 'slaws'. The paper then explained the local organization of water management at parish and manorial levels, showing how many such bodies were of medieval origin, and had evolved sophisticated systems of management, rating and principles of charging according to the benefits accrued. He also noted that the interest of the Crown after 1532, through the act to establish commissions of sewers, brought legal conflict. Common lawyers, such as Sir Edward Coke, contested the rights of commissions to override local custom, on the basis that their authority derived from the royal prerogative. This insight adds greater chronological and interpretative depth to the well-known contests between Crown-appointed improvers and fen-dwellers in the mid-seventeenth century.

After water, came waste, specifically Rob Wilson-North's evening paper on the Knight family and their efforts to reclaim Exmoor Forest in the nineteenth century. The Knights were long-established Worcestershire iron-masters. They included luminaries such as the antiquarian, landscape designer and artistic connoisseur Richard Payne Knight. His nephew, John Knight, bought the royal forest at its public sale in the summer of 1818, for £50,000, ten times the size of the next highest bid. Knight had great plans for the forest, and set to work immediately, building canals, draining the ground, liming the soil, planting hedges, building roads, and starting a huge, but never-finished mansion. He spent lavishly, in anticipation of an inheritance that never came. Work stalled in the 1820s, and eventually Knight retreated to Italy, leaving his eldest son, Frederick Winn Knight, to turn the venture around. The outlines of this story were told by C. S. Orwin almost a century ago, but Rob Wilson-North revealed the discovery of a large cache of documents held by the last member of the family, which he has now secured. These detail the expenses, the hopes, dreams and delusions that lay behind this scheme to reclaim, tame and populate the last open, unsettled moorland 'wilderness' in southern England.

The conference 'New Researchers' session on Tuesday morning featured four papers, by Spike Gibbs (Cambridge), Imogene Dudley (Exeter), Phil Back (Sheffield) and Dilys Jones (Manchester). Spike Gibbs discussed the relationship between manorial and church officers and ideas of 'state incorporation' in the later medieval period. This thesis has been advanced to explain the increasing intervention of Tudor government into the organization of poor relief, local government and parochial religious practice. It has also been suggested that incorporation of village 'elites' into state-sanctioned governance broke apart

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the rebellious 'host' among the late medieval peasantry. Gibbs' paper examined patterns of manorial and church office holding in Worfield, Salop., a huge 10,000-acre parish in the east of the county. He showed that although the governmental functions imposed by the Elizabethan government were new, they did not require or generate significant change in the profile, wealth and engagement of the more prosperous officers of the manor or the parish. Imogene Dudley detailed her research into the working lives of women in south-west England (a theme to which the conference returned on Wednesday), and the reasons why women appeared to be paid less than men for doing the same tasks. She outlined her findings from a study of wage labour on three seventeenth-century estates, Barrow Court in Somerset, Layhill in Devon and Herriard Park, Hants. Although female wage rates varied considerably in the three locations, each estate paid women less for the same tasks as men, usually half as much. While there was some evidence that married women may have worked fewer paid hours than unmarried women or men, the differences between married and unmarried women were not pronounced. All the evidence suggests that 'custom' dictated that women were paid at a lower rate than men for doing the same work. Phil Back told the sorry tale of Scotland's Country Parks, and provided the best pun of the conference. Country Parks were an invention of the 1960s, designed to accommodate that vanished breed, the touring motorist, and attract them away from more scenic 'beauty spots'. Their form was highly varied, because they tended to be designated using spare land possessed by district or urban councils. Common features included a car-park, toilet facilities, and oversight by countryside rangers, but they could be sited almost anywhere, and might contain anything from a few country walks to disused coal mines or a dry ski slope. One featured an ornamental garden on an island accessible only by ferry, a feature that enabled visitors to photograph ferries at the bottom of the garden. The problem with such facilities was a lack of co-ordination. Sites were proposed by councils from existing stocks of land, without the need to locate them near new housing developments or transport links. Designation rules remained unclear, and the scheme brought no significant financial benefits for councils or site development. It amounted to a missed opportunity to provide a quality-marker for rural visitor locations, or to locate recreational spaces near urban housing. Finally, Dilys Jones provided insights into the farming history and experiments of her grandfather, R. L. Jones of Penwenallt, Carmarthenshire, during and after the First World War. Jones was a forward-thinking farmer, a volunteer district valuation officer, agricultural surveyor and educator, and an early participant in scientific experiments conducted by Aberystwyth Research Station. Naturally, he kept meticulous accounts of milk production, livestock weights, labour costs, weekly income and expenditure and investment spending. He even noted the seasonal variations in the amount of milk required to produce a pound of butter. This close attention to farming practice and business enabled him to negotiate the enormous price fluctuations of the early 1920s. This archive will provide a uniquely detailed insight into the pastoral farming economy of post-war Wales.

Edmund Cannon's paper on wheat storage in eighteenth and nineteenth-century England provided two salutary lessons for agrarian historians. Firstly, Cannon showed in considerable detail that arable farmers in this period stored grain not just for months after harvest, but for a number of years, if necessary. He explained that wheat stacks provided dry, relatively rodent-resistant storage which enabled farmers routinely to store grain for 2–3 years after harvest, and sometimes longer. Contrary to contemporary and modern historical expectations, small-to-medium-sized farmers appear to have stored grain almost as often as larger farmers. There was some change after 1815, when farmers in his sample were more likely to store wheat for more than one year after harvest. Cannon could find no significant evidence that older wheat sold at lower prices. This raised a second, more troubling, point. His evidence from farm accounts suggested that, by the early nineteenth century, it was routine for farmers to sell direct to millers (often on long credit terms), rather than to take their crops to corn markets. The prices recorded in accounts varied much less than the week-to-week grain prices reported in the *London Gazette*. Cannon concluded that short-term market price variations might reflect the quality of grain exposed for sale, rather than changes in supply and demand – a thought to conjure with, when contemplating price-change and 'living-standard' series based on wheat prices.

The conference excursion was to the Somerset Museum of Rural Life in Glastonbury, a 45-minute coach ride from Bridgwater. The Museum reopened in June 2017 after a major refurbishment, and is based around the medieval tithe-barn of Glastonbury Abbey. Now surrounded by housing, the museum collection is displayed in the former Abbey Farm, a farmhouse re-built in the 1890s, and occupied until the 1970s by the Mapstone family. This is linked to a series of galleries depicting Somerset's diverse rural industries and crafts, social life and culture (notably film of County Agricultural shows), and much material

culture, notably cider production and consumption. The objects used in the displays originate primarily in the nineteenth and twentieth centuries, but earlier periods are discussed in the information panels accompanying the displays. The museum also houses a poignant temporary exhibition about the experience of the First World War in rural Somerset. Conference attendees were given a very detailed, informative and engaging tour by the Museum's Assistant Visitor Services Manager, Mary Humphries.

The final day of the conference featured a joint presentation by Jane Whittle and Mark Hailwood based on the findings of Prof. Whittle's Leverhulme Trust research project into women's work in early modern England. Mark Hailwood outlined the project's new methodology for the study of women's work. He noted that existing modern economic measures of women's labour-force participation or earnings tend only to include formally paid employment. Even recent estimates of England's historic GDP by Broadberry *et al.* assume that only 43 per cent of women's work was paid, but that almost all of men's work was paid. He suggested that such assumptions had led to gross understatements by economists and historians of women's economic contribution. This project had adopted Margaret Mead's concept of female labour-force activity, which attributed economic value to any female tasks that could be substituted by paid employment. The project was based on categorizing women's work-tasks as they were described in witness statements in the records of church courts, Quarter Sessions and coroners' inquests in five Southwest English counties (particularly Devon and Somerset) between 1550 and 1700. The results suggested that although women were more likely than men to describe or be described undertaking housework tasks, they were just as likely to be described as undertaking agrarian activity as housework, or commercial activity as childcare.

Jane Whittle expanded these findings by focusing on women's agrarian employment, to examine the amount and significance of female participation in agriculture, the range of tasks and the impact of technology, and whether participation was different in arable and pastoral areas, and over the life-course. She explained the need to rebalance the sample of witness statements to account for women's under-representation. Thus corrected, the figures suggested that 37 per cent of agrarian tasks were undertaken by women, and agriculture itself comprised 20 per cent of female work tasks, about the same as housework. Women were found in most agrarian activities although mowing and ploughing were normally done by men (but these highly seasonal tasks occupied only a small amount of their annual activities). Women were heavily represented in weeding, planting, soil preparation, winnowing grain, hay-raking, washing and sheering sheep, dairying, and pig husbandry. Milking and dairying were dominated by women, and there were almost no instances recorded of men milking or making butter. Adoption of the scythe probably reduced female participation in the grain and hay harvests, but this change featured more strongly in the eighteenth century. While a number of agrarian historians have suggested that pastoral agriculture offered more opportunities for female participation than arable husbandry, this study found that arable offered a greater variety of work-tasks for women, even if overall participation levels were similar. Married women tended to engage in lower amounts of field work than unmarried or widowed women, and animal husbandry and dairying was more commonly associated with younger, unmarried women. However, overall participation levels among married women were not substantially lower than unmarried women or widows, showing that female involvement in agriculture spanned the whole life-cycle and remained important in all forms of activity.

The final paper of the conference was delivered by the international guest speaker, Prof. Doug Hurt of Purdue University, Indiana. Prof. Hurt is a former editor of *Agricultural History,* the journal of the American Agricultural History Society, and his paper dealt with the unintended consequences of the 'green revolution' in agriculture after the Second World War, in a synoptic overview that brought together stories that are normally told separately. He surveyed the effects of improved crop varieties in Mexico, South Asia and Sub-Saharan Africa. In each instance, a rather idealistic technology-driven 'solution' to rural poverty and hunger had become ensnared in the machinations of governmental political interests, the policy preferences of international non-governmental agencies, the economic interests of large-scale food producers, and the weaknesses of infrastructure, transport, credit and marketing in developing countries. In Mexico, the efforts of US crop scientists to help peasant farmers during the Second World War were soon derailed by the Mexican government's political dependence on large landowners, desire for foreign exchange through wheat exports, and lack of interest in rural economic development. By the early 1990s, peasant farmers still had benefitted little from new plant technologies. The subsequent NAFTA trade agreement with USA and Canada swamped the Mexican market with cheap wheat, and created a $2 billion deficit in agrarian products. South Asia (India and Pakistan) appeared to offer better prospects for

the 'green revolution' to make material improvements in peasant-farmers' lives. Political independence had conferred states with adequate national infrastructures, some developed irrigation, marketing and distribution systems, and crop-scientists able to harness this technology locally. The problem was that advocates of the new crop varieties adopted a 'one-size-fits-all' approach, making little allowance for soil quality, and lack of access to fertilisers or irrigation. Without these preconditions many improved wheat and rice variants performed worse than established varieties, and were usually more expensive. Subsistence farmers could not afford these crops, or access the requisite credit. Once again, larger, commercially oriented farmers benefited most, and so existing inequalities were entrenched by these changes. Prof. Hurt showed that the least successful application of the 'green revolution' was in Sub-Saharan Africa. Here existing infrastructure was least developed, access to credit was often minimal, governmental intervention was limited, and adverse weather, plant pathogens, and highly varied growing conditions often defeated new crop varieties. Again, crop scientists' initial assumptions were that development would create the conditions necessary to grow their crops effectively, rather than that their crops would sufficient foster development. Matrilineal inheritance patterns ensured that many peasant farms were owned by women, but they were frequently unable to secure credit to purchase new crop varieties, fertilizer or pay for irrigation schemes. African governments were often more willing to use revenues to buy grain on international wholesale markets than to fund domestic agrarian development. The 'green revolution' was unable to overcome existing structural problems in these developing countries, and (in fact) exacerbated political, economic and social inequalities.

These papers brought together two enduring themes in agrarian history. The first is one explored repeatedly within the Society's publications, from Joan Thirsk onwards – on the rhetoric, aspirations and (sometimes illogical) hopes of agrarian improvers and reformers. The conference showed that this impulse has repeatedly overridden local interests and conventional wisdom, from the projectors of fenland drainage, the canal-building and upland arable schemes of the Knight family on Exmoor, to proponents of the 'green revolution'. The second theme is an even more elemental one in agrarian history – the desire to develop a better understanding of how the agrarian economy actually worked. This featured strongly in Edmund Cannon's paper exposing how much we misunderstand about grain storage and marketing, and even more so in the strand of papers that detailed the hidden, pervasive and taken-for-granted nature of women's work in early modern agriculture. Once again, although the conference illustrated that many of our historical fields are well-tended and highly productive, it also showed how much uncultivated terrain remains to be explored.